



**Statistiska centralbyrån**  
Statistics Sweden

# Sweden GNI Inventory

March 2016

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The Inventory gives a detailed description of sources, methods and models for estimating Sweden's Gross Domestic Product, GDP, and Gross National Income, GNI, in current prices.

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## Acronyms and abbreviations

AE	Local unit
AKU	Labour Force Surveys
AMPAK	Labour statistics based on administrative sources, on a regional level
BAST	Balance Statistics
BHU	Survey on housing and rents
BIS	Bank for International Settlements
CFAR	Central register of enterprises and local units
CFR	Central business register
COICOP	Classification of Individual Consumption by Purpose
EAA	Economic Accounts for Agriculture
EC	European Commission
ECB	European Central Bank
EEC	The European Economic Community
EMU	Economic and Monetary Union of the European Union
ESV	The Swedish National Financial Management Authority
EU	European Union
FAME	Fatty Acid Methyl Ester
FAO	Food and Agriculture Organisation of the United Nations
FDB	Statistical Business Register
FDI	Foreign direct investment
FE	Enterprise unit
FMR	Financial market statistics
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GIN	SKV's joint information database
GNI	Gross National Income
HEK	Household's finances
HiB	Rents for dwellings
HBS	Household Budget Survey
HUT	Household expenditure
IEEAF	Integrated environmental and economic accounting for forests
ILO	International Labour Organisation
INFI	Industrial use of purchased goods and services
INSEKT	Standard Classification by Institutional Sector
IoT	The Register on income and taxation
IPS	Individual pension savings
IVP	Production of commodities and industrial services
JE	Legal unit
KLP	Short-term statistics, wages and salaries, private sector
KLS	Short-term statistics, salaries, governmental sector
KN	Combined Nomenclature
KU	Income statement
LBR	The Swedish farm register
LINDA	Longitudinal Individual Data Base
LISA	Longitudinal integration databas for health insurance and labour market studies
LSUM	Gross pay based on income of statements
LVE	Local kind activity unit
MCPFE	The Ministerial Conference on the Protection of Forests in Europe
MFI	Monetary Financial Institutions
MMF	Money market funds
N/A	Not applicable
NACE	The Statistical classification of economic activities in the European Community
NFI	Swedish National Forest Inventory
NPISH	Non-profit institutions serving households
OTC	Over the counter (options, derivatives)
PRODCOM	Production Statistics in the Community

## Acronyms and abbreviations

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RAMS	Labour statistics based on administrative sources
RAPS	System for Regional Analysis and Forecasts
RBFS	Riksbank's regulations and general guidelines
REGO	The Regional turnover statistics for service industries
RIPS	Data on Individual pension savings
RTB	Total Population Register
RUTS	Foreign assets and liabilities
SABO	The Swedish Association of Public Housing Companies
SAMU	The system for co-ordination of surveys and samples from the Business Register at Statistics Sweden
SAS	Scandinavian Airlines
SBS	Structural Business Statistics
SCB	Statistics Sweden
SFA	Swedish Forest Agency
SFS	Swedish Codes of Statutes
SKL	Swedish Association of Local Authorities and Regions
SKV	The Swedish Tax Agency
SLP	Wage and salary structures in private sector
SLU	Swedish University of Agricultural Sciences
SNI	Swedish Standard Industrial Classification
SRU	Standardised accounting statements
SUN	Swedish Educational Nomenclature
TDE	Touchtone Data Entry
UBD	Tax declaration
UFS	Basis of central government net lending
VAT	Value Added Tax
VE	Kind of activity unit

## Chapter 1 Overview of the system of accounts

### 1.1 Introduction

The Swedish economy is usually described as a small and open economy with a fairly high share of public sector activity. The table below shows the different main aggregates and their relation to GDP.

**Table 1.1 Balance of resources in 2011, SEK million and percentage contribution to GDP**

Main aggregates of National accounts	SEK million	%
Household Final Consumption Expenditures	1 692 895	46
Government Final Consumption Expenditures	920 818	25
Gross Fixed Capital Formation	829 735	23
Changes in Inventories	41 114	1
Exports	1 706 996	47
Imports	1 534 981	42
GDP	3 656 577	
Average population, persons	9 799 000	
GDP/capita, SEK	387 000	

The Swedish national accounts summarise and describe the economic activity and development in the country in the form of an accounting system with supplementary tables. These calculations are based on the international guidelines System of National Accounts, SNA 2008 and the EU Regulation 549/2013 European System of National and Regional Accounts, ESA 2010. The published products include the product accounts (GDP), financial accounts and sector accounts. The calculations are published both annually and quarterly. The statistics are produced in more detail on an annual basis. The main approach in the calculations is somewhat geared to the expenditure side. The statistical basis is well developed, with possibilities for comparison between different independent sources. The annual calculations are balanced in a system of supply and use tables. These form the basic tables, which can be further developed to input/output tables. The system also includes employment calculations, with average numbers of employees and hours worked.

The Swedish economic territory comprises the area lying within Sweden's borders with the addition of Swedish ships and aeroplanes in international traffic, Swedish fishing boats fishing in international waters and Sweden's embassies and consulates abroad. Conversely the representations of foreign countries in Sweden are counted as foreign territory.

#### The structure of the statistical system

In accordance with the Swedish constitution, public authorities in Sweden have an independent role vis-à-vis the government. The task of a public authority is to translate political decisions reached by the Riksdag and the Government into practical action.

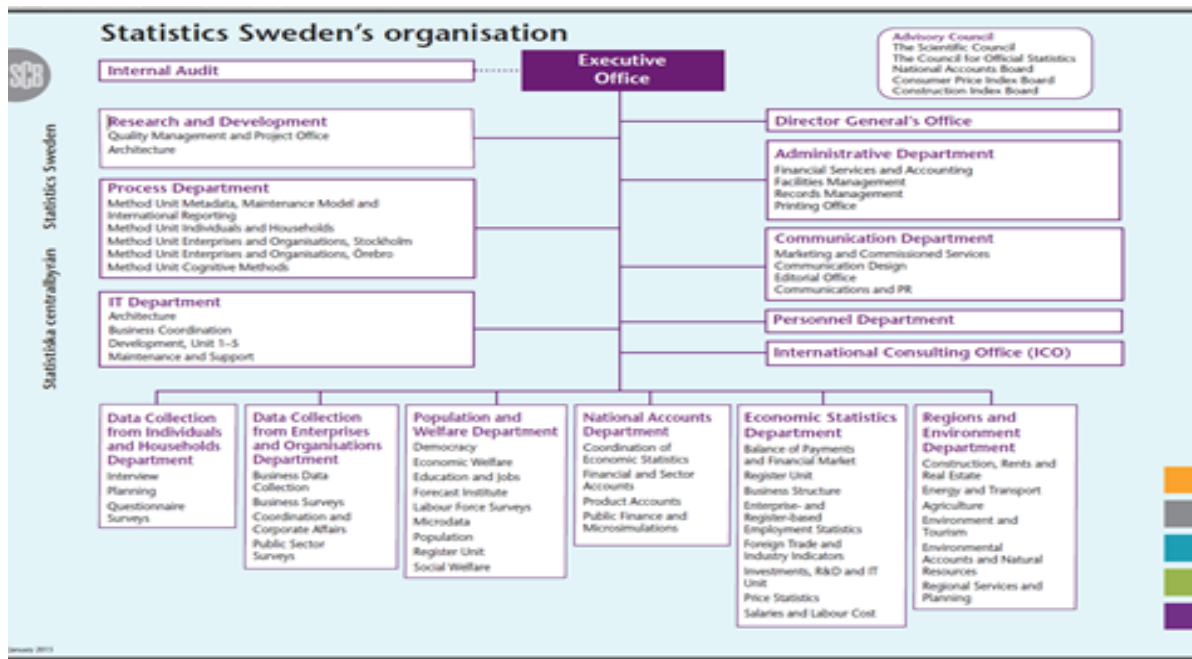
Since the middle of the 1990s Sweden has a decentralized statistical system. Much of the responsibility for official statistics in defined sectorial areas was then transferred from Statistics Sweden to other government authorities. Statistics Sweden continues to be responsible for multi-sectorial statistics, while other agencies are made responsible for other parts of the statistics. Today 27 public authorities have statistical responsibilities (SAMs). The statistical authorities decide on the content and scope of statistics within the statistics area(s) for which they are responsible. Except for Statistics Sweden there are no special appropriations for statistics; funding for statistics is included in the authorities' appropriation framework for their main task.

The main task of Statistics Sweden is to supply users with statistics for decision making, debate and research. Besides producing and communicating statistical data, Statistics Sweden shall support and coordinate the Swedish system for official statistics. Statistics Sweden is responsible for producing official statistics in a number of different areas: the labour market, population, housing, construction and building, trade in goods and services, household finances, living conditions, citizen influence, environment, *national accounts*, business activities, public finances, prices and consumption, education, and research. With regard to appropriations, Statistics Sweden is also responsible for other tasks entrusted to it by the central government, including the coordination of Sweden's official statistics. In dealing with assignments, Statistics Sweden produces official statistics for other government authorities responsible for statistics, as well as other statistics close to its core activities.

A Council for Official Statistics was duly established at Statistics Sweden in 2002. The Council, which is an advisory body, deals with matters of principle regarding the availability, quality and usefulness of the official statistics. In October 2014 the Council recommended the statistical agencies to work according to the European Code of Practice instead of the previous used Guidelines for sufficient quality.

Statistics Sweden has approximately 1 367 employees, including 133 field interviewers around the country.

### Organisation and responsibilities within Statistics Sweden



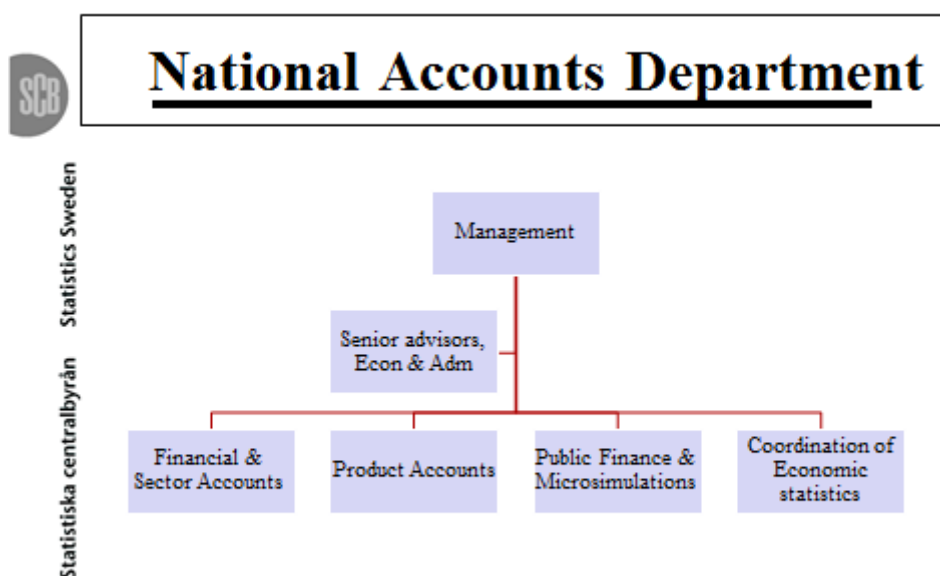
### Organisation of National Accounts within Statistics Sweden

Sweden's national accounts are compiled in their entirety at Statistics Sweden. The National Accounts Department consists of 4 units and roughly 48 Full Time Employees were involved in compiling the

national accounts during 2015. The NA department is responsible for production of GNP, GNI, Real and Financial Sector Accounts, Regional accounts, Health Accounts, ESSPROS and Excessive Deficit Procedure (EDP). Also Tourism Satellite Accounts are produced but on assignment.

Moreover 2 FTE are working with support and maintenance of the data bases. A project aimed at developing new databases for the national accounts has started and 2.5 FTE from the NA group has been involved in this project during 2015. The NA group is also responsible for the balancing procedures and production of SUT and input/output tables.

The number of full-time equivalents is defined as the total number of hours spent divided by the average number of hours a full-time employee works in one year. The number does not include the hours spent on overhead, i.e. training and administration.



## Supervisory and control systems

### Service Level Agreements, SLA between national accounts and primary statistics

SLA work started in 2004 and has gone on since then. Agreements are drawn up between the National Accounts and the units that deliver statistics to National Accounts. The purpose of SLA work is that the input to NA calculations will be adapted in terms of content and quality and be quality assured according to NA's needs. All statistical sources that make up input (data) of any part of NA calculations are reviewed with regard to components whose significance affects the quality of the statistics. The different quality assessment and improvement components are based on MIS:2001:01 "The Quality concept and recommendations for quality declarations of official statistics" but this has been augmented by a number of quality aspects mainly due to the cooperation between NA and Primary Statistics.

Apart from quality issues SLA contain agreements on what kind of data should be delivered, documentation and comments on changes, revisions and shortcomings. Also delivery forms and dates are agreed upon. Future improvements and exchange/education of personnel between the NA and primary statistics are also put forward. In connection with deliveries personal meetings often take place and after NA processing feed-back is also provided.

As of 2016 agreements are in place regarding the 38 most important input-products within Statistics Sweden. This is around 40 percent of the total number but in rate of importance the figure is much higher. A few agreements are also reached with external suppliers of input statistics, e.g. with the The

Swedish National Financial Management Authority and The Swedish Transport Agency. SLAs are updated annually.

### **The regular production of quality reports on statistical sources and products and internal audits.**

All official statistics must have a quality declaration. In this work the regulation on Official Statistics, SFS 1992:1668, and amended in SFS 1999:3 is an important tool. Advice for the quality declaration is provided in MIS<sup>1</sup> 2001:1, Quality definition and recommendations for quality declarations of official statistics. This MIS is intended to be a support for producers and users of statistics. SCBDOK is a model intended for statistical surveys, observation registers and production systems of statistics. The contents of the surveys are described and the processes used to reach the final result. The user shall have the possibility to follow the process from data collection until dissemination. This documentation is published on the webpage and updated as soon as a new production periods starts.

### *Quality Management at Statistics Sweden*

Statistics Sweden has a long tradition of working with quality issues. During the 90s the agency worked with Total Quality Management (TQM). In 2005 a quality policy was established and in 2008 a decision was made to work towards a certification according to ISO 20252 and that EFQM should be used as a framework.

Since 2008 much effort has been invested in improvement actions at Statistics Sweden to document our working procedures, demonstrate traceability in the production of statistics and to ensure quality in data collection and data processing.

Certification according to ISO 20252 is proof that an external evaluator has confirmed that Statistics Sweden's statistical production meets the quality requirements of the standard. In addition the certification means that many of the requirements in other international quality frameworks for statistics are also fulfilled.

### *The work on quality is based on process orientation*

Statistics Sweden's quality management system is based on the agency's processes. The management system is documented in the Process Support System (PSS) which emanates from the framework of [The EFQM Excellence Model](#).

Statistics Sweden works in a process oriented manner with the production of statistics and uses ways of work, methods and tools that are increasingly standardized. Statistics Sweden's Maintenance Management Model (MMM) ensure an effective and purposive management of the processes that comprise the production of statistics. Statistics Sweden also uses a quality assurance system for those statistical areas that are critical for the agency's operations and /or important for society (Consumer Price Index, National Accounts, Labour Force Survey) as well as data collection activities.

### *The quality organization and its central components*

Statistics Sweden's quality unit, under the leadership of Statistics Sweden's Quality manager, is responsible for evaluating and developing the management system. At each department a quality coach has been installed who works part-time to support managers and personnel in their work with continuous improvement.

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<sup>1</sup> Message in Statistics

The overall guidelines for Statistics Sweden's work on quality are described in Statistics Sweden's [Quality Policy](#) which comprises quality in statistics processes and the operations as a whole.

The central components in Statistics Sweden's work on quality are:

**Risk analysis:** Statistics Sweden carries out systematic risk analysis to ensure quality in operations and to improve them. This is done from the perspective of security and continuity planning.

**Quality Audits:** Statistics Sweden carries out systematic internal quality audits to monitor and improve the operations from the perspective of adherence to established decisions and practices. Ten externally trained auditors work part-time with quality audits.

**System to evaluate quality in statistics:** Statistics Sweden has developed together with international experts a system (ASPIRE – A System for Product Improvement, Review and Evaluation) to evaluate the quality in statistics. Evaluations are carried out annually for ten of the most important products at Statistics Sweden. The agency receives through this system valuable information in order to improve the quality in these statistics.

**Internal quality award:** Each year Statistics Sweden gives an internal quality award to a project or other cooperative improvement effort as an encouragement for continuous improvement of the agency's operations.

**Regular customer and user surveys:** Statistics Sweden carries out regular measurements to systematically improve satisfaction with customers, users and co-workers.

**Scientific council:** Statistics Sweden has a scientific council with twelve university professors where important methodological issues are discussed. The members of the council bring together deep insights from their disciplines with experience of and interest for the production of statistics.

#### *Certification according to ISO 20252:2012*

The standard ISO 20252:2012 for Market, opinion and social research puts requirements on the production of statistical surveys with focus on the systematic handling of activities associated with risk. Statistics Sweden works to assure the quality in the operations in accordance with the requirements in ISO 20252:2012. Statistics Sweden has a Quality Manual which describes how the work is run in accordance with the standards requirements.

#### *Guidelines for the work with statistics*

All European statistics are governed by [European Statistics Code of Practice](#). Statistics Sweden complies with most of the guidelines and is working step by step to fulfill all of these. Statistics Sweden complies with

[UN Fundamental Principles for official statistics](#). Statistics Sweden's operations are run in accordance with [International Statistical Institute \(ISI\) Declaration on Professional Ethics](#) and the Swedish Statistical association's ethical code for statisticians and statistical operations

#### *Information to the users of statistics on quality in statistics*

The quality in statistics is presented regarding the quality components: Contents, Accuracy, Timeliness, Comparability and Coherence, Accessibility and Clarity.

#### ***The ASPIRE approach***

In 2011, Statistics Sweden together with two international consultants developed an evaluation system to annually assess the quality changes for a number of key statistical products at the agency. The



system is called ASPIRE (A System for Product Improvement Review and Evaluation). GDP is one of the statistical products included.

ASPIRE uses a total survey error (TSE) approach to assess quality and attempts to be both comprehensive and detailed. A set of error sources including frame-, measurement-, sampling error etc. is used generally. However a tailored set of error sources has been identified for the unique error structure of both quarterly and annual GDP. Also a set of metrics is applied that summarize the error risks and the mitigation progress for all relevant error sources to the product for five key quality criteria. Another important feature of ASPIRE is the use of external reviewers in order to avoid subjective assessments, provide for greater consistency and validity of quality changes over time, and to provide inspiration to the staff for quality improvements.

The ASPIRE evaluation system runs annually since 2011. The evaluations have involved a thorough review of the key input data sources to GDP where risks and problems have been identified. Along with the ASPIRE metrics which reflect the status of the quality efforts within GDP as pertaining to the five quality criteria, the experts provide recommendations to stimulate continuous improvements. A follow-up is done with the international experts in conjunction with each annual review where other quality efforts and factors affecting quality are discussed. This process results in an annual update of the evaluation and reformulated recommendations.

The ASPIRE metrics along with highlighted improvements for selected products are annually reported by Statistics Sweden to the Swedish government. More about ASPIRE can be found in the following article in the Journal of Official Statistics

<http://www.degruyter.com/view/j/jos.2014.30.issue-3/jos-2014-0022/jos-2014-0022.xml>

### Annual GDP, ASPIRE ratings for 2014

	Error Source	Average score round 3	Average score round 4	Knowledge of Risks	Communication	Available Expertise	Compliance with standards & best practices	Plans or Achievement towards mitigation of risks	Risk to data quality
Accuracy (control error sources)	Input data source - Structural Business Statistics, SBS	66	66	🟢	○	🟢	🟢	○	H
	Compilation error - modelling	50	50	○	🔴	○	🟢	🔴	H
	Compilation error - data processing	52	52	🟢	○	○	🔴	○	H
	Deflation error (including specification error)	48	50	🔴	🔴	🟢	🟢	🔴	H
	Balancing Error	58	58	○	○	🟢	🟢	🔴	H
	Revisions Error	56	56	○	🟢	○	○	○	M
	Total score	54,9	55,3						

Scores					Levels of Risk			Changes from round 2	
🔴	🔴	○	🟢	🟢	H	M	L	Improvements	Deteriorations
Poor	Fair	Good	Very good	Excellent	High	Medium	Low	Improvements	Deteriorations

## 1.2 The revisions policy and the timetable for revising and finalizing the estimates

Revisions of time series and single estimates are a common feature within the work of national accounts. The first accounts for a period are published very soon after the close of the period. The calculations are based on preliminary data and therefore they must be revised when more final material becomes available. Another reason may be changes in the current regulations or the appearance of new statistics, which may impose the need for revisions.

Regarding *current revisions*, i.e. revisions carried out as the statistical basis becomes more final, a strict policy on the timing of revisions is applied, while other revisions relating to longer periods do not follow such a clear policy.



### 1.2.1 The revisions policy and the timetable for revising and finalizing the estimates

The first compilation of the national accounts for a given year is published no later than 60 days after the close of the year. The calculation is based on preliminary statistics. The product accounts (GDP from the production and expenditure sides) are produced by a quarterly method, to a certain extent based on quarterly or monthly statistics, and the data for the whole year are the sum of four quarters. At this time sector accounts are also calculated and published for the main institutional sectors for the first time relating to the year immediately before. Data relating to the year may be revised at the publication of the first quarter of the next year but are normally not revised to a large extent before the production of the *preliminary annual calculation*, which is published after nearly 9 months. The preliminary annual calculation is based on more complete incoming data, but fully finalized data sets are not available until after 21 months. By then all available data have been incorporated and balanced in the system of supply and use tables. After that a year is normally not revised other than in conjunction with major revisions.

Major revisions may arise for a number of reasons. Such revisions relate to longer periods and are generally undertaken at less frequent intervals. There has never been any strict timetable for such revisions, in the sense that they are to be undertaken at certain specified intervals. Often the revisions coincide with base-year changes every fifth year.

The implementation of SNA93/ESA95 was a major revision undertaken by the Swedish national accounts, and was published in May 1999. As well as adaptation to new international standards, this also involved changes in classifications, a major review of calculation methods and the incorporation of new data. The accounts were produced on the most detailed level from 1993 onwards.

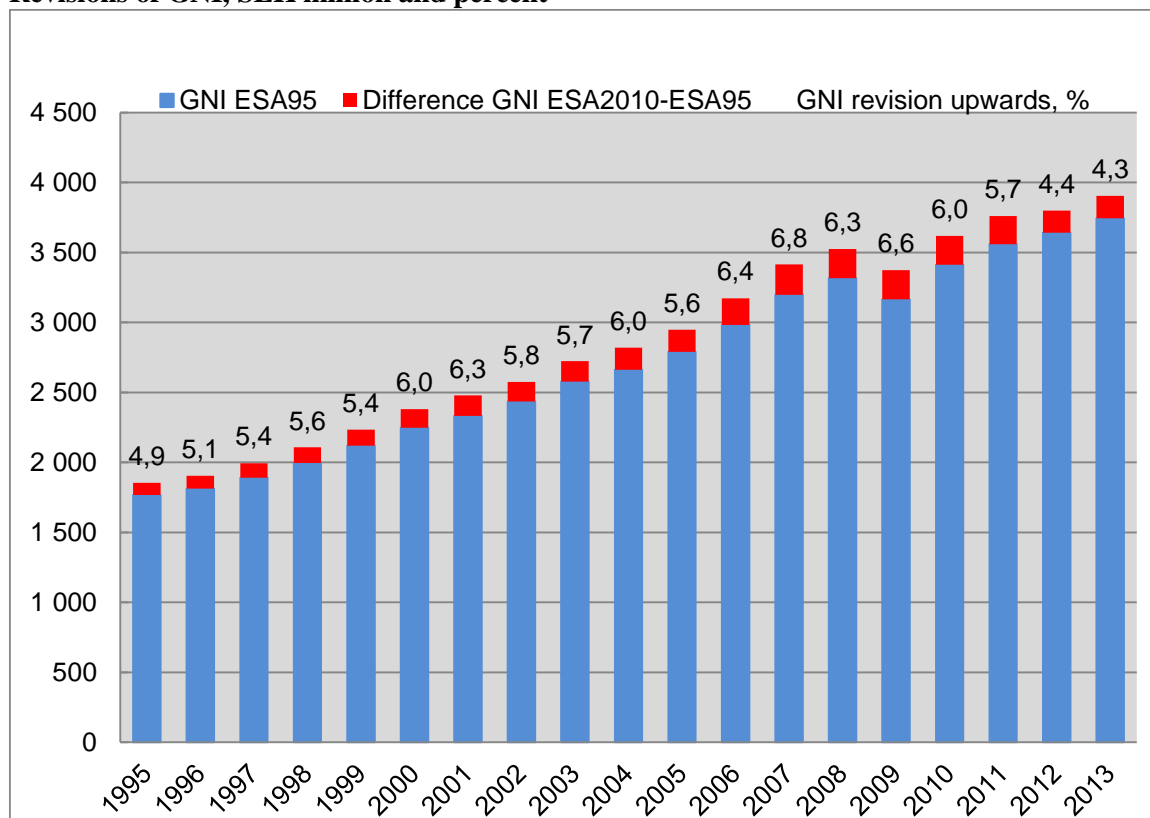
The major revision of the time- series 1993-2012 in September 2014 stemmed from the new ESA 2010 regulation as well as a general revision of methods and statistical sources. Also the time series spanning from 1950 to 1992 was revised by a method using both chaining and direct revisions

### 1.2.2 Major revisions due to the transition from ESA 1995 to ESA 2010

The effect of the transition to ESA 2010 in September 2014 was that the level of GNI increased by between 62-183 billion SEK in current prices for the years 1993 - 2011. The single most contributing factor was the increase of gross fixed capital formation, which in turn was due to expenditures for Research and Development and military weapons which are recognized as investments instead of intermediate consumption in ESA 2010.

The estimates for 2008-2012 were implemented on the most detailed level within the framework of supply and use tables. In connection with the transition to ESA 2010, a major revision was made concerning methods and sources. Overall, one hundred different measures were implemented, sixty depended on the revision and forty were due to the transition.

From the figure below it is possible to conclude that GNI was somewhat increased in connection with the transition to ESA 2010. The degree of upward revision rises slightly during the 2000s decade and is highest in 2009. In 2011, GNI increased by 5.7 percent.

**Revisions of GNI, SEK million and percent****1.3 Outline of the production approach**

The table below includes the estimates for all kind of producers: market producers, producers for own final use and other non-market producers. The term ‘market producers and producers for own final use’ also includes public service corporations of central and local government. The category ‘producers for own final use’ comprises housing services in owner-occupied dwellings, own production of R&D, software, literary and artistic originals and building and construction in municipalities.

**Table 1.3.1: Breakdown of Output, Intermediate Consumption and Gross Value Added by NACE-sections, SEK million, 2011**

NACE Rev 2	Output	IC	GVA
A Agriculture, forestry and fishing	98 880	46 331	52 549
B Mining and quarrying	49 927	21 989	27 938
C Manufacturing	1 833 340	1 244 788	588 552
D Electricity, gas, steam, air conditioning supply	139 488	52 174	87 314
E Water supply; sewerage, waste management and remediation activities	58 580	38 064	20 516
F Construction	394 863	209 042	185 821
G Wholesale and retail trade; repair of motor vehicles and motorcycles	567 010	217 004	350 006
H Transportation and storage	500 122	320 427	179 695
I Accommodation and food service activities	116 664	67 147	49 517
J Information and communication	372 586	196 353	176 233
K Financial and insurance activities	199 809	68 234	131 575
L Real estate activities	530 069	254 702	275 367
M Professional, scientific and technical activities	417 300	193 584	223 716
N Administrative and support service activities	202 482	92 441	110 041
O Public adm., defence,; compulsory social security	270 754	117 271	153 483
P Education	257 820	81 178	176 642
Q Human health and social work activities	471 641	132 439	339 202
R Arts, entertainment and recreation activities	90 573	49 006	41 567
S Other services	83 825	31 778	52 047
T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	1 150	0	1 150
<b>Total</b>	<b>6 656 883</b>	<b>3 433 952</b>	<b>3 222 931</b>

### 1.3.1 Reference framework and main data sources

#### 1.3.1.1 Business database, FDB

All statistics intended to provide information on the Swedish economy presuppose that there should be coordination of definitions of inquiry units, industries, size criteria, ownership categories and other recording variables. This in turn imposes the need for registers, which describe these links and the status of the various units at different points in time. Such a register constitutes the framework for all economic statistics. These basic requirements of coordination are met with the aid of Statistics Sweden's business register. The register covers enterprises, departments and agencies of government, organisations and their activity units. Each enterprise has a unique corporate identification number and each activity unit has a number unique to it, which makes it possible to computerise the information and to establish links between different materials providing information.

The business register is a situation register in which circumstances at a particular point in time are described. From a statistical point of view, however, it is more relevant that the register should describe circumstances at different points in time. Information on changes is therefore also stored and documented. By specifying the time at which changes take place it is possible to follow the populations to be studied and at any time to update sampling frames and samples for changes which have taken place and which are relevant to the period to be reported on.

In 2000 the business register was reorganised and is now divided up into two different parts, FDB-R, which contains legal entities and business establishments, and FDB-S, which constitutes the statistical register. Here the enterprises are grouped into the statistical units: enterprise unit, kind of activity unit and local kind of activity unit. The FDB is a comprehensive register covering all enterprises in the country. Thanks to coordinated sampling, in which branches of statistics use the same register and sampling frame, all enterprises are included in the inquiry population. No enterprises are excluded,

which might easily be the case if different registers were used for different branches of statistics. To sum up, it can be said that the Business database ensures the maintenance of very high quality.

### *1.3.1.2 Sources*

Since the start of 1997 the Business statistics conforming to the EU regulation on Structural Business Statistics (SBS) have been the main source for the output calculations of market production. However, the statistics are considerably more comprehensive than is required by the Regulation. They cover all industries apart from financial enterprises. In the Business statistics major enterprises are surveyed by questionnaire. For all the other enterprises administrative material from the Swedish Tax Agency is used in combination with sample surveys for information on specific activities on a detailed level. For certain industries however, sources other than the structural business statistics are also used. For agriculture, forestry and fishing, material from the Swedish Board of Agriculture, the Swedish University of Agricultural Sciences, the Swedish Forest Agency and the Swedish Agency for Marine and Water Management is also used. For NACE 35-39 Electricity, gas, heat, water and sewage plants, the structural business statistics are used but the energy statistics also play an important role here. NACE 41-43 Construction is calculated from the expenditure side as the sum of investment in and repairs to buildings and structures. For the service industries, the structural business statistics are the main source, and for NACE 51 Air transport, complementary detailed special statistics are used and, for NACE 64-66 Financial and Insurance activities, the main source are financial market statistics. For Mining and Manufacturing, the Industrial goods production is used in combination with the SBS. The Business statistics are structured somewhat differently for different industries. Industry as a whole is surveyed by activity units, whereas service industries are surveyed mainly on an enterprise level. Service industries are supplemented in the structural business statistics by those activity units in industrial enterprises, which are classified as service industry units and reduced by those activity units in service enterprises, which are classified as industrial units.

Prior to 2003 several other inquiries apart from the structural business statistics were used in order to verify and supplement the structural business statistics. Intermittent sample surveys of the service industries were produced, in which data were collected on a more detailed level than was collected in the structural business statistics. From 2003 and onwards all the old surveys are integrated into the SBS and therefore also conducted annually. This has meant a great quality improvement in the source material for the national accounts.

Government activities are covered by comprehensive data from the Swedish Financial Management Authority (ESV) for central government and collection of annual accounts for local government. The main source for the NPISH calculations are the wage and salary data (LSUM), Gross pay based on income statements, which all employers supply to the Tax Agency for every person employed. The data provide complete coverage and include wages and salaries paid and pay-related benefits. NPISH estimates are also based on the annual NPISH sample survey and comprehensive and detailed information on income, expenditures, investments and balances for the needs of NA-compilations covering the Church of Sweden.

### **1.3.2 Valuation**

Output is valued at the basic price, i.e. the price the producer receives excluding all taxes and including any subsidies received on products. This valuation is also used in the primary statistics. Intermediate consumption is valued at the purchaser's price, i.e. the price paid by the enterprises for products exclusive of deductible VAT. This valuation also coincides with the valuation obtained in the primary statistics. Value added is obtained residually and is thus correctly valued at the basic price.

### **1.3.3 Transition from private accounting data to national accounting concepts in accordance with ESA 2010**

A number of corrections to output and intermediate consumption values have to be made in order to obtain the definitions required by ESA 2010. Discrepancies between company accounting and ESA 2010 mean that most industries need to be adjusted for the same differences in definition. The primary statistics may show slight differences in structure, so that some adjustments only concern certain industries.

### **1.3.4 Use of direct and indirect methods**

Indirect methods are used in order to calculate the value of output for some industries and sub-industries. For agriculture the main method is quantity \* price compilations. Output of standing timber in forestry is provided by a calculation model in which increment is estimated with the aid of measurements on sample plots. Volume increment is extrapolated in cubic metres and multiplied by a standing timber price. Volumes of timber felled in forestry are also measured indirectly. Construction output is calculated as the sum of investment in and repairs to buildings.

The value of output for owner-occupied dwellings is compiled by taking the price per square metre for rented dwellings and multiplying by the total area of owner-occupied housing based on information from the real-estate assessment register. The calculations are performed stratified by various categories and regions in accordance with EU directives.

The value of output in distribution (trade margins) is calculated in the system of supply and use tables. However, value added is obtained by the direct method from the Structural Business statistics. In this way intermediate consumption in distribution is obtained residually.

### **1.3.5 Roles of benchmarks and extrapolation**

Benchmarks and extrapolation are used to a minor extent in the calculations. When used it is only for certain parts of the value of output or in some cases to determine intermediate consumption. Intermediate consumption in construction is based on a benchmark but checked annually with the ratio between intermediate consumption and production of the SBS.

### **1.3.6 Exhaustiveness**

The calculations of market production from the output side are mainly based on the SBS. This is a comprehensive material, which includes all industries. For agriculture, forestry, fishing, financial enterprises and construction output, however, other source material is also used. For some industries the data of the SBS are supplemented by material from other sources/inquiries in order to allocate figures on a more detailed level. Explicit supplements to the value of output for unrevealed production have been applied for a number of industries. In addition also intermediate consumption has been reduced in some industries. Explicit supplements have been made for illegal activities. In this context alcohol and tobacco, drugs, prostitution and gambling are included. In construction, output is measured with the aid of investment in and expenditures on repairs, so that the problem of concealed activity in the construction industry is substantially reduced. An explicit supplement for construction carried out on work on owner-occupied dwellings is made.

Studies conducted by the National Audit Office in 1998 and the Swedish Tax Agency in 2006 have been used as a basis for the estimates of the black economy. Statistics Sweden has a continuous exchange of information with the Swedish Tax Agency and incorporates results from any new investigations that the STA make. However, the nature of these activities imply that it is difficult to quantify the value of hidden output or value added from studies, so that the scope of the supplements undertaken also have to be based on assessments and analyses. In some cases also other sources have a tendency to be somewhat relevant. Comparisons between supply and use of products on a detailed level can be very valuable in these circumstances.

Income in kind (benefits) and gratuities. The Tax Agency has a long list, instruction SKV 304, on what items that should be recorded as benefits in kind. Estimates are included in the annual income

declaration collected. The most important form of income in kind in Sweden consists of the car benefits, which an employer provides for his employees. Concessionary cars are imputed to the employer's output value and household consumption. Other benefits in kind are e.g. meal benefits and housing concessions. Meal benefits arise almost exclusively through the sale by an employer of restaurant vouchers at reduced prices to his employees. This benefit is included in the supplement applied to household consumption expenditure in relation to the results of the household budget surveys. Housing concessions are captured in the calculation model applied. A rental value is calculated for all dwellings in the country and is assigned to final use.

Gratuities are relatively uncommon in Sweden. It is mainly in the restaurant and taxi trades that tips are given. Information from 29 May 2015, Dnr 131 356228-15/111, on the webpage of the Tax Agency on treatment of tips states that when restaurant guests pay tips added as an extra amount electronically this is regarded as an income in the business and as a salary to employees if they receive these amounts. If tips are paid in cash directly to the personnel it is not income in the business but as a taxable income of the employee and should be included in the income declaration that every person has to provide to the Tax Agency.

Data on government activities are regarded as comprehensive and no exhaustiveness elements are added. This is also in accordance with the investigations reported by the Tax Agency in 2006.

## **1.4 Outline of the income approach**

### **1.4.1 Reference framework**

GDP by the income approach includes the revenue generated by gross value added and the net of taxes on production and imports less subsidies. The different types of income are compensation of employees, gross operating surplus, gross mixed income and taxes on production less subsidies. Of these, compensation of employees, taxes, subsidies, gross operating surplus for non-market producers are calculated explicitly and independently. The value of market producers' gross operating surplus and gross mixed income depends partly on estimates for imputed shares of the economy and partly on the adjustments made for production values and intermediate consumption values in the determination of the gross value added in the system of national accounting in relation to business accounting.

The starting point for calculating the gross value added at basic prices for market producers are the calculations made in respect of production and intermediate consumption by product and by industry in the functional part of the national accounts. Each industry's production and intermediate consumption are determined in the functional divided accounts and then allocated between the institutional sectors.

For the financial corporation sector (S.12) and the general government sector (S.13), there are strong links between industry and institutional sector calculations. However, there is one small exception for self-employed (S.14) that are active in the financial industry (K.66), which means that production and intermediate consumption in the financial and insurance industry (K.64-K.66) is slightly larger than production and intermediate consumption in the financial corporation sector (S.12). It is also an exception concerning general government when certain parts of the general government are classified into market production in the functional divided accounts concerning industries. That is, the institutional sector, general government is larger than that of the public authorities in the functional breakdown of the accounts. This portion is calculated from the beginning of the process and distributed in both the functional and institutional sector dimension.

The most extensive work that remains when the non-market producing part of the economy is finalized is the work within the market producing part in the economy. A central part of the work is to calculate the distribution between non-financial corporations (S.11) and self-employed in the household sector (S.14) for production and intermediate consumption in the various industries.

Much of the work of the national accounts is to determine the income or expenses that are within the framework of ESA2010 concepts of production and intermediate consumption. In some cases it is clean calculations, so-called imputed values that are developed which applies in areas such as dwellings and vacation homes. When this work is completed for each industry or institutional sector there are gross value added data derived for each industry and each institutional sector. Furthermore, explicit calculations are made for the compensation of employees (D.1) from a variety of sources, assumptions and models. Similarly, compensation of employees is divided by both industries and institutional sectors. Total amounts concerning other taxes on production (D.29) and other subsidies on production (D.39) are given from the general government, a certain part of the other production subsidies are given from the EU. Diligent efforts are made to allocate these other taxes on production and other subsidies on production to both industries and institutional sectors. Just as the measure gross value added is a balancing item are also measuring gross operating surplus and gross mixed income balancing items.

For the non-market-produced parts in the economy the starting point for calculating gross operating surplus are the assumption that net operating surplus is equal to zero, which means that the gross operating surplus is dependent on estimates of consumption of fixed capital. Gross value added for the non-market-produced parts in the economy are contrast to the market produced parts estimated as compensation of employees, paid other taxes on production, consumption of fixed capital minus received subsidies on production. For the non-market part of the economy that is in one way explicitly calculated GDP from the income side. Furthermore, calculations are made of intermediate consumption, which then determines the value of production. There are instead the production values a balancing item, based on the estimated remaining components.

For the market-produced part of the economy there are explicit projections for both industries as the institutional sectors of the parts to arrive to gross operating surplus and gross mixed income, ie output (P.1), intermediate consumption (P.2), compensation of employees (D.1) other taxes on production (D.29) and other subsidies on production (D.39). The household sector's gross operating surplus is derived from owner-occupied dwellings and is a subset of the industry Real estate activities (L.68), which in itself is a calculated industry with parts of corporations, tenant owners associations and data calculated from the total stock of houses and vacation homes in the economy. Mixed income in the households sector (S.14) is derived from the production of self-employed, intermediate consumption expenditure, compensation to its employees, paid other taxes on production and received other subsidies on production. To the main source for this is the comprehensive survey of corporate economy, Business statistics, (SBS) in which the self-employed is mined as a subset of each industry. Trade-offs are then made by industry to distribute the conceptual differences between business accounting and national accounting and other extrapolations and models as well as amendments with respect to achieving a comprehensive and complete calculations.

Just as in the production approach addition of the net of taxes on products (D.21) and subsidies on products (D.31) are made to reach the GDP at market prices. However, there is a difference between the taxes on products which are the basis of GDP according to the income approach and GDP according to the production approach as the latter approach uses the calculated value of taxes on products and the former approach includes the flow of paid taxes on products. The calculated values are higher than the observed flows of payments due to tax losses. This difference creates an operating surplus in nominal sector recognized in the institutional sector accounts in the Swedish national accounts. The nominal sector is sometimes published and reported together with the non-financial corporation sector.

## **1.4.2 Main data sources**

### ***1.4.2.1 Consumption of fixed capital***

Consumption of fixed capital denotes the reduction in value, which an asset undergoes as a result of normal wear and tear. The calculations for depreciation of fixed assets found in accounting material

covering enterprises as well as the departments and agencies of government and non-profit institutions serving households follows classification and valuation principles different to those used for capital consumption in the national accounts system.

It is therefore necessary to construct a special calculation system for consumption of fixed capital in the national accounts. In the national accounts consumption of fixed capital is valued at replacement cost (known as current cost accounting).

Consumption of fixed capital is calculated on the basis of information available on fixed capital stocks. The value of these can be obtained by direct calculation based on knowledge of the number of assets and their market prices. Such calculations are made for permanent dwellings, holiday homes and various types of transport equipment. Alternatively consumption of fixed capital is calculated based on the value of the stock of fixed assets by accumulation of gross fixed capital formation.

The main sources for the calculation of consumption of fixed capital are thus data on gross fixed capital formation and the corresponding deflators, numerical data, prices for various items of transport equipment and tax assessment values for dwellings and holiday homes.

#### *1.4.2.2 Wages and salaries*

The total value of wages and salaries for the economy as a whole is based chiefly on Statistics Sweden's statistical processing of the annual income statements (kontrolluppgifter – KU) from employers to the tax authorities. In addition certain supplements and deductions are included relating to demarcations, reclassifications and under-coverage. The income statements are annual statements of gross cash wages and other taxable emoluments, which resident employers render to income recipients and the tax authorities prior to tax assessment. Statistics Sweden's payroll statistics based on income statements (KU) are the sole and obvious source for the estimation of total wages and salaries. The strength of these statistics lies in their complete coverage of the data-providing units and their consistent classification by sector and industry in accordance with the Business database (FDB). Classification by industries is geared to both institutional and functional units, an indispensable basis for cross-classification of factor inputs. Under-coverage may arise because not all employers comply with their obligations under the tax assessment legislation or because the corporate identification number of the enterprise (which is used to identify the unit) is missing in the FDB for one reason or another, which gives rise to a supplement covering about 4.7 per cent of the payroll total.

#### *1.4.2.3 Social contributions*

The term "social contributions" (sociala avgifter) is used in the Swedish national accounts to denote the major part of pay-related compulsory social contributions and employers' contributions regulated by agreement. Social contributions laid down by law are calculated with the aid of data from the National Social Insurance Board. Data on social contributions regulated by agreement for employees of departments and agencies of government and local and central government public-service undertakings are obtained from the records of the Swedish Financial Management Authority (ESV), Statistics Sweden's summaries of local government and county council accounts and from the National Government Employee Salaries and Pensions Board (SPV). Data on enterprise contributions regulated by agreement are obtained from the Financial Supervisory Authority, Statistics Sweden's financial statistics for enterprises and the Pensions Registration Institute (PRI).

#### *1.4.2.4 Taxes and subsidies on production*

The calculations for central government taxes on production and subsidies are chiefly based on the records of the Swedish National Financial Management Authority for the income of departments and agencies of government by revenue headings, which are recorded on a monthly basis. Some parts of the taxes on production are based on yearly tax assessments such as property taxes, which to some extent are allocated to local government sector. The costs of local government subsidies are based on the summaries of local government accounts. Data on EU taxes on production and subsidies are also obtained from ESV.



#### *1.4.2.5 Operating surplus*

##### Non-financial corporations

Operating surplus is calculated for the sector as a whole. The basis is the enterprise based material for the sector, which is available from the Business statistics. Since this material is not fully adapted to national accounts definitions, adjustments are made to it and supplements provided for the under-coverage of tenant-owners' associations.

##### Financial corporations

This institutional sector has a demarcation, which coincides with the functional industries SNI K.64-K.66 except for a small part that is self-employed in the financial services area. Other taxes on production, net, wages and salaries and social contributions are deducted from value added at basic prices in these industries in accordance with the sources referred to above.

##### Local government

The operating surplus is generated in the local government public service undertakings. The calculation is geared to sales and deducts wages and salaries, social contributions, other taxes on production and consumption of fixed capital. These components are calculated in the same way as for the non-market producers of the local government sector.

##### Social security

The value arises from the real estate management of the National Pension Fund. The profit-and-loss account for this activity is included in the end-of-year accounts of the fund. Net operating surplus is only observed for a number of years in the sector and the latest observation is from 1998, when the sector was last direct owners of real estate. For other years gross operating surplus consists only of consumption of fixed capital.

##### Owner-occupied dwellings

These comprise homes and holiday/weekend homes in private ownership. Real estate tax is deducted from value added and a supplement is applied for the value of other subsidies in accordance with data from the Swedish Financial Management Authority (ESV). Consumption of fixed capital is calculated in a model based on data from real estate tax assessment and real estate price statistics. In the model, a geometric rate of capital consumption by 1.21 percent for owner occupied dwellings and 1.28 for holiday homes is applied. These rates correspond to average service lives of 75 and 70 years respectively. The share of owner occupation in the total of individual houses and holiday homes is 93 per cent. This rate is based on data from real estate tax assessment.

#### **1.4.3 Independence in relation to other strategies**

The income approach, as it currently features in the Swedish national accounts, is dependent on both the production and expenditure approaches in the final balancing process. However, the various components are more or less independent of other strategies. In the income approach total wages and salaries are obtained from the income statements (KU). This source is separate from the Business statistics and sources for the general government sector, but constituent units in the various sources are coordinated through the Business Register (FDB). Wage and salary data for non-profit institutions serving households are based entirely on income statements. Social contributions, as regards the legally compulsory portion, are measured with reference to the income of general government. The portion regulated by agreement, which is based on insurance, is measured through the insurance companies. In the case of provision by transfer to an account within the enterprise, the measurement takes place both at enterprise level and through the Pensions Registration Institute (PRI), which registers pension funding by transfers to special accounts. In the general government sector social contributions are measured using the same source as in the production and expenditure approaches.

##### Operating surplus and mixed income

Sector-by-sector operating surpluses in non-financial corporations, financial corporations, central government, municipalities, social security institutions, owner-occupied housing and in non-profit institutions is calculated from the same sources as the corresponding output calculations. Mixed income is also corresponding to the output calculations.

#### **1.4.4 Valuation and recording**

The following is a summary of the valuations and recording applicable to the income approach for the economy as a whole:

- GDP at market prices measured from the expenditure and production side.
- Taxes on production. For taxes on products see section 1.3. Other taxes on production are based on the data from the ESV, which are recorded monthly and on a cash basis and are period-reallocated in order to obtain accrued values. In practice income is time lagged, for example income for February to January is recorded as income for the calendar year.
- Subsidies. Expenditure without period reallocation.
- Wages and salaries. The total of wages and salaries reported in the income statements indicates wages paid in cash, including benefits recorded in the year they are paid. Compensation during sick leave etc. paid by the employer is also included.
- Social contributions. Compulsory social contributions are recorded on payment with period reallocation by one month. Agreement-regulated contributions follow accounting principles in enterprises and insurance corporations and the records of departments and agencies of government.
- Net operating surplus, non-financial corporations and mixed income for households. Accounting data are adapted to national accounts concepts, inter alia for the valuation of inventories and costs of financial leasing. Accounting values for capital consumption are replaced by calculated values and valuation at replacement cost (current cost accounting).
- Net operating surplus, financial corporations. The operating surplus is calculated residually on the basis of value added at basic prices in accordance with the output calculations.
- Net operating surplus, general government sector. These are obtained from the accounts of the municipalities. The values are calculated for consumption of fixed capital.
- Net operating surplus, owner-occupied dwellings. Value added in accordance with the output calculations. The values are calculated for consumption of fixed capital.
- Consumption of fixed capital. Calculated in a model based on capital stocks valued at replacement cost and geometric rates of capital consumption (PIM method).

#### **1.4.5 Transition from private accounting data to national accounts concepts**

The procedure is as described in sections 1.4.2.5 and 1.4.4 above.

#### **1.4.6 Use of direct and indirect measurement methods**

The following is a summary of the procedure as regards the income approach and the economy as a whole:

- Measurement methods for GDP are in the main direct.
- Taxes on production and subsidies are measured directly.
- Wages and salaries are measured directly with the aid of administrative material. Supplements are calculated for wage and salary payments not reported.
- Social contributions are measured directly.
- Net operating surplus for non-financial corporations is measured directly and adjusted for certain definitional differences. The adjustments are subject to certain indirect calculation effects. The operating surplus of financial corporations is measured as value added less net of production taxes and subsidies. The same applies to owner-occupied dwellings and mixed income. The operating surplus of the general government sector is measured directly.
- Consumption of fixed capital is based on a calculation model.

#### **1.4.7 Roles of benchmarks and extrapolation**

The basis to the current estimates of the institutional sector accounts according ESA2010 according to the primary source of Business statistics (SBS) are different from 1997 and onwards comparing with

the older sources. The difference is, among other things, the extent of the examination and the distribution of non-financial companies and self-employed in the households sector who are active in the market producing part of the economy. This affects the valuation of and the distribution between non-financial corporations and self-employed of production, intermediate consumption, gross value added, compensation of employees, gross operating surplus and gross mixed income in the accounts. Periods prior to 1997 are calculated by models using extrapolation with respect to these transactions in order to maintain comparability over time.

#### **1.4.8 Exhaustiveness**

The income approach in the current structure for the economy as a whole has the completeness determined by GDP in the calculations of output and expenditure.

### **1.5 Outline of the expenditure approach**

#### **1.5.1 Household final consumption expenditure**

##### *1.5.1.1 Reference framework*

Household consumption consists of all expenditure of Swedish households on goods and services in their role as consumers. Consumption may take place both in Sweden and abroad, so that tourist expenditure and expenditure of diplomats and military personnel abroad are included.

##### *1.5.1.2 Motivation for significant choice of data sources*

The Household budget statistics (HBS) constitute the only consistent inquiry, which measures household consumption expenditure as such. As the HBS is a relatively small sample survey, the HBS material produced is subjected to critical scrutiny. In those cases in which the HBS estimate is not up to the standard of data from other sources and there are sound reasons to place more confidence in other sources instead, the HBS estimate is discarded. Special attention is of course focused on items which are habitually underestimated in HBS inquiries and expenditure which has poor coverage because of the composition of the sample, for example households with persons aged over 79. Unfortunately HBS has not been used extensively during the latest years because of low reliability when confronting HBS estimates with other sources. Therefore a number of other sources are used to cover up for weak HBS-data. Sources used and compared are Retail trade Statistics, cash register data on food sales, processed VAT-data, data from balances of energy, government records, processed vehicle data, special compilations in accordance with regulation 1722/2005 on dwellings and on FISIM according to regulations 448/98 and 1889/2002 and contacts with various trade organisations.

##### *1.5.1.3 Independence in relation to other approaches*

Household consumption expenditure is based on separate calculations for the various purposes. With the aid of comparisons with other material, inquiries and calculations there are in many cases possibilities for checking the plausibility of the household expenditure calculations produced. In Sweden there are many data in a number of administrative registers coded in the same way, which to a large extent facilitates comparisons.

##### *1.5.1.4 Valuation*

Valuation is based on the purchaser's price, i.e. the price the purchaser pays at the time of purchase in accordance with ESA 2010. Consumption of goods produced on own account is valued at production cost with a supplement for VAT regarding agriculture products produced by enterprises normally

producing for selling. This treatment is based on Swedish VAT legislation. However, consumption of goods produced by households as consumers has no addition for VAT. For used goods sold in the household sector through a third party, only the margin realised on the sale is included. In the case of purchases paid for in instalments, it is the purchase price including all supplements in the form of delivery and installation charges, which makes up the value of the product in question. The interest element is not included in the value. Interest charges are not regarded as household consumption but are treated as a transfer between borrower and lender.

#### *1.5.1.5 Transition from concepts used in private accounting and administrative concepts to ESA 2010 national accounts concepts*

In those cases in which the source records expenditure exclusive of VAT, for example the Business statistics, a conversion is carried out in order to obtain the value, which is correct by definition.

#### *1.5.1.6 Use of direct and indirect measurement methods*

Direct measurement methods are used for most expenditure in household consumption. However, indirect methods are applied in order to calculate a utility value for all dwellings other than rented accommodation. Indirect methods are further used to record the utility value of car benefits and of financial services.

#### *1.5.1.7 Roles of benchmarks and extrapolation*

The calculations for household consumption expenditure are based both on expenditure amounts measured annually and on extrapolations of benchmarks in a certain year with the aid of various indicators. In certain instances extensive reconciliation has been undertaken.

#### *1.5.1.8 Exhaustiveness*

Data on household consumption according to the national accounts definitions are not available in a single statistical inquiry. Statistics Sweden has endeavoured to measure household expenditure with definitions as close as possible to those of the national accounts in household budget and household expenditure surveys. However, as estimates from HBS are not of sufficient quality, a great number of other sources are used instead.

##### *Household budget statistics (HBS)*

*HBS-statistics* for the years 1995/96 were used quite extensively for benchmarking 1995. HBS-data for 2003-2005 was intended to be used for a new benchmark of year 2004. The HBS-estimates, however, turned out to underestimate household consumption to a great extent for some purposes when compared with other sources. The HBS-statistics could therefore not be used as much as initially planned for the benchmarking this time. The main reason for the rejection was that these HBS-surveys had too small samples of households which made the interval of confidence too big. The HBS-statistics have, however, to a great extent been used to allocate the consumption under many of the purposes to different product groups by the use of shares. The most recent HBS statistics have not been approved for use as a main source for the NA due to the quality of the estimates. Work is in progress in order to improve the HBS-survey by different approaches.

Therefore the calculations of household consumption are built up with the aid of a number of other sources to a large extent. Information on retail sales from 2002, quarterly turnover statistics, VAT records, administrative records, information from trade organisations and information on sales to households from the SBS are the main other sources used.

*Retail trade sales*

Statistics Sweden conducts annual surveys of the sales of the different NACE-industries per product of goods and services. In these surveys a question is also included on sales to others than households. By combining industry turnover figures with the shares of goods and services sold by each industry, an industry/goods matrix is obtained. The matrix consists of 70 industries, whose turnover is distributed over 100 different goods and services. Some service industries are also included in order to catch also HFCE of services. The matrix is updated every year.

*Turnover statistics, VAT records, Business statistics*

In order to estimate trends from an initial year forward, in many cases Statistics Sweden's quarterly turnover statistics are used for the retail trade and certain service industries. The trend in the turnover statistics is compared continuously with the trend in turnover obtained when data from VAT declarations are processed statistically. Here adjustments can be made to the turnover statistics if the VAT material is judged to be more reliable. The trend figures from the turnover statistics are also compared on an annual basis with the results obtained when the annual business statistics are processed. Comparisons between, in the first instance, trend figures, but also turnover, are made for those industries which are of interest in this context.

*Further reconciliation*

In the annual calculations a wealth of other detailed information, which can be collected for various goods and services is also used. This may involve, for example, records from departments and agencies of government, trade organisations and membership associations or from supervisory bodies, which exercise surveillance, collect charges or pay subsidies in relation to the scope of the activity. Register material, inter alia, for vehicles and real estate, intermittent industry inquiries and research reports from universities as well as studies of various activities are also used.

The Swedish national accounts are based on an input-output system, which means that all production and use of goods and services is arranged in a system of product group balances in commodity flow analysis. In this way it is possible to check the household consumption estimates and other uses against the supply of the corresponding goods and services. If there are differences between supply and use, a residual item arises, and the good or service in question is then subjected to special analysis and any measures required are taken to ensure a better balance between supply and use.

The calculations for household petroleum consumption are carried out in the national accounts special energy balances. For petroleum products there are statistics from a number of sources, and these are coordinated into five different product balances in which the allocation to different user groups is specified.

Analysis, reconciliations and adjustments are thus carried out for all of the 249 product groups, which constitute the smallest building blocks of household consumption distributed by purposes.

**1.5.2 Non- profit institutions serving households (NPISH)***1.5.2.1 Reference frame and main data sources*

Added to actual household consumption expenditure is an expenditure item not allocated to purpose, consisting of consumption in non-profit institutions serving households (NPISH). NPISHs include associations working to promote the interests of households without any profit incentive. Bodies such as trade unions, churches, political parties, sport associations and welfare organisations count as NPISHs. The main source for the NPISH calculations are the wage and salary data (LSUM), Gross pay based on income statements, which all employers supply to the Tax Agency for every person employed. The data provide complete coverage and include wages and salaries paid and pay-related benefits.

Another main source is the survey on Non-profit institutions serving households. This source gives detailed information on income as payments for sold goods/services and expenditures, recorded as

intermediate consumption distributed by 42 different NACE-activities. The transactions recorded on some of these activities are however very small, therefore they are grouped into nine aggregated NACE-activities. Figures on wages and salaries and number of employees are also collected but as this is a sample survey the registers from the STA are used instead as they are comprehensive.

The third main source contains data for the Church of Sweden. The survey is divided into three different parts covering different activities within the Church. The activities of the parishes are covered in one of them and the activities of the dioceses in the second one. The third recording contains a special collection of data covering the ownership and management of land, forests and buildings belonging to the Church. The survey contains comprehensive and detailed information on income, expenditures, investments and balances for the needs of NA-compilations.

### **1.5.3 General government final consumption expenditure**

#### *1.5.3.1 Reference framework*

In the national accounts the general government sector consists of three sub sectors – central government, local government and the social security sector.

Central government comprises departments of government administration and other central government agencies, authorities and institutions whose jurisdiction covers the entire economic territory, apart from the administration of the social security sector. This demarcation coincides to a large extent with the legal entity of the State. It also includes non-profit institutions, which are controlled and largely financed by the State.

In 2011 the local government sector comprised 290 civil primary municipalities, 16 county councils and 4 regions and 4 private hospitals classified within the county councils and 186 municipal associations. The sector also includes the Swedish Association of Local Authorities and Regions and non-profit institutions, controlled and largely financed by local authorities.

Local government activity consists of social services such as care for the elderly, child-care and social assistance matters, the public sector school system and education for children, young people and adults, planning and building matters, health and environmental protection, cleaning and waste disposal, emergency services, water supply and sewerage, public order and safety and health, and medical care including dental care. In addition the local authorities pursue activities in the fields of recreation and culture, housing, energy and industry, public transport and tourism promotion.

The output of cleaning and waste disposal, water supply and sewerage, housing and energy is produced by units classified as market producers. Hence these are not included in calculations for the consumption expenditure of primary municipalities.

The social security sector includes units whose main activity consists of managing funded social security systems. The social security sector comprises of the Swedish Pension Agency and the AP-funds number 1, 2, 3, 4 and 6, which are buffer funds in the Swedish national income pension scheme.

#### *1.5.3.2 Main data sources*

The central government calculations are based mainly on the records of the Swedish National Financial Management Authority (ESV) for the expenditure of departments and agencies of central government by types of expenditure of total activity of central government departments and agencies. The basic documentation for these records is obtained from the government accounting system and therefore covers all expenditure of departments and agencies of government, also those financed otherwise than by way of the national budget. All expenditure is thus classified in the real economic distribution as consumption, investment or transfers and by type of expenditure and purpose.

The main sources for the calculation of the consumption expenditure of local government are the summary accounts, which are collected annually by Statistics Sweden for primary municipalities, municipal associations and county councils. The form contains around 35000 variables.

Other sources used for the calculation of local government consumption include the annual reports of the Swedish Association of Local Authorities and Regions, statistics on theatrical and dancing activities from the National Council for Cultural Affairs, employment statistics from Statistics Sweden and material from the National Agency for Education and National Board of Health and Welfare. The main source for the 4 private hospitals is the Structural business statistics and the annual report for each private hospital.

The sources for consumption expenditure of the social security sector are the annual reports of the national pension funds, a quarterly survey including revenues and expenditure carried out by Statistics Sweden and a survey conducted by the Swedish Pension Agency which is made available Statistics Sweden. Data concerning the consumption expenditure of the Swedish Pension Agency is collected by ESV and passed on to Statistics Sweden, as well as from their annual report.

#### *1.5.3.3 Motivation for significant choice of data sources*

The statistical sources for central government, primary municipalities, municipal associations and county councils provide comprehensive coverage, i.e. all units are included. The sources used are based on the accounting system of the institutional units, which as far as possible is adapted to the requirements of the national accounts. There is continuous development of sources in order to conform to the needs of the national accounts in respect of reliability and level of detail and extended requirements to comply with ESA10.

#### *1.5.3.4 Independence in relation to other approaches*

The expenditure of the general government sector on consumption and investment is based on the accounting of the institutional units for expenditure and income. In the calculation of total consumption expenditure there is a subdivision into the components intermediate consumption, wages and salaries, social contributions, other taxes on production, other subsidies on production, capital consumption, sales, other assets produced on own account and social transfers in kind. Data at current prices are obtained from the respective source.

#### *1.5.3.5 Valuation*

Consumption expenditure consists of the output value for the activity units of general government classified as other non-market producers, minus their sales income plus their purchases from market producers of goods and services, which are supplied to households directly without further processing as social transfers in kind.

- + Intermediate consumption including deductible VAT
- + Wages and salaries
- + Social contributions
- + Other taxes on production
- Other subsidies on production
- + Consumption of fixed capital
- = Value of output
- Sales of goods and services
- Production for own final use
- + Social transfers in kind
- = General government consumption expenditure

### *1.5.3.6 Transition from accounting data to national accounts concepts*

The underlying material to calculate general government consumption expenditure is obtained from the total accounting records of the various sub sectors, which are made available for the national accounts. The material is obtained from departments and agencies with widely divergent activities and is arranged in a common accounting system. Through close cooperation with the suppliers of statistics it has been possible to adapt the compilation of records in such a way that the national accounts can separate out data which need to be classified in a different way in the national accounts.

### *1.5.3.7 Use of direct and indirect measurement methods*

Direct measurement methods are used in the calculations for the general government sector apart for consumption of fixed capital.

### *1.5.3.8 Roles of benchmarks and extrapolation*

The calculations are based on annual data at current prices and extrapolations are not therefore used.

### *1.5.3.9 Exhaustiveness*

The underlying material provides complete coverage since data are collected for all activities. A plausibility check of the material is always carried out when it is received by Statistics Sweden. Comparisons in the form of time-series are also used in order to detect any major divergences between years. The material is also returned to the data suppliers, in the form of key figures, which facilitate comparisons between different local authorities. The suppliers then have an opportunity to correct their data if they consider that an error has occurred.

## **1.5.4 Gross fixed capital formation**

### *1.5.4.1 Reference framework and main data sources*

The annual SBS is the main source for market producers and producers for own account. But the quarterly investment survey also constitutes an important source for the breakdown of investments by type. Information on gross fixed capital formation for the central government sector is available from the comprehensive material collected by the Swedish National Financial Management Authority and from the summary accounts for the local government sector.

### *1.5.4.2 Valuation*

Gross fixed capital formation is valued at purchaser's prices including delivery and installation charges. In those cases in which the market price is not available, for example when it concerns capital assets produced on own account, it has proved necessary to accept the production cost without any supplement for the profit element which would have arisen on a sale. Alternatively capital assets produced on own account can be valued at the basic price applicable at the time of the investment to the type of asset concerned, provided such a basic price is available. The valuation also contains all other costs associated with the acquisition, e.g. customs duties and other taxes on products and costs of transport, architectural services and installation. Non-deductible VAT is included. VAT for the investment of departments and agencies of government are also included.

For buildings and installations which normally have a production time extending over several periods, the total investment value is split up so that the amount recorded for each period in principle corresponds to the part which is completed during that period. Often, however, as a close approximation, payment instalments made during the period are recorded.



Gross fixed capital formation is entered at the time when ownership of the asset passes from the vendor to the user. In the case of financial leasing the amount is entered when the user – the lessee – takes possession of the asset, despite the fact that it continues to be owned by the lesser during the entire period of the lease. Investment on own account is entered when it is produced.

#### *1.5.4.3 Transition from the concepts used in private accounting and administrative concepts to concepts used in the national accounts in accordance with ESA 2010*

Swedish legislation allows direct depreciation of so-called 1-2 year investment, i.e. capital assets of limited value with an economic life of less than 3 years. ESA 2010, on the other hand, treat these as gross fixed capital formation. The areas affected by the distinction between the accounting legislation and the national accounts concepts are, on the one hand, software investment and, on the other hand, investment in machinery and equipment. A special question is introduced in the SBS in order to capture short time investments. Reallocation by the national accounts is carried out so that an amount corresponding to the value of software investment is recorded as investment and is deducted from intermediate consumption.

For construction investment, estimates are required, which only contains investment in new assets. This information is essential because of the method used for the calculation of output in the construction industry. As regards surveyed big enterprises, the SBS gives all the necessary information. For smaller enterprises, however, further information is collected either by a special annual survey or from the quarterly survey for the breakdown of the administrative SRU-material. The value of new construction investment for each year is calculated as the difference between the closing and opening balance with an addition for recorded depreciations during the period.

#### *1.5.4.4 Use of direct and indirect measurement methods*

Direct information is collected from the sources apart from models for leasing, software, and dwellings. In order to sort out transport equipment from the main group “machinery and transport equipment” in the SBS, information from vehicle and ship registers are used.

#### *1.5.4.5 Roles of benchmarks and extrapolation in the investment calculations for buildings, machinery and transport equipment excluding leasing*

The compilations are based on annual information. Only for a couple of minor items benchmark and extrapolations are used.

#### *1.5.4.6 Exhaustiveness*

Representatives of those concerned with business statistics, investment surveys, national accounts and statistical methodology expertise continuously evaluate the results and the structure of the inquiries in relation to one another. Questions on over- and under-coverage are dealt with.

### **1.5.5 Changes in inventories**

#### *1.5.5.1 Reference framework*

The inquiry population for most of the industries in the inventory inquiry is obtained from Statistics Sweden’s business register.

### *1.5.5.2 Main data sources*

The statistics are mainly based on statistics collected directly from enterprises by SCB questionnaires. The inquiries are quarterly and cover mining and manufacturing, distribution and also the service industries. Changes in inventories in the service industries are however based on the SBS information. Data on agriculture are produced by Swedish Board of Agriculture and the forestry statistics are supplied by the Swedish University of Agricultural Sciences (SLU) and the National Board of Forestry. The central government statistics are produced by the Swedish National Financial Management Authority (ESV).

### *1.5.5.3 Valuation*

The value of the inventories of enterprises is equal to the value of stocks acquired minus the value of stocks disposed of during the calculation period and is measured in the inquiries as the difference between opening and closing inventories. Changes in inventories are converted in such a way that they only give the change in the volume of inventories excluding inventory price gains. Inventories of materials and supplies must be valued at replacement cost and inventories of work-in-progress, finished products and goods for resale at their sale price. If another price is indicated by the enterprises, Statistics Sweden carries out a conversion to establish the correct price level.

### *1.5.5.4 Use of direct and indirect measurement methods*

Direct measurement methods are used for changes in inventories.

### *1.5.5.5 Exhaustiveness*

In the process of balancing between supply and use, there may be a need for adjustments to changes in inventories. The material collected is balanced, and any deficiencies in the main quarterly source are adjusted primarily in conjunction with the balance reconciliation.

## **1.5.6 Exports and imports of goods and services**

Data on exports and imports of goods and services are specified in accordance with the product classification used in the product accounting system and are compiled at the same level of detail in the quarterly and annual calculations.

Statistics Sweden, which is responsible for the statistics on international trade in goods, collects data on Intrastat (trade with other EU countries) and compiles these with Swedish Customs data on Extrastat (trade with non-EU countries). As of 2003 Statistics Sweden collects also information on foreign trade in services. The main part of this information is based on a quarterly survey. Since 1 September 2007 Statistics Sweden also produces the Balance of Payments on commission for the Central Bank

Collected data on trade in services is mainly in accordance with the standard drawn up jointly by the OECD and Eurostat for statistics on international trade in services. The

Data need to be converted to some extent to the product classification used in the national accounts.

## 1.6 The balancing or integration procedure and main approaches to validation

### 1.6.1 Role of supply and use tables

GDP and GNI are calculated and compiled in that part of the national accounts system known as the product accounts. The annual calculation is performed and balanced in a system of supply and use tables. The supply and use tables (SUT) are the basic tables which can subsequently be further processed to Input-Output tables. The table system also includes employment calculations with the average numbers of employees and hours worked per industry/purpose.

The degree of detail in the Swedish system is such that the output calculations are performed on around 400 product groups and 100 industries; household consumption expenditure is recorded for 156 purposes in accordance with COICOP; consumption expenditure of departments and agencies of government is allocated to sectors, industries and functions (COFOG), which makes 76 uses. Gross fixed capital formation is broken down by sector, industry and function (COFOG), split on 150 uses in the economy.

The balancing procedure, or balancing process, can be divided into two stages:

- the manual balancing of supply and use of individual product groups with the help of SUT
- the final, mechanical (automatic) balancing performed with the RAS method

The first stage consists of manual balancing of supply and use of 400 individual product groups with the help of supply and use tables. This manual balancing aims at balancing the supply and use for every product group by making adjustments on main variables on both the supply side and the use side. Adjustments on one product group affect other product groups resulting in a process of continuous interaction. When the manual balancing is finished the residuals between supply and use of individual products should be substantially reduced, but not eliminated. The manual balancing lasts for roughly two months.

The second stage consists of a final, mechanical (or automatic) balancing which is performed with the use of the RAS method, a well-established iterative procedure. The aim of the final, mechanical balancing is to eliminate the residual of every product group, and thus also the total residual. This final balancing is a relatively quick procedure, performed in less than a day.

In the manual balancing the information on price changes and volume changes for the different components of supply and use play important parts. SUT cover several years and a time series approach to price changes and volume changes is often fruitful in order to detect strange occurrences in the estimates. Gathering information from alternative sources, e.g. from the VAT register or from trade organizations, and comparing them with the results of the SUT is another important aspect of manual balancing. General government is considered to have exhaustive statistical sources and is therefore not affected by any kind of balancing. The calculations and balancing in SUTs mainly affect products from market output and production for own final use, and sales by other non-market producers (departments and agencies of government and non-profit institutions serving households). The NA system also includes value added components and employment for market producers and producers for own final use. The value added components for other non-market producers, which do not affect the balancing, are added at a somewhat later stage.

Looking at the GDP production approach, the levels of manual balancing are approximately -23 SEK billion on output of goods and services and -36 SEK billion on intermediate consumption, resulting in an impact of +13 SEK billion on gross value added. These figures can be found in the Process Table (in the column "Data validation").

The GDP expenditure approach also involves a considerable amount of manual balancing, which is evident if you look further down in the Process Table, in the column "Data validation". The levels of manual balancing are approximately +3 SEK billion on total final consumption expenditure (all of it

on household final consumption expenditure), -4 SEK billion on gross capital formation (-6 SEK billion on gross fixed capital formation and +2 SEK billion on changes in inventories), +19 SEK billion on exports of goods and services and +12 SEK billion on imports of goods and services. The total impact of manual balancing on the expenditure approach gross domestic product amounts to +5 SEK billion.

The automatic balancing (RAS balancing) occurs only on the production side. The level of automatic balancing is approximately +25 SEK billion on intermediate consumption. (Only the intermediate consumption of market producers and producers for own final use is affected.) Since no automatic balancing is performed on output of goods and services, the impact on gross value added is -25 SEK billion. These figures can also be found in the Process Table (in the column “Balancing”).

## **1.6.2 Other strategies applied in the validation of GDP**

### *1.6.2.1 Labour input, productivity trends, trends in earnings*

Labour input calculations form an integral part of the national accounts. Data are calculated mainly using the same industry classification as the output calculations. The calculations apply to the average number of persons employed and hours worked, with a breakdown by employers and employees. The national accounts may also obtain data from private firms for a better interpretation of the statistics. These data are combined with data on production, intermediate consumption, value added, wages and salaries etc., and the industry-by-industry analysis is supplemented by an analysis of industry-by-industry labour productivity trends and trends in earnings. The analysis may result in adjustments to any of the input variables.

### *1.6.2.2 Sector accounts*

The Swedish national accounts are complete in the sense that they comprise both product accounts (PA) and real and financial sector accounts (SA). The product accounts take precedence over the sector accounts in the calculation procedure, but the calculation of a year is not completed until both the PA and SA are finalised. The calculation of the institutional sectors is not entirely separate from the PA calculation. Total income is determined from GDP. This means that the trend in incomes and their allocation to sectors are an interesting variable of analysis, as also the distribution of net lending by sectors.

## 1.7 Overview of the allowances for exhaustiveness

Table 1.7.1 Adjustments for exhaustiveness in 2011, SEK million

Production approach	N1	N2	N3	N4	N5	N6	N7	Total
Output		4590				80449		85039
Intermediate consumption			1442			-16974		-15532
Gross value added		4590	-1442			97423		100571
Taxes on products								0
Subsidies on products								0
Gross Domestic Product		4590	-1442			97423		100571
Expenditure approach								
Total final consumption expend.		4590				12806		17396
Gross capital formation								
Exports of goods and services								
Imports of goods and services								
Gross Domestic Product		4590				12806		17396
Income approach								
Compensation of employees						39669	2214	41883
Gross operating surplus			-1442			22863	-2214	19207
Mixed income		4590				34891		39481
Taxes on production and imports								0
Subsidies								0
Gross Domestic Product		4590	-1442			97423		100571

N1: Underground activities; N2: Illegal activities; N3: Activities not requiring registration; N4/N5: Under coverage; N6: Misreporting; N7: Other

Statistics Sweden's Business Register has an important role in the context of exhaustiveness. It contains all production units relevant for the economic statistics by industry and sector. There are no income or VAT thresholds in the business register. The register is updated weekly with information from the Tax Agency registrations and annually from surveys to major industries and feed-back from other sources. As the Structural Business Statistics, which is the main source for market production, is based on the contents of the Business Register and the annual Income statements supplied to the Tax Agency, the contents of the BR has been checked at several occasions in order to ascertain the accuracy of its content. The sources of information for government units are comprehensive and therefore very reliable.

Statistics Sweden also has a unit named Coordination and Corporate Affairs, who has a special responsibility to continuously stay in touch with the 50 largest companies and supply information to relevant departments of statistics. In the Swedish economy the 50 largest enterprises represent at least 25 percent of Gross Value Added.

The main approach to calculating GDP in Sweden is to compile the best estimates possible based on production and expenditure approaches within the economy. All kinds of information are used in order to produce a GDP measure as comprehensive as possible. In the balancing of GDP, the results of the production and expenditure approaches, which are initially estimated independently of each other, are analysed and assessed in the context of the whole economy. The balancing, which is somewhat geared to the expenditure approach, also leads to an inclusion of sales in the production approach that are not reported to the fiscal authorities. From the production approach, despite many additions in the course of checking for data gaps, it is still possible to understate some estimates. One such example is when VAT has been charged but has not been reported to the fiscal instances. In such cases GVA and product taxes will be too low. Upward adjustments are added, but it is impossible to measure the absolute and exact values for this.

The expenditure approach has not these difficulties and it is therefore realistic that the estimates on the expenditure side are more complete than other approaches. The detailed data from the supply and use tables, broken down into about 400 product groups, are used as a means of cross-checking the estimates at a more detailed level from the different approaches. Also employment data with average numbers of employees and hours worked are included in the system and used for plausibility

assessments. Key figures like productivity estimates and hourly wages are used in confronting data sets.

Estimates from the expenditure approach catch – if they have a good coverage – also production not shown in statistics from production and income sides. Most of the activities in the NA are to a large extent based on material collected in the SBS, in which data is collected from official company book-keeping.

In the National Accounts system a theoretical amount of VAT that should have been collected on all the taxable transactions in the economy is calculated. The theoretically calculated VAT amount is compared with the amount of VAT actually returned to the Tax Agency. The difference between the two is an estimate of overall VAT gap or VAT evasion.

The discrepancies that occur in the compilations are analysed and remedied as far as possible. Materials produced by the Swedish Tax Agency in various audits, analyses, investigations and information campaigns are used to a large extent in order to adjust officially reported data where non-exhaustiveness may be expected. Explicit additions based on model compilations are made to account for hidden and illegal activities in the different industries.

**Table 1.7.2 Explicit additions for exhaustiveness in 2011, SEK million**

Activity	Value added		
	Reported	Hidden, Illegal	Total
A01-03 Agriculture, forestry and fishing	46 920	5 629	52 549
B05-09 Utvinning av mineral	27 845	93	27 938
C10-33 Manufacturing	583 799	4 753	588 552
D35 Provision of electricity, gas, heating and refrigeration	87 314	0	87 314
E36-39 Provision of water; sewage treatment, waste management and sanitation	19 364	1 152	20 516
F41-43 Construction	166 748	19 073	185 821
G45-47 Trade: motor vehicle and motorcycle repair	341 266	8 740	350 006
H49-53 Transport and warehousing	168 714	10 981	146 946
I 55-56 Hotels and restaurants	44 128	5 389	49 517
J58-63 Information and communication	170 032	6 201	176 233
K64-66 Finance and insurance	131 220	355	131 450
L68 Real estate	385 345	4 680	274 847
M69-75 Activities within law, economy, science and technology	215 067	8 649	178 452
N77-82 Rental, property services, travel services and other support services	103 675	6 366	109 802
P85 Education	174 271	2 371	30 932
Q86-88 Care and healthcare: social services	335 700	3 502	77 777
R90-93 Culture, entertainment and leisure	37 810	3 757	21 200
S94-96 Other services	43 575	8 472	25 831
T97-98 Domestic gainful employment; domestic production of various goods and services for own use	742	408	1 150
Value added at basic price, market producers and producers for own final use	3 083 535	100 571	2 536 833
Value added at basic price in public authorities			642 277
Value added at basic price in non-profit institutions serving households (NPISH)			43 821
Total value added at basic price			3 222 931
GDP at market price			3 656 577
Hidden value added as a proportion of:			
Value added at basic price, market producers and producers for own final use			4,0%
Value added at basic price in the entire economy			3,1%
GDP at market price			2,8%

### 1.7.1 The production approach

The sources for the output calculations consist of censuses in the great majority of cases. Major enterprises are surveyed by questionnaire, whereas data for all other enterprises are obtained from administrative material supplemented by surveys for information on a detailed level. Adjustments are made for differences between accounting rules and the definitions applied in the national accounts.

Explicit supplements for the output value of unrecorded activities have been included for a number of industries. The estimates are mainly based on an audit study by the Swedish Tax Agency in 2006. Estimates for illegal activities on drugs, alcohol, tobacco, gambling and prostitution are also included in the compilations.

### **1.7.2 The income approach**

The income approach in the present structure for the economy as a whole has the completeness determined by GDP in the compilation from output and expenditure side. That proportion of incomes consisting of wages and salaries includes income in kind in accordance with the rules laid down by the tax authorities. In addition a special supplement is applied covering car benefits for the years 1997 onwards, where the utility value is deemed to exceed the levels laid down. Gratuities are taxable income and must be declared as wages and salaries; they are recorded as the actual amounts received. Adjustment for those cases in which amounts are not recorded is included in a supplement for undeclared wages and mixed income.

### **1.7.3 The expenditure approach**

Household consumption expenditure is based on a large number of sources, which are checked and tested for consistency. Level estimates, obtained from the household budget surveys are carefully compared with information from other sources and adjusted on a number of points. An important source for comparisons are the retail trade turnover statistics distributed by industries, in which turnover is allocated to different types of goods through special questions in the SBS and special information on food sales.

General government consumption and investment are calculated from comprehensive statistical sources structured so as to meet the requirements of the national accounts, which amongst other things means that all general government activity is included. Supplements are applied in order to cover definitional differences between public sector accounting and national accounting, such as those affecting software, short-term investment and financial leasing.

Data on investments by activity are collected mainly by means of two inquiries, the annual structural business statistics and the investment surveys, which provide quarterly information. The SBS from 2004 and onwards also contains information on short-term investment.

## **1.8 The transition from GDP to GNI**

The transition of GDP to GNI is obtained by adding compensation of employees to/from the Rest of the World (RoW) plus net property and entrepreneurial income less net taxes (i.e. adjusted for subsidies received from the RoW).

The Balance of Payments (BoP) is to be considered as the main data source for compilation of primary income from/to the rest-of-the-world. All concepts in BPM6 are implemented in the Balance of Payments. Statistics Sweden collects the bulk of the source material on commission by the Riksbank, the Swedish Central Bank. To get gross accrual estimates on taxes to and subsidies from EU, data from the Swedish Financial Management Authority (Ekonomistyrningsverket ESV) is used.

There is full consistency between the Rest of the World (RoW) sector within the institutional sector accounts and the Balance of Payments (BoP). BoP follows BPM6, so no adjustments are made for consistency with ESA 2010.

### **1.8.1 Compensation of employees**

The data covers non-residents working in Sweden and Swedish residents working abroad for less than one year.

The data is elaborated in cooperation with the Trade of Service statistics, BoP and the statistics on Income Statements. These estimates are mainly based on detailed information from income statements for individuals.

When it comes to non-residents working on Swedish embassies data have been made available from the Swedish Ministry for Foreign Affairs covering both D11, wages and salaries and D12, social contributions. For residents working in foreign embassies a fixed relation to the opposite flow has been used according to the BoP data.

### **1.8.2 Taxes on production and imports**

Data on taxes only exist on the outflow side. The data are obtained directly from the Swedish National Financial Management Authority (ESV) and consist of customs duties, agricultural levies and sugar levies. These make up parts of Sweden's dues or contributions to the EU and are recorded as transactions which affect directly taxes on production and imports

However, the GNI levy, which is the biggest part of Sweden's contributions to the EU, is recorded instead as a current transfer. After introduction of ESA 2010 the recording of VAT is the same as for the GNI levy, i.e. recorded as current transfer from central government to EU. The revenue referring to VAT is at the same time recorded as central government tax revenue.

### **1.8.3 Subsidies**

The data on subsidies apply both to subsidies on products and to other subsidies on production from the EU and thus only affect the inflow side. It is mainly a case of subsidies to agriculture. These data are obtained from the Financial Management Authority.

### **1.8.4 Interest**

Returns on financial assets and debts also include interest. Since the data in the balance of payments statistics on financial returns are structured according to the main headings in the financial balance, three types of interest income and expenditure are distinguished. Interest expenditure is recorded on an accruals basis as regards bonds and money market instruments.

All the major banks report information on interests by country. Estimates for other monetary financial institutes are calculated based on the reports from the banks. Non-financial enterprises are covered by the survey on Balance Statistics for non-financial companies (BAST).

Reserve assets- All earnings on foreign exchange reserves and related transactions with the IMF are recorded by the Riksbank. Sweden receives interest on its holdings of Special Drawing Rights (SDR) and other remuneration from IMF. Income from investment to foreign currency, deposits and securities is derived on a monthly basis from banking records. The Riksbank provide data to the BoP which is the primary source in NA for all income.

### **1.8.5 Income from corporations – revenue from shares and equity capital**

The revenue concept, in addition to interest, also covers dividends on shares in portfolio investments as well as dividends taken and reinvested profits from direct investments. Returns on portfolio shares comprise dividends on holdings amounting to less than 10 per cent of voting rights. The distribution is recorded on an accrual basis. The data are obtained for debt securities by direct reporting while earnings on equity securities are based on calculations.

Dividends on shares in a direct investment enterprise are recorded in accordance with accounting principles meaning that dividends are recorded at the time the dividend (paid or anticipated) is recorded in the books of the FDI enterprise/ investor (as of the date they are declared payable). Returns on direct investment are calculated as the net amount of financial income and costs. The data are obtained from the annual accounts of the group to which the enterprises belong (consolidated figures) and are recorded before deduction of withholding taxes on distributed earnings and interest.



Depreciation, capital gains and capital losses are not included. Dividends within FDI relationships are reported in a monthly (cut-off) survey which includes the largest corporations. This monthly survey is complemented by the annual FDI survey (larger sample survey) where additional dividends are reported.

### **1.8.6 Reinvested earnings on foreign direct investment to/from ROW**

Reinvested earnings are that part of the profits of a direct investment enterprise of equity, which are not distributed to the shareholders but are retained in the company. These earnings are calculated by BoP as the difference between the company's total profit after tax and the distributed profit. Whereas dividends are recorded when they are payable, reinvested earnings are attributed to the year for which the company declared the profit. Data on distributed profits are obtained via the annual direct reporting discussed above.

## **1.9 Main classifications used**

### **1.9.1 The main classifications used for the production approach are as follows:**

- Production is broken down by industry classification, NACE 2007 Rev. 2.
- For the production approach broken down by product SPIN 2007 is used. SPIN 2007 is the Swedish application of EU product classification, Classification of Products by Activity (CPA 2008).

### **1.9.2 The main classifications used for the income approach:**

- The classification of wages and salaries is broken down by industry in the same way as GDP from production approach.

### **1.9.3 The main classifications for the expenditure approach to measuring GDP, the following classifications are used:**

- Non-financial assets (AN) are classified according to the ESA 2010 asset classification, with the industry classification as per the production approach.
- HFCE is broken down according to the Classification of Individual Consumption by Purpose (COICOP).
- GFCE is broken down according to the Classification of Functions of Government (COFOG).
- Changes in inventories are broken down by type of inventory, i.e. materials and suppliers, work in progress and finished goods.

### **1.9.4 The main classifications used in the transition from GDP to GNI:**

- Institutional sectors are broken down by national standard classification, INSEKT.

## 1.10 Main data sources used

**Table 1.10.1 The main data sources – registers**

Organisation	Data Source
Statistics Sweden	Statistics Sweden's Statistical Business Register
Swedish Tax Agency	The VAT Register - Administrative data

**Table 1.10.2 The main data sources used for the production approach**

Organisation	Data Source
Statistics Sweden	Structural Business Statistics (SBS)
Swedish Board of Agriculture	Economic Accounts for Agriculture, EAA
Swedish Forest Agency	Operations in large-scale and small-scale forestry
Swedish National Forest Inventory	Felling volumes in forestry and wood measurement
Swedish Agency for Marine and Water Management	Fishing statistics
Statistics Sweden	Production of commodities and industrial services, IVP
Statistics Sweden	Industrial consumption of purchased goods, INFI
Statistics Sweden	Intermediate consumption of service enterprises, TFF
Swedish Energy Agency	Annual energy statistics for electricity, gas and district heating
Swedish Financial Supervisory Authority	Financial enterprises, annual financial data
Swedish Financial Supervisory Authority	Insurance companies, annual financial data
Riksbanken (Sweden's central bank)	Riksbank's Financial Market Statistics

**Table 1.10.3 The main data sources used for the income approach**

Organisation	Data Source
Statistics Sweden	Gross pay based on income statements
Statistics Sweden	Labour force survey
Statistics Sweden	Short-term employment statistics
Statistics Sweden	Register-based labour market statistics, RAMS

**Table 1.10.4 The main data sources used for the expenditure approach**

Organisation	Data Source
Statistics Sweden	Turnover statistics - Trade in goods and services
Statistics Sweden	Household expenditure, HUT
Statistics Sweden	Food sales
Statistics Sweden	Retail trade
Statistics Sweden	Revenues and expenditure survey for multi-dwelling buildings
Statistics Sweden	Survey of rents for dwellings
Statistics Sweden	Household's finances
Swedish National Financial Management Authority	Basis of central government net lending, UFS
Statistics Sweden	Annual accounts for municipalities and county councils
Statistics Sweden	Non-Profit Institutions Serving Households
Statistics Sweden	Economic report Church of Sweden
Statistics Sweden	International trade statistics in goods (Intrastat)
Swedish Customs	International trade statistics in goods (Extrastat)
Statistics Sweden	External trade in services
Statistics Sweden	The income and costs of the SAS consortia
Statistics Sweden	Research and Development (R&D) - Frascati Manual
Statistics Sweden	Statistical register for vehicles
Statistics Sweden	Investment survey
Statistics Sweden	Industrial inventories
Statistics Sweden	Monthly fuel, gas and inventory statistics
Statistics Sweden	Survey on Inventories in trade and services
Swedish Forest Agency	National Forest Inventory, NFI

**Table 1.10.5 The main data sources used for the transition from GDP to GNI**

Organisation	Data Source
Statistics Sweden	Foreign Direct Investments – assets and income
Statistics Sweden	Balance statistics for non-financial companies, incl. balance of payment

## Chapter 2 Revisions policy and the timetable for revising and finalizing the estimates

### 2.1 The revision policy and the timetable for revising and finalizing the estimates.

Revisions, in other words altered data relating to a period, which has already been published, are a natural part of the national accounts work. They arise for several reasons such as revisions of the primary statistics, the development of new models, and implementation of new, or other sources or errors in calculation.

- a. There is a strong interest among users in having access to national accounts data very soon after the close of the reporting period. A consequence of this is that the first accounts must be based on preliminary data and therefore need to be revised as and when more final material becomes available.
- b. An important characteristic of the national accounts is that the quality of time-series must be maintained. Discontinuities in time series are not acceptable. This means that reorganizations of the statistical source material following the addition of new statistics, which give rise to new statistical benchmarks, impose the need for revisions of the national accounts.
- c. Parts of the accounts can be based on benchmarks set at various intervals, usually every five to ten years. The calculations are undertaken pending the setting of new benchmarks with the aid of extrapolation using indicators. When a new benchmark is calculated, the need may arise to revise intervening periods.
- d. The methods used in the calculation of the national accounts undergo development and change over time. Methodology changes are generally introduced in conjunction with the incorporation of revised data into the accounts. Methodology changes may themselves also give rise to revisions to some extent (e.g. better balancing methods).
- e. ESA 2010 is now implemented in the EU Member States. However, it is not always obvious how ESA is to be interpreted in all respects. Interpretation recommendations are produced as part of international cooperation which, if they do not coincide with the interpretation first adopted, may impose the need for revisions.

In Sweden a relatively strict policy on when revisions can be carried out is applied as regards current revisions, i.e. revisions that are due to more final statistical material becoming available (point a. above). For a number of reasons it is desirable to make several different revisions at the same time. This is clearly preferable from a resources point of view. Revisions always involve extra work: the more years have to be revised, the more work there is. From the users' point of view the position is less clear-cut: there may be an interest in having the revised data incorporated as soon as possible, but there is also a strong interest in having time-series remain in place for some years and not be constantly subjected to major or minor adjustments.

#### *Current revisions*

The Swedish national accounts comprise annual and quarterly accounts that are fully integrated, so that the quarterly accounts are completely adjusted to annual data when these are available. The first compilation of the national accounts for a given year is published, as already noted, 60 days after the close of the year. The calculation is then based mainly on preliminary statistical material. Annual accounts are calculated in a first preliminary version and later in a final version.

The work on the annual accounts gets under way in the month of March but intensifies during April and May and publishing takes place in September. That is when the preliminary annual accounts for year (t-1) and the final accounts for year (t-2) are published. The final accounts in reference to year t-2 are based on complete and detailed primary statistics. Processing, as regards the product accounts,

takes place in a detailed system of Supply and Use tables consisting of more than 400 products. The entire system and all products will finally be fully balanced.

The annual accounts also include non-financial sector accounts, with accounts for primary and secondary income distribution, use of income and capital formation and savings for institutional sectors. Included are also financial sector accounts, showing transactions in financial assets and liabilities between institutional sectors as well as savings. There is a difference in the estimate of financial savings between the two approaches. However, work is under way in order to make sources and compilation methods more transparent aiming at reducing the differences.

The statistical material normally used for the annual accounts is incorporated into the preliminary annual accounts in so far as the material is available at the time of calculation. Data which are broadly speaking final for general government output and consumption are available on production of the preliminary annual calculations. For investment too, as well as for exports and imports, updated and partially new material is available.

**Table 2.1 Year t Revision table**

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End of February, year t+1:

The first compilation of the national accounts for a given year is published no later than 60 days after the close of the year. The calculation is based on preliminary statistical material. The product accounts (GDP from the production and expenditure sides) are produced by a quarterly method, based on quarterly or monthly statistics, and the data for the whole year is the sum of four quarters. At this time sector accounts are also calculated and published for the main institutional sectors for the first time relating to the year immediately before. For trade in goods, trade in services as well as inventories the source data are largely the same as used in the Final annual calculation (t+2).

End of May, year t+1:

Data relating to year t may be revised at the calculation and publishing of the first quarter of the next year but are normally not revised to a large extent before production of the *preliminary annual calculation*, which is published after nearly 9 months (see below). The cause of any revision is revisions in the quarterly data sources.

Preliminary annual calculation, September year t+1:

The preliminary annual calculation is based on more complete incoming quarterly and annual data, but fully finalized data sets are not available until a further time period. Final annual data covering Government accounts is introduced at this point in time, but tuning in the system of supply and use is still not possible.

Final annual calculation, September year t+2:

The next and last time data are revised (normally) is in conjunction with the final annual calculation, which is published a year ahead, namely 21 months after end of year t. By then all available data have been incorporated and balanced in the system of supply and use tables, for example the Business Statistics (SBS) that is a main source for kind of activity data, is incorporated. After that a year is normally not revised other than in conjunction with major revisions.

---

*Major revisions*

Major revisions may arise for a number of reasons. Such revisions relate to a longer period and are generally undertaken at less frequent intervals. There has never been any strict timetable for such revisions, in the sense that they are to be undertaken at certain specified intervals. During the 1980s and 1990s some major revisions were undertaken at relatively long intervals, as well as some revisions covering a longer period but more limited in scope. Often the publication of the revisions coincided with base-year changes. During the 2000s major revisions have been carried out more frequently due to demands according to regulations as well as improvements in source data.

The implementation of SNA93/ESA95 was a major revision undertaken by the Swedish national accounts, and was published in May 1999. As well as adaptation to new international standards, this also involved changes in classifications, a major review of calculation methods and the incorporation of new data. The accounts were produced on the most detailed level from 1993 onwards. This was followed by a new revision, which was published in December 1999 and covered the entire period from 1993.

The introduction of the comprehensive Structural Business Statistics made necessary another major revision published in 2002 covering the years 1993 and onwards. In accordance with decisions by Eurostat, the EU's statistical office, Statistics Sweden had to change the treatment of value added tax in the government sector and also had to change institutional sector for the premium pension system. Regarding VAT, it was not allowed to follow the Swedish taxation rules, allowing tax reduction for certain government activities. All transaction has to be recorded gross, inclusive of VAT. The premium pension system is a defined contribution and funded system administrated by the Premium Pension Authority, PPM. Such a pension system should not be reported as a part of the public sector when reporting the general government sector deficit to Eurostat. PPM should instead be considered a publicly-owned insurance company that has a premium pension liability regarding households. The changed treatment had impact on the accounts from 1995 and onwards.

In 2005 all member countries were supposed to allocate Financial Services Indirectly Measured, FISIM, to the respective users. Before, uses of these services were withdrawn in a lump sum from market producers and producers for own account.

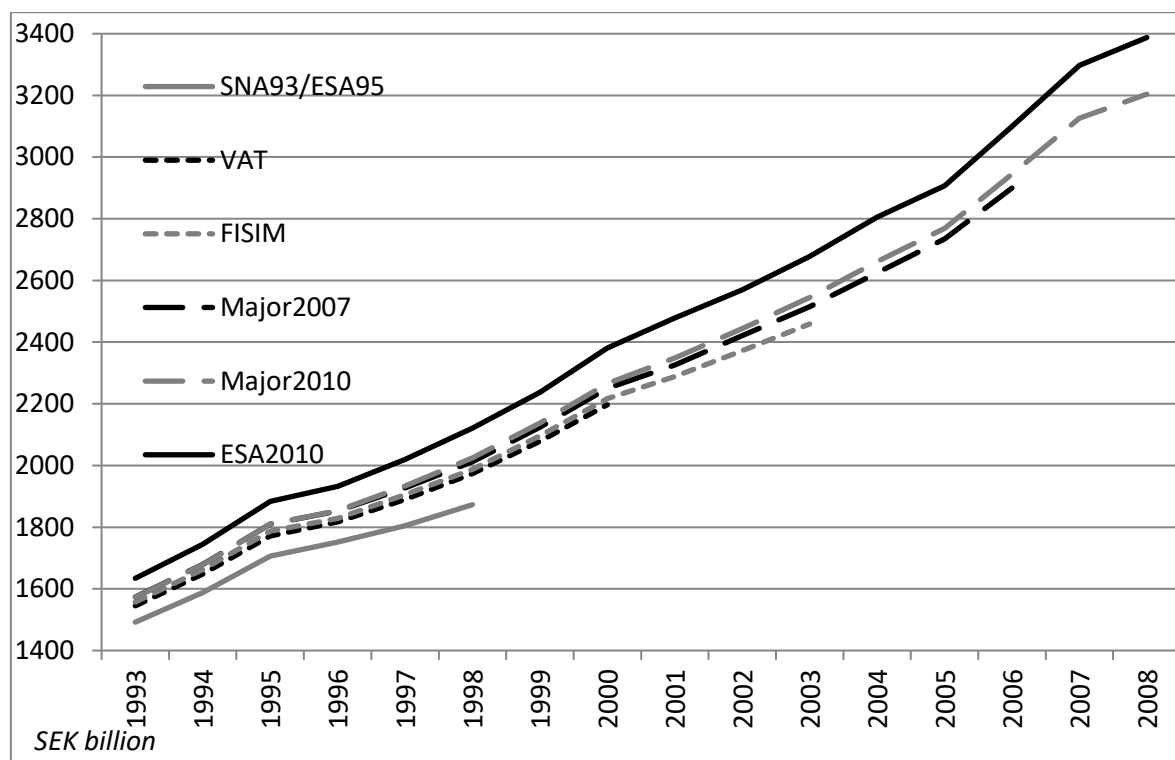
During 2007 a major revision was carried out. The work in 2007 comprised a new extended structural business statistics, a changed method for collecting foreign trade of services, a changed valuation method for export and import values, a new method for compiling public non-market production in constant prices, a new estimate for hidden economy and introduction of illegal activities and general update of miscellaneous items.

Another major revision was conducted in 2010. This revision covered an overview a number of household consumption estimates, gross fixed capital formation in dwellings, travel services, trade, financial services and general update of miscellaneous items. The revision covered the period from 1993 and onwards.

The major revision of the time- series 1993-2012, from September 2014, stemmed from the new ESA2010 regulation as well as a general revision of methods and statistical sources. Also the Time-series spanning from 1950 to 1992 was revised by a method using both chaining and direct revisions of the details dependent of the regulation. The single most contributing factor was the level of increase of Gross Fixed Capital Formation, which in turn was due to expenditures for Research and Development (R&D) and military Weapon systems. Other changes in the ESA 2010, merchanting and goods sent abroad for processing and other minor changes has not had any notable net impact (should not have an impact).

The diagram shows the size of the most important major revisions of the Swedish GDP from 1999 and onwards with comments on what was revised in each release, below the diagram.

**Figure 2.1 Revisions of GDP**



SNA93/ESA95, May 1999

NA according to ESA95 published for first time, 1993-1998

Complete annual accounts, 1993-1996

VAT, December 2002

Introduction of comprehensive SBS, 1993-2000

Changed VAT-treatment government sector 1993ff

Detailed annual calculations 2000

Preliminary annual calculation 2001

FISIM, November 2005

Allocation of FISIM 1993ff

Detailed annual calculation 2003

Preliminary annual calculation 2004

Major 2007, November 2007

Major revision 1993ff

Detailed annual calculation 2005

Preliminary annual calculation 2006

Major 2010, May 2010, Major revision 1993ff

Detailed annual calculations, 2000-2007

ESA 2010, September 2014:

Adaption of NA in accordance with ESA 2010, 1993ff

## 2.2 Major revisions due to the transition from ESA 1995 to ESA 2010.

The *Manual on the changes between ESA 95 and ESA 2010* categorize the transition from ESA 1995 to ESA 2010 in 25 areas and 11 of these refers to conceptual changes that affect the GNI. In the Swedish national accounts only a few of the changes have a significant impact on GNI and some of the changes had already been introduced before the move to ESA 2010.

The transition to ESA 2010 raised the level of GNI by between 62-183 billion SEK in current prices for the years 1993 - 2011. The single most contributing factor was the increase of Gross Fixed Capital Formation due to expenditures for Research and Development and military Weapon systems. The largest upward revision was made for the year 2009.

The estimates for 2008-2012 are implemented on the national accounts most detailed level within the framework of supply and use tables, which means that the calculations are performed and balanced in both industry and product dimension. In connection with the transition to ESA 2010, a general review has been made concerning methods and sources. Such a review are done approximately every fifth year according to the revision policy. Overall, about 100 different changes has been implemented for the different parts of the national accounts, 60 depends on the revision and 40 due to the transition.

**Table 2.2.1 Impact on GNI from changes in ESA, SEK billion year 2011.**

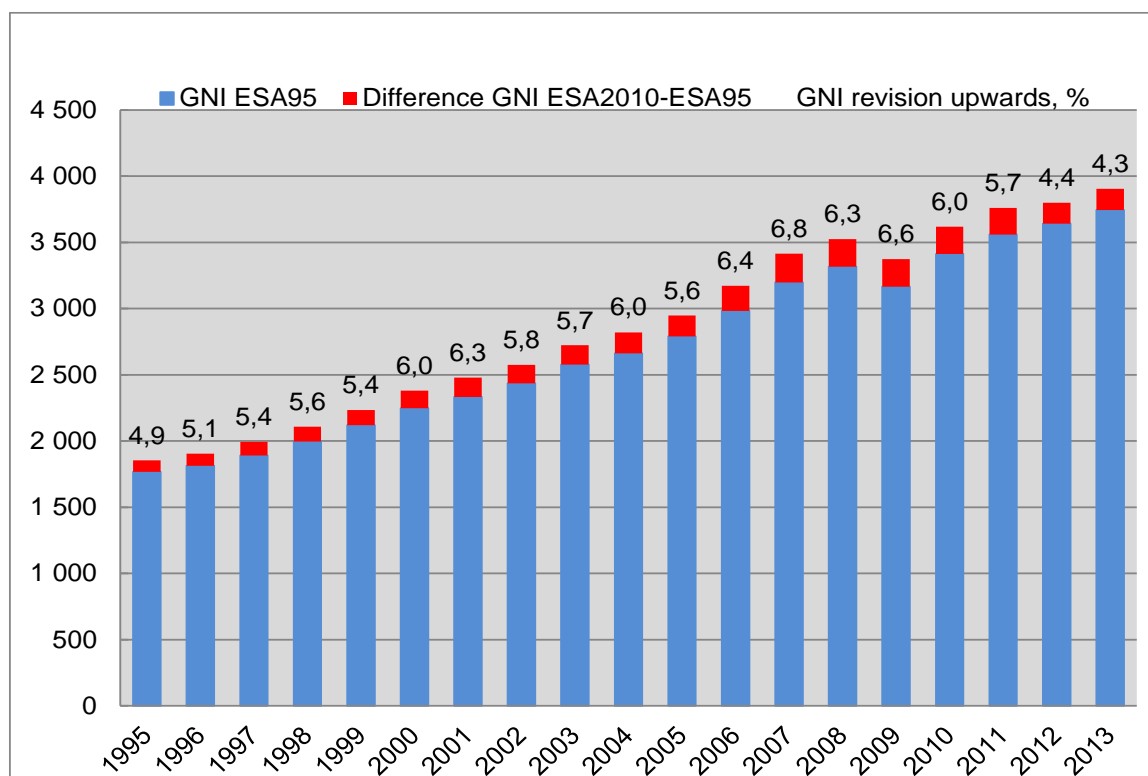
September 2014			
	ESA95 % ch	ESA2010 constant prices	ESA2010/ESA95 billion SEK
<b>GNI</b>	2,9	2,7	149
R&D			136
Consumption of fixed capital, weapons systems			13
Other transition items, net			0

**Table 2.2.2 Total impact on GDP from changes in ESA, SEK billion year 2011.**

Household final consumption exp.	21
Government consumption exp.	-3
Gross fixed Capital Formation	179
Changes in inventories	0
Exports of goods	41
Exports of services	-70
Imports of goods	-5
Imports of services	-1
<b>GDP</b>	176

The degree of upward revision has risen slightly during the 2000s and is highest in 2009. In 2011 GNI increased by 5.7 percent, transition stands for about 4 percent of the increase and the general review of the time series of about 1 percent. The largest single contributor to the level of increase is changes in Gross Fixed Capital Formation. In the overall review, it was mainly investments in buildings and plants, which was revised up. It is the only area in which a more thorough review of the levels has been made.

The following chart shows the total effect on GNI from both the update to ESA2010 and the major revision of time-series.

**Figure 2.2.1 Revisions of GNI, SEK million and percent**

### 2.2.1 Transitions items

Of the 11 conceptual issues categorized in *the Manual on the changes between ESA 95 and ESA 2010* only four areas had an impact on the Swedish GNI. The transition items 1-11 refer to the numbers according to the manual. In table 2.2.1 the total effects on GNI due to the transition items are shown and in table 2.2.2 the effects on the different components of GDP and GNI are described.

**Table 2.2.3 Total effect on GNI due to transition items, SEK million**

	2011
Total impact of differences in definitions between ESA2010 and ESA95 on GNI (ESA2010 minus ESA95)	142 884
Of which:	
(1a) R&D created by a market producer	101 801
(1b) R&D created by a non-market producer	27 016
(2) Valuation of output for own final use for market producers	Introduced earlier
(3) Non-life insurance - Output, claims due to catastrophes, and reinsurance	Introduced earlier
(4) Weapon systems in government recognized as capital assets	12 502
(5) Decommissioning costs for large capital assets	Introduced earlier
(6) Government, public and private sector classification	Insignificant effects
(7) Small tools	Introduced earlier
(8) VAT-based third EU own resource	1 565
(9) Index-linked debt instruments	No change
(10) Central Bank - allocation of output	Introduced earlier
(11) Land improvements recognized as a separate asset	No change



**Table 2.2.4 Effects on components of GDP and GNI, SEK million 2011**

<b>Production approach</b>	<b>1a</b>	<b>1b</b>	<b>4</b>	<b>8</b>
P.1 Output of goods and services	54 319	25 961	2 751	
P.2 Intermediate consumption	-47 482	-1 055	-9 751	
B.1g Gross value added	101 801	27 016	12 502	
D.21 Taxes on products				
D.31 Subsidies on products				
<b>Expenditure approach</b>				
P.3 (S15) Household final consumption expenditure				
P.3 (S14) NPISH final consumption expenditure		-70		
P.3 (S13) General government final consumption exp.		-5 107	2 751	
P.5 Gross capital formation	101 801	32 193	9 751	
P.51g Gross fixed capital formation	101 801	32 193	9 751	
P.52 Changes in inventories				
P.53 Acquisition less disposals of valuables				
P.61 Exports of goods				
P.62 Exports of services				
P.71 Imports of goods				
P.72 Imports of services				
<b>Income approach</b>				
D.1 Compensation of employees				
B.2g/B.3g Gross operating surplus/mixed income	101 801	27 016	12 502	1 565
D.2 Taxes on production and imports				-1 565
D.3 Subsidies				
B.1g GDP	101 801	27 016	12 502	
D.1 rec				
D.1 pay				
D.2 (S212) Taxes on production and imports paid to institutions of the EU				-1 565
D.3 (S212) Subsidies rec from the institutions of the EU				
D.4 rec Property income from RoW				
D.4 pay Property income paid to RoW				
<b>B.5g Gross national income (GNI)</b>	<b>101 801</b>	<b>27 016</b>	<b>12 502</b>	<b>1 565</b>

*R&D Investments*

ESA 2010 recognizes expenditures for both purchased and own-account R&D as gross fixed capital investment (GFCF) and the depreciation of these assets as consumption of fixed capital.

For market production:

The total effect on GNI according to table 2.2.3 and 2.2.4 is 101 801 SEK million.

Output: Output for own final use is increased by 54 319 SEK million, as this production according is recognized as capital formation. See table 2.2.5 for calculation from the survey data to output for own use.

**Table 2.2.5 Output of R&D, market production, year 2011, SEK million**

		S11	
		+	-
1	Frascati Manual Intramural expenditures on R&D	81145	
2	Subtract payments for licences to use intellectual products (principally R&D assets, such as patents) that should be recorded as GECF		
3	Subtract expenditure on own-account production of software		6254
4	Add payments to postgraduate students not included in FM data		
5	Subtract capital expenditures		5175
6	Add other taxes on production not included in FM data	1683	
7	Subtract other subsidies on production		2002
8	Add extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	1689	
9	Sub-Total (1 to 8): current expenditures	84517	13431
10	Add estimate of consumption of fixed capital plus a return to capital (for non market producers only consumption of fixed capital):		
11	- Option 1: As percentage of current expenditures (line 9) or compensation of employees	11418	
12	- Option 2: As cost of capital services measured with a PIM		
13	Adjustment for exhaustiveness	2640	
14	Other adjustments		7
15	Balance : Output of R&D	85137	
16	Sold R&D		30818
17	Output for own use	54319	

Intermediate consumption: Expenditures of R&D is reclassified from Intermediate consumption (IC) to GFCF. IC is decreased by -47 482 SEK million and the same amount is classified as increased GFCF. Further reading about R&D GFCF can be done in section 5.10.3, *R&D in GFCF estimates (AN.1171)*

For non-market production:

The total effect on GNI according to table 8.2.1 and 8.2.1 is 27 016 SEK million. Gross operating surplus of non-market producers is the consumption of capital, see table 2.2.6. Further reading about method and sources can be done in section 4.12.

**Table 2.2.6: R&D assets and Consumption of Fixed R&D Capital**

Year	Stock of R&D assets	CFC
1993	78411	13566
1994	80383	13745
1995	82431	13782
1996	86730	14699
1997	91494	15732
1998	92101	15800
1999	93915	15713
2000	97953	16904
2001	101693	16846
2002	105225	17434
2003	108879	17967
2004	113218	18500
2005	117915	19429
2006	121428	19966
2007	128240	21457
2008	139009	23442
2009	146363	24722
2010	150949	25680
2011	158959	27016

Output: Output for own final use is increased as this production according to ESA 2010 is recognized as capital formation. Consumption of capital is part of the production value in non-market production and since GFCF has increased so has the capital consumption. The total effect on output is 25 961 SEK million

Intermediate consumption: Expenditure of bought R&D is reclassified from IC to GFCF -1055 SEK million and GFCF is raised by the same amount.

The compilations of investments in R&D (chapter 5.10) follow the recommendations of the Eurostat task force. Estimates for own account R&D are provided according to the tables and the sequence proposed in the task force.

The Swedish R&D survey started already during the middle of the 1960s. From this time enterprises with > 50 employees and the Central government sector were surveyed. The survey has then been extended and today the whole economy except enterprises with less than 10 employees is surveyed. For this group additions are made in order to cover the whole population.

Estimates for the missing periods of the sectors of the economy that were not covered in the early days have been compiled by projection back-wards by the help of the annual development of the covered sectors.

For market producers a mark-up from service sector producers has been added to the estimates compiled based on work force and products used and depreciation of equipment. The mark-up rate is compiled from data given in the Structural Business Statistics.

Regarding bought R&D information is collected from SBS, government and NPISH statistics and also from foreign trade data. Intermediate consumption of R&D is also available in these sources.

Using this data as a base it has been possible to compile stocks of these assets and to receive a measure of consumption of fixed capital. Life assumptions in accordance with the task force recommendations have been used and a geometric depreciation model.

*Valuation of output for own final use for market producers.*

The ESA 2010 states that a mark-up for net operating surplus or mixed income should be included if the production of own final use is to be valued at production costs. In the Swedish National accounts this way of recording output of own final use at production costs was already introduced under ESA 95. Therefore the introduction of ESA 2010 did not bring about any revision regarding this item.

*Non -life insurance - Output, claims due to catastrophes, and reinsurance.*

Using the approach defined in ESA 1995 production could be negative in times of unusually large claims. Due to problems with volatile estimates a method based on an average for the estimates for several years was introduced in the Swedish national accounts already during the ESA95 period. Statistics Sweden now follows the recommendations of the Task Force on insurance measurement and the change in equalization provisions are included in the claims incurred to get less volatile estimates in times of large claims. However, the changes made in the method when ESA 2010 was introduced did not bring about any revisions of the time series.

*Weapon systems*

Under ESA 2010 weapon systems are recorded as GFCF and the depreciation of these assets as consumption of fixed capital. The total effect on GNI according to table 2.2.1 and 2.2.2 is 12 502 SEK million.

Output: Output is raised by increased capital consumption due to higher GFCF. The effect on output is 2751 SEK million and general government final consumption expenditure is raised by the same amount.

Intermediate consumption: Expenditure of weapon systems is reclassified from IC to GFCF -9751 SEK million and GFCF is raised by the same amount.

Material classified as Weapon systems according to the ESA manual, has in the Swedish national accounts always been treated as a separate group of materials under intermediate consumption (chapter 5.10). These investments consist mainly of transport equipment. Any new sources or new methods have not been introduced.

*Decommissioning costs for large capital assets.*

In ESA 2010 the costs of ownership transfer has been elaborated to explicitly include decommissioning costs. For Sweden these types of decommissioning costs mainly concerns the nuclear waste. To cover the cost of caretaking and dispose of nuclear waste a fund was created in the early 1980s and the fund is governed by the *Nuclear waste fund* since 1996. The fund is built up as a nuclear tax, which in the national accounts is recorded as a tax on products, D214A24. This recording has not changed between ESA95 and ESA2010.

*Definition of general government units*

Under ESA 2010 expanded guidance are given on the sector boundaries between government, public corporations, and private corporations. On account of the changes in drawing the line between market and non-market producers, about 25 units have been moved from other sectors to the government sector. The units that have been moved as yet are those that will have the largest impact in the accounts for the different sectors. The main change concerns 4 hospital units which are now in the local government sector. However this reclassification had a small effect on, about 50 million SEK for the recent years.

*Small tools*

In ESA 2010 the lower bound of 500 Euro for small tools to be recognised as capital expenditure has been excluded. However, in the Swedish national accounts these items were already included in the capital expenditures and the introduction of ESA 2010 did not bring about any revisions due to this change in definitions. These transactions are not separately recorded in the company accounts and it was considered that it was not possible to get reliable information for these items and thus they were included in the national accounts also under ESA 95.

*VAT-based third EU own resources*

The treatment of VAT to the EU via the Government has changed from a tax (D2) under ESA 95 to a current transfer (D76) from Government to EU under ESA 2010. This change had an effect on GNI of 1 565 SEK million. Same sources, methods as before the transition to ESA 2010 are used in the calculations.

*Index-linked debt instruments.*

ESA 2010 introduces a different method of estimating interest accrued over the years, when the amount to be paid at maturity is linked to a narrow index that includes a holding gain motive, such as the price of gold. There are no Swedish corporations in this category and therefore no change compared to the recording according to ESA 95.

*Central Bank - allocation of output.*

ESA 2010 states that commissions and fees for directly measured services invoiced by the central bank both in respect of resident and non-resident units should be allocated to these units. Under ESA 95 central bank output was by definition entirely allocated to the intermediate consumption of other financial intermediaries. In the Swedish national accounts all commissions and fees for directly measured services invoiced by the central bank are allocated to intermediate consumption and none are allocated to exports or final consumption. Therefore the changed treatment of allocation of central bank output according to ESA 2010 has no impact on the Swedish GNI.

*Land improvements recognized as a separate asset.*

ESA 2010 has introduced an extra produced asset category, land improvements. This change did not affect the Swedish national accounts since this item was already separated before the introduction of ESA 2010, for example regarding drainage.

*For further details regarding sources and calculation methods, see relevant sections of chapter 3 and 5.*

## 2.3 Major revisions since the last version of the GNI Inventory other than due to conceptual changes in ESA 2010.

The previous subchapter shows the total revisions conducted in connection with the transition. In all cases there was a combination of new data as well as improved methods. But the dominant reason for the revision was the transition itself.

A major revision of the whole of National accounts was conducted in 2010 and published in the spring of that year. The review covered the period from 1993. Total GNI was increased by between 15 and 63 billion SEK in current prices for the years 2000-2007.

The revisions were greatest for the period 2000-2004. It was due to the previously last major revision of the period 1993-2005 contained such large revisions needed for subsequent years that it required more study and work with the calculation basis. For the 90's has not been much new information. For the past few years, however, both new studies which improved source data and methodological changes were introduced. The largest upward adjustment in volume terms over the period occurred in 2007 by 0.8 percentages. Development figures for the period 1994-2006 had an average adjusted upward by 0.12 percentage points.

The Swedish national accounts were thus, we thought, in better international comparability and quality. But revisions cannot be attributed to any single variable, it was more about pent-up demand.

**Table 2.3.1 Change due to the revision in 2010**

	<i>current prices, % change</i>					
year	GNI	Household	Governm	GFCF	Exports	Imports
		final cons.	Cons.			
1994	0,1	0	0	0,3	0	0
1995	-0,1	0,1	-0,3	-0,1	0	0
1996	0,1	0,1	0	0	0,3	0,1
1997	0,2	0,2	0,1	0,7	0,2	0
1998	0,4	0,3	0,2	0,7	0,3	0,1
1999	0,1	-0,1	0,1	0,2	0,1	0
2000	0,1	0,2	0	-0,6	0,2	0,1
2001	0,2	0,3	0	1	-0,2	0,1
2002	0,1	0	-0,1	0,5	0	0
2003	0,4	0,3	0,5	0,2	0,2	-0,1
2004	0,1	0,2	-0,1	0	-0,2	-0,2
2005	-0,1	0,1	-0,2	-0,8	0	0
2006	0,1	0,4	-0,3	0,1	0,1	0,3
2007	0,8	0,7	0,4	1,4	-0,1	-0,4

The introduction of NACE REV 2 in the Swedish national accounts, a year later, meant no revision of totals, but the structure in the framework changed slightly.

### 2.3.1 Revisions due to GNI Reservations

Since 2012 four specific GNI reservation and eight Transversal GNI reservations have been placed on the Swedish National Accounts. All of them have been lifted and the five reservations commented below posed revisions in data.

- *Specific reservation on compensation of employees.* The estimates made for the transition from GDP to GNI needed to be improved with respect to the estimates of compensation of employees exchanged with the rest of the world, applicable to the years from 2002 to 2010. A new method was introduced where the estimates are based mainly on micro data from Income statements. This affected to a large extent the estimates on compensation of employees from the rest of the world and resulted in an upward revision of GNI.
- *Specific reservation on own-account production of software originals.* Further clarification was needed with respect to the estimates on software. In view of the results of this work, the national accounts estimates needed to be revised, applicable to the years from 2002 to 2010. In the spring 2015 a small survey was launched in order to be able to confirm or adjust the previous estimates of own-account software originals. That survey provided credible results for an upward adjustment of these estimates.
- *Specific reservation on entertainment, literary and artistic originals.* Further clarification was needed with respect to the estimates for entertainment, literary and artistic originals. In view of the results of this work, the national accounts estimates needed to be revised, if appropriate (applicable to the years from 2002 to 2010). An overview of source data for these calculations resulted in a minor downward adjustment of the estimates.
- *Transversal reservation on calculation and allocation of financial intermediation services indirectly measured (FISIM).* The assessment of the methods used for calculating FISIM in the Swedish national accounts primarily lead to some changes regarding the way households loans for consumer purposes was calculated but also the way the external reference rate was calculated for exports and imports. The total effect of these changes was an upward revision of GNI.
- *Transversal reservation on the treatment of on property income from secondary homes abroad.* A new method for compilation of stocks, rental values and property income for holiday homes abroad owned by Swedish residents and for holiday homes in Sweden owned by non-residents was elaborated. The new estimates lead to an upward revision of GNI.

**Table 2.3.2 Effects on GNI due to revisions from GNI reservations, year 2011, SEK million**

	<b>2011</b>	<b>% of GNI</b>
Compensation of employees	21 097	0,6%
Software originals	4 486	0,1%
Artistic originals	-20	0,0%
Secondary homes abroad	596	0,0%
FISIM	2737	0,1%
Total	28 898	0,8%

## 2.4 Planned actions for improvements.

The next general revision is planned for September 2019. There are two main issues in this revision:

The benchmarking of household consumption expenditures is outdated for several COICOP categories and will be reviewed. The current national accounts estimates of NACE G production differ quite

significantly from the SBS estimates, although the estimates of value added do not. An adaptation to the SBS estimates is expected to involve considerable redistribution of supply and use of a wide range of product groups and is therefore a very demanding task. A survey of intermediate consumption by service industries that was launched a few years ago will provide new input. This work will also involve a breakdown of CPA G for which Sweden currently have derogation. In addition illegal transactions will be reviewed for revision of benchmarks. Further areas may be added. In addition to directly subject related improvements a thorough update of the IT-system will be carried out.



## Chapter 3 GDP according to the production approach

**Table 3.0.1: Breakdown of Output, IC and GVA by NACE-sections, SEK million, 2011**

<b>NACE Rev 2</b>		<b>Output</b>	<b>IC</b>	<b>GVA</b>
<b>A</b>	<b>Agriculture, forestry and fishing</b>	98 880	46 331	52 549
<b>B</b>	<b>Mining and quarrying</b>	49 927	21 989	27 938
<b>C</b>	<b>Manufacturing</b>	1 833 340	1 244 788	588 552
<b>D</b>	<b>Electricity, gas, steam,air conditioning supply</b>	139 488	52 174	87 314
<b>E</b>	<b>Water supply; sewerage, waste management and remediation activities</b>	58 580	38 064	20 516
<b>F</b>	<b>Construction</b>	394 863	209 042	185 821
<b>G</b>	<b>Wholesale and retail trade; repair of motor vehicles and motorcycles</b>	567 010	217 004	350 006
<b>H</b>	<b>Transportation and storage</b>	500 122	320 427	179 695
<b>I</b>	<b>Accommodation and food service activities</b>	116 664	67 147	49 517
<b>J</b>	<b>Information and communication</b>	372 586	196 353	176 233
<b>K</b>	<b>Financial and insurance activities</b>	199 809	68 234	131 575
<b>L</b>	<b>Real estate activities</b>	530 069	254 702	275 367
<b>M</b>	<b>Professional, scientific and technical activities</b>	417 300	193 584	223 716
<b>N</b>	<b>Administrative and support service activities</b>	202 482	92 441	110 041
<b>O</b>	<b>Public adm,defence; compulsory social security</b>	270 754	117 271	153 483
<b>P</b>	<b>Education</b>	257 820	81 178	176 642
<b>Q</b>	<b>Human health and social work activities</b>	471 641	132 439	339 202
<b>R</b>	<b>Arts, entertainment and recreation activities</b>	90 573	49 006	41 567
<b>S</b>	<b>Other services</b>	83 825	31 778	52 047
	<b>Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use</b>	1 150	0	1 150
<b>T</b>				
<b>Total</b>		<b>6 656 883</b>	<b>3 433 952</b>	<b>3 222 931</b>

Chapter 3 describes the calculations for all kind of producers: market producers, producers for own final use and other non-market producers. The term ‘market producers and producers for own final use’ also includes public service corporations of central and local government. The category ‘producers for own final use’ comprises housing services in owner-occupied dwellings, own production of R&D, software, literary and artistic originals and building and construction in municipalities.

**Table 3.0.2: Breakdown by NACE and institutional sectors, SEK million 2011**

NACE Rev 2		Institutional sectors					Total economy
A*21		Non-financial corporations	Financial corporations	General government	Households	NPISH	
A	Output	54 314	0	0	44 566	0	98 880
	IC	22 904	0	0	23 427	0	46 331
	GVA	31 410	0	0	21 139	0	52 549
B	Output	49 729	0	0	198	0	49 927
	IC	21 899	0	0	90	0	21 989
	GVA	27 830	0	0	108	0	27 938
C	Output	1 822 029	0	0	11 311	0	1 833 340
	IC	1 238 861	0	0	5 927	0	1 244 788
	GVA	583 168	0	0	5 384	0	588 552
D	Output	138 106	0	1 191	191	0	139 488
	IC	51 283	0	726	165	0	52 174
	GVA	86 823	0	465	26	0	87 314
E	Output	43 679	0	14 738	163	0	58 580
	IC	28 735	0	9 316	13	0	38 064
	GVA	14 944	0	5 422	150	0	20 516
F	Output	355 149	0	3 682	36 032	0	394 863
	IC	193 387	0	3 129	12 526	0	209 042
	GVA	161 762	0	553	23 506	0	185 821
G	Output	547 544	0	438	19 028	0	567 010
	IC	209 926	0	689	6 389	0	217 004
	GVA	337 618	0	-251	12 639	0	350 006
H	Output	415 598	0	66 141	18 383	0	500 122
	IC	281 509	0	32 667	6 251	0	320 427
	GVA	134 089	0	33 474	12 132	0	179 695
I	Output	103 856	0	0	12 808	0	116 664
	IC	60 718	0	0	6 429	0	67 147
	GVA	43 138	0	0	6 379	0	49 517
J	Output	365 542	0	0	7 044	0	372 586
	IC	194 719	0	0	1 634	0	196 353
	GVA	170 823	0	0	5 410	0	176 233
K	Output	0	199 237	203	369	0	199 809
	IC	0	68 068	78	88	0	68 234
	GVA	0	131 169	125	281	0	131 575
L	Output	319 002	0	2 161	207 371	1 535	530 069
	IC	157 727	0	2 355	93 605	1 015	254 702
	GVA	161 275	0	-194	113 766	520	275 367

M	Output	338 220	0	58 173	20 561	346	417 300
	IC	174 033	0	13 149	6 296	106	193 584
	GVA	164 187	0	45 024	14 265	240	223 716
N	Output	193 137	0	734	8 611	0	202 482
	IC	89 019	0	495	2 927	0	92 441
	GVA	104 118	0	239	5 684	0	110 041
O	Output	0	0	270 754	0	0	270 754
	IC	0	0	117 271	0	0	117 271
	GVA	0	0	153 483	0	0	153 483
P	Output	46 160	0	200 013	3 169	8 478	257 820
	IC	17 387	0	60 811	1 010	1 970	81 178
	GVA	28 773	0	139 202	2 159	6 508	176 642
Q	Output	103 698	0	355 683	7 203	5 057	471 641
	IC	31 258	0	98 439	1 866	876	132 439
	GVA	72 440	0	257 244	5 337	4 181	339 202
R	Output	43 615	0	29 534	6 906	10 518	90 573
	IC	26 787	0	15 348	2 534	4 337	49 006
	GVA	16 828	0	14 186	4 372	6 181	41 567
S	Output	30 912	0	35	14 352	38 526	83 825
	IC	15 117	0	10	4 316	12 335	31 778
	GVA	15 795	0	25	10 036	26 191	52 047
T	Output	0	0	0	1 150	0	1 150
	IC	0	0	0	0	0	0
	GVA	0	0	0	1 150	0	1 150
Total	Output	4 970 290	199 237	1 003 480	419 416 175	64 460 20	6 656 883
	IC	2 815 269	68 068	354 483	493 243	639 43	3 433 952
	GVA	2 155 021	131 169	648 997	923	821	3 222 931

The calculations are carried out for the sectors S11 Non-financial corporations, S12 Financial corporations and S14 Households together. It is first in connection to the calculations of sector accounts that sector S14 is distinguished from the sectors S11 and S12. Sector S13 General Government and S15 Non Profit Organisations Serving Households are calculated separately from the very beginning.

### 3.1 The reference framework

#### 3.1.1 Statistical Business Register, (FDB)

##### *General*

The Statistical Business Register is a register of all enterprises, authorities, organizations and their establishments. There is no cut-off threshold for small units in the register. The FDB has a central role as a sampling frame and coordination tool for statistical production within Statistics Sweden. This applies in particular to the economic statistics. FDB is also a base register in SCB's registry system.

Each enterprise has a unique corporate identification number and each establishment has a unique establishment number, which makes it possible to computerize the information and to establish links between different bodies of statistical data. The information is protected by secrecy provisions.

All statistics intended to provide information on the Swedish economy, whatever level they may focus on, – business establishments, enterprises, local unit or corporate groups – presuppose a common set of definitions for subjects of inquiry, industries, and measures of size, ownership categories and other recording variables. This in turn requires the existence of registers, which describe links between the units' establishments, enterprises, local units and groups and the status of the various units at different points in time. Such a register must constitute the framework for all economic statistics. These basic coordination requirements are met by the use of Statistics Sweden's Statistical Business Register.

The content of the FDB is regulated in European Parliament and Council Regulation EC No 177/2008 establishing a common framework for business registers for statistical purposes.

The Regulation requires the FDB to include all institutional units engaged in economic activity and contributing to Gross Domestic Product (GDP). All legal entities, even those not engaged in any activities, should also be included in the register.

The FDB is a situation register in which circumstances at a particular point in time are described. From a statistical point of view, however, it is more relevant that the register should describe the circumstances during different periods, since the statistics have to convey a picture for a certain time-span, for example a month, a quarter or a year. Hence information on changes is also stored and documented in the BR. As the changes are declared in relation to time, it is possible to follow enterprise and establishment populations to be studied and update the sample frames and the samples at any time for changes which have occurred and are relevant to the period to be elucidated.

An annual frame contains an annual population with classifications correct for the reference year, i.e. qualitatively good material which can be subsequently developed for a calendar year on the basis of different registers and statistical inquiries. The SBS is built on such annual frameworks.

The FDB comprises all "active enterprises". The term 'active enterprise' refers to an institutional unit in the form of a legal or natural person or the estate of a deceased person engaging in some form of business activity. The practical demarcations used for these units are:

- \* All legal persons (excluding deceased persons' estates)
- \* Natural persons who meet at least one of the following criteria:
  - \*\* they are registered for VAT
  - \*\* they are registered as employers
  - \*\* they are registered for business tax
  - \*\* they have registered a firm
- \* Estates of deceased persons which are registered for VAT and/or are registered as employers
- \* Foreign natural persons not resident in Sweden but who are engaged in business activities in Sweden

The term 'establishment' means each address, property or group of adjacent properties in which the enterprise pursues its activity. All active enterprises in FDB have at least one establishment. In the

case of enterprises with geographically separate units, each unit is registered as a separate establishment. Enterprises which are self-contained within a particular area (e.g. enclosed by a perimeter fence or housed within adjoining buildings) and which consist of several units are normally registered as one establishment. In those cases in which a locally delimited establishment is divided up into functionally delimited establishments, this will have taken place after agreement between Statistics Sweden and the enterprise.

In the FDB the number of employees is recorded as the single size-descriptive variable for the establishment. For certain types of establishments, however, special criteria are used for the establishment to be counted as such. Examples of this are power stations and cement works, which are of great economic significance.

Special circumstances arise for public administrations, in that several establishments may exist at the same address.

### *Coverage*

The FDB is a register of all enterprises, authorities, organizations and their establishments. There are units which should be included in the register but they are not (under coverage), and there are units which are included in the register but they should not (over coverage), which leads to errors in coverage.

One source to the under coverage is that the FDB has no ability to intercept if new enterprises have more than one establishment. The FDB is dependent of other surveys performed by Statistics Sweden which have direct contact with enterprises and can ask them in the case of establishments.

Another kind of under coverage consists of natural persons who pays VAT according to the VAT register of Statistics Sweden but are not formally registered for VAT in the Swedish Tax Agency.

The over coverage in the FDB consists of enterprises that no longer are economic active but are registered in the STA to pay VAT. These enterprises are registered as active in the BR.

There are no estimates of the importance of these errors of coverage.

### *Updating the register*

The guiding principle in the collection of data for the register is, in the first instance, to use data that have been supplied for other purposes and to make things as simple as possible for enterprises/legal units in making their returns. The intention is that enterprises/legal units should supply one set of data once and to one place.

The information in the FDB is derived substantially from administrative records of the Swedish Tax Agency, Swedish Companies Registration Office and the address-change system, Svensk Adressändring AB.

The updating process can be described in a somewhat simplified form in two complementary stages. One consists of notifications, i.e. the data on changes, which are received every week from the Swedish Tax Agency. These are derived from different registers, which are kept, arranged by subject registration, for different tax documents. The information from the STA updates the data on all enterprises/legal units and establishments/local units belonging to those enterprises, which only have one establishment/local unit. The data on enterprises/legal units with at least ten employees, or enterprises/legal units with more than one establishment/local unit are investigated before a change is made in the register.

Apart from continuous notifications, the STA also supplies income statements for those enterprises/legal units, which are employers (see the section on the calculation of employee compensation.). The income statements are used in the calculation of numbers of employees for both enterprises, local units, kind of activity units and business establishments.

The other stage covers a range of different activities. The information on enterprises with several establishments/local units is updated annually with the aid of a survey carried out by Statistics

Sweden. The survey is carried out in conjunction with the establishment's/local unit's number replacement undertaken in order that each income statement can be assigned to an establishment/local unit. The main intention of the survey is to check the establishment population. A number of verifications are carried out, which may have to do with the occurrence of conflicting information, for example in conjunction with major reorganizations.

Data are also obtained through feedback from both users within Statistics Sweden and external users and through spontaneous contacts from enterprises. The FDB database is continuously amended so that it is as up-to-date as possible at all times.

### 3.1.2 Main sources

With effect from 1997, the main source for the output calculations has been Företagsstatistiken/Företagens Ekonomi, FEK. By that time, Sweden also adapted its statistics to the EU Regulation on Structural Business Statistics, SBS, but the statistics are considerably more comprehensive than is required by the Regulation.

Before 1997 business statistics only covered the corporations sector and were called financial statistics for enterprises. Apart from the enterprise statistics, several other inquiries were used to verify and supplement information.

From 2003 and onwards the earlier separate intermittent surveys are included in the SBS. A special model has also been developed for compiling the trade margins of different industries. The difference between book keeping rules and NA accounts definitions have been studied in detail. All variables collected are considered from these points of view. Agreements have been reached on how to treat each variable in accordance with national accounts needs. Specific questions were introduced for various industries in order to collect diversified information depending on the activity in question. To sum up, the material now delivered from the collection unit is much more prepared for the needs of the NA. Statistics Sweden now also has a company profiling group, which is responsible for contacts with the largest companies. The group is also in charge of comparing - and questioning - information delivered in different surveys and registers.

For the industries agriculture and forestry, sources other than SBS are used. Information is supplied by The Swedish Board of Agriculture and The Swedish Forest Agency

For the minerals extraction and processing industries, NACE 10-37, the present sources are the SBS and the Production of Industrial Goods Statistics (Industrins Varuproduktion, IVP. The IVP data are quality checked and verified by comparison of the total level with the SBS.

For NACE 40–41 Electricity, gas, and heat production, water collection and purification, the SBS are used, but energy statistics also play an important role here.

NACE 45 Construction industry is calculated from the expenditure side as the sum of investment and repairs to buildings and structures. However, data collected in the SBS is also used for confrontation and checks. See section 3.12.

For NACE 50-99, which covers the service industries, SBS is the main source but, for NACE 62 Air transport, apart from SBS also a detailed special survey is used.

For NACE 65-67, financial activities, the main source is provided by financial market statistics.

In SBS all large enterprises (about 540) are surveyed by questionnaire at KAU level. A special unit within Statistics Sweden, named Coordination and Corporate Affairs, has a certain responsibility for the large enterprises. Their main task is to manage and follow the key providers of economic statistics for the largest enterprises in Sweden and to achieve better coherence and quality in data. In the Swedish economy the 50 largest enterprises represent at least 25 percent of Gross Value Added.

Information on all the other enterprises is collected by way of access to income statements, i. e. administrative material from the Swedish Tax Agency.

The Manufacturing Industry is surveyed by KAUs, while service industries are mainly surveyed at enterprise level. Service industries are supplemented in the enterprise statistics by KAUs in industrial enterprises, which are classified as service units and are reduced by KAUs in service enterprises which are classified as industrial units.

The main source for the central government sector is the comprehensive material collected by The Swedish National Financial Management Authority. The local government sectors are covered by comprehensive Annual Accounts collected by Statistics Sweden.

NPISH data are compiled by using three main sources. Gross pay based on income statements (LSUM), the survey Non-profit institutions serving households and the survey for the Church of Sweden. In the surveys there are data on both revenues and costs and on kind of activity level. See section 5.8.

## 3.2 Borderline cases

### 3.2.1 Borderline cases included in production

#### 3.2.1.1 *Borderline cases included in output produced for own final use (P.12)*

Output produced for own final use are produced and retained within the same institutional unit.

**Mineral explorations** are calculated and included in gross fixed capital formation, see further 5.2.2. They are added to the production as P.12 for NACE section B.

**Machine tools produced by engineering enterprises.** No known activities.

**Construction and extensions to dwellings by households** are calculated and included in gross fixed capital formation, see further 5.2.1. They are in the current situation included in market production (P.11) of the construction industry but should be moved to P.12 in our next major revision.

**Construction of roads, dwellings and buildings by municipalities** are calculated and included in their gross fixed capital formation, see further 5.10.3. They are added to the production as P.12 in NACE section F.

**Communal construction undertaken by groups of households.** No known activities.

**Entertainment, literary and artistic originals** are calculated and included in production and gross fixed capital formation, see further 5.2.2. They are added to the production as P.12 in NACE sections J and R.

**Own-account software and own account R&D** are calculated and included in production and gross fixed capital formation, see further 5.10.3. They are added to the production as P.12 in all NACE sections.

**Agricultural products and firewood produced for own-account by households** are calculated as production P.12 in NACE section A, see further 3.7. They are added as household final consumption expenditure under Coicop 01.1 and 05.5 respectively.

**Dwelling services produced by owner-occupiers** are calculated according to the stratified method and included in household final consumption expenditure under Coicop 04.2, see further 5.7. They are added to the production as P.12 in NACE section L.

### 3.2.1.2 Borderline cases included in market production (P.11)

**Household services produced by employing paid domestic staff** are calculated and included in household final consumption expenditure under Coicop 05.6 and 12.4, see further 5.7. They are added as market production (P.11) in NACE T.

**Products used for payments in kind** are part of D.11, see further 4.7.1. Car benefits are added as market production (P.11) in all NACE sections, while all other benefits are already included in the sources for production as they are bought from the producer of the item in question and supplied to employees by the provider.

**Volunteer activities that result in goods.** There are no records of these kinds of activities in Sweden.

**Products bartered.** There are no records of these kinds of activities in Sweden.

**Products supplied by one local KAU to another within the same institutional unit to be used as intermediate inputs or for final use** are included in the source for NACE sections B and C.

**Products added to the inventories of finished goods and work-in-progress, including natural growth of animal and vegetable products, standing timber and uncompleted structures for which the buyer is unknown.** Inventories of finished goods and work-in-progress are calculated and included in changes in inventories (P.52), see further 5.11. Changes in inventories of finished goods and work-in-progress are added to the production in NACE sections B and C, as production in the source IVP are measured as deliveries. In the production of NACE section A natural growths of animal and vegetable products and standing timber are included, see further 3.7.7. Regarding uncompleted structures for which the buyer is unknown we do not have any inventories. There is a constant lack of dwellings and no buildings in usable conditions are unused.

### 3.2.2 Borderline cases included in intermediate consumption

SBS is the dominating source regarding intermediate consumption for the business sector. SBS is based on the Swedish Standard of Accountancy (BAS-kontoplanen) which is the basis for enterprises accounting.

**Costs of using rented fixed assets** are included in intermediate consumption in SBS. According to SCA, costs of using rented fixed assets shall be included in other operating expenses.

**Inexpensive tools** are included in intermediate consumption in SBS. According to private accounting, costs of inexpensive tools shall be included in consumable equipment which is a part of other operating expenses. If they have a life span of over one year they are moved from intermediate consumption to GFCF. See also 5.4.

**Subscriptions, contributions or dues paid to non-profit business associations** are included in intermediate consumption in SBS. According to SCA, costs of subscriptions, contributions or dues paid to non-profit business associations shall be included in other operating expenses.

**Goods and services received from another local KAU of the same institutional unit that comply with the definition of intermediate consumption** are included in the source for NACE sections B and C.

**Non-life insurance service charges.** The total amounts of non-life insurance costs are included in intermediate consumption in SBS. According to SCA, costs of business insurance shall be included in other operating expenses.

A correction is made in national accounts for the insurance premiums which are treated as current transfers. Left are the service charges included in intermediate consumption.



**FISIM purchased by resident producers.** FISIM are calculated in a special model and added to intermediate consumption. See further under 3.17 for more information.

**Research and development acquired to be used solely in the creation of further products of research and development.** The intermediate consumption in the R&D industry, i.e. R&D service subcontracted by one R&D institutional unit to another R&D institutional unit, is calculated as followed. First, calculate the R&D industry's share of the total domestic production of product M72. Second, this share is applied on the total investment in product M72 that the R&D industry has made. The outcome of this is recorded as intermediate consumption in the R&D industry.

**Goods and services used as inputs into ancillary activities** are included in intermediate consumption in SBS.

**Expenditure by employees, reimbursed by the employer, on items necessary for the employers' production.** Since year 2007 such expenditures in SBS are included in wages in salaries. A conceptual correction is made in NA to distinguish these kinds of reimbursements. The model is based on the relation between these reimbursements and wages and salaries from 2006, when reimbursements were recorded separately.

### 3.2.3 Borderline cases excluded from intermediate consumption

**Items to be treated as gross fixed capital formation.** Valuables: In private accounting valuables are recorded in an asset account and are therefore not part of intermediate consumption in SBS. Mineral exploration activities are separately collected and included in gross fixed capital formation and not subject to intermediate consumption. Major repairs and improvements: In private accounting capital improvements are recorded in an asset account and are therefore not part of intermediate consumption in SBS. Purchased Software and R&D are included in the intermediate consumption in SBS, but a correction is made and they are moved to GFCF. Own-account software and R&D are calculated in a special model according to the international guidelines, and recorded as GFCF and deleted from IC where appropriate. Military weapons: In the records of central government net lending the military weapons are treated as gross fixed capital formation and are not included in the intermediate consumption.

**Expenditure to be treated as the purchase of non-produced assets.** Contracts, leases and licenses: In private accounting are contracts, leases and licenses recorded in an asset account and is therefore not part of intermediate consumption in SBS.

**Expenditure by employers to be treated as wages and salaries in kind.** These kinds of expenditures are not a part of intermediate consumption in SBS. They shall be recorded as benefits to employees according to SCA.

**Use by market or own-account producer units of collective services provided by government.** Collective services are free or maybe at prices that are not economically significant. If there is a fee to pay it is part of intermediate consumption in SBS.

**Goods and services produced and consumed within the same accounting period and within the same local KAU.** No values for these are collected in SBS since they are not sold on a market.

**Payments for government licenses and fees that are to be treated as other taxes on production** are included in intermediate consumption in SBS but are corrected for in NA.

**Payments for licenses for using natural resources that are to be treated as rents** are included in intermediate consumption in SBS but are corrected for in NA.

**Decommissioning for large capital assets.** A special tax on nuclear power stations, D29B2, is recorded as other taxes on production. It is charged with a specified monthly amount based on the total size of the reactors in the nuclear power plants. It is a kind of environmental tax. It is included in the company book-keeping as intermediate consumption. The NA however, withdraws this amount from IC. Sweden also has a product tax, D214A24, which is a fee to the Nuclear Waste Fund. In the law about financing, SFS 1992:1537, is stated how costs for nuclear waste should be accounted for. Nuclear power enterprises have to pay a certain fee per delivered kilowatt-hour. The nuclear fund is a government agency.

### **3.2.4 Borderline cases concerning taxes and subsidies on products**

See 3.28 where the borderline cases between a tax and a purchase of a service are described. The distinction between taxes and sales of service is based on information about compulsory payments to government without any link between the value of the fee and the cost of administration or performed service. If the payment is out of proportion of the cost of providing the service it is recorded as a tax.

## **3.3 Valuation**

### **3.3.1 Output at basic prices**

#### *3.3.1.1 Basic prices for market output*

Output shall be valued at basic price, i.e. the price received by the producer excluding all product taxes and including product subsidies.

**Agriculture.** Output of the large majority of products within agriculture is compiled by the “quantity\*price” formula. The evaluation of crop production is based on estimates of quantities produced, estimates of purchases by the user branches of agricultural products. Statistics on slaughterings and the size of herds are the main sources of data for measuring animal production. The output of milk is estimated by sales to user branches. Producer prices are collected in these lines of transactions. All these data are collected by the Swedish Board of Agriculture. The following table shows the conversion to basic prices of some of the products in question.

Code	Label	2011
04000	VEGETABLES AND HORTICULTURAL PRODUCTS	
	- <i>value at producer prices</i>	3963,1
	- <i>subsidies on product</i>	1,1
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	3964,1
10000	CROP OUTPUT	
	- <i>value at producer prices</i>	23058,8
	- <i>subsidies on product</i>	71,7
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	23130,5
11000	ANIMALS	
	- <i>value at producer prices</i>	10978,0
	- <i>subsidies on product</i>	337,2
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	11315,2
12000	ANIMAL PRODUCTS	
	- <i>value at producer prices</i>	12234,0
	- <i>subsidies on product</i>	285,7
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	12519,7
13000	ANIMAL OUTPUT	
	- <i>value at producer prices</i>	23212,0
	- <i>subsidies on product</i>	622,9
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	23834,9
14000	AGRICULTURAL GOODS OUTPUT	
	- <i>value at producer prices</i>	46270,8
	- <i>subsidies on product</i>	694,5
	- <i>taxes on product</i>	0,0
	- <i>value at basic prices</i>	46965,3

**Forestry and logging.** In forestry and logging prices produced by the Swedish Forest Agency are used. According to the Swedish Statistical Yearbook on Forestry, chapter 13 on prices “The prices refer to the basic price including additions and deductions”. The prices are distributed by geographical area.

In order to measure the output of the forestry “industry”, the value of the timber felled during the reference period is measured at “price delivered to roadside” for timber ready to be removed minus the value of taxes on products and plus the value of subsidies on products. However, in Sweden there are no product subsidies in forestry and logging.

**Fishing statistics and Fishing in Marine Waters by Commercial Fishermen.** From the homepage of the Swedish Agency for Marine and Water Authority: Catch-receivers supply copies of the statements made by fishing associations and individual fishermen associated with the first-hand sale of catches to the Marine and Water Authority. The documents show the quantity supplied, unit price,

sales, processing, sorting and freshness of a fish species. The sales-notes are recorded. The annual report on catches states that the values of catches are based on sales prices excluding VAT in the first hand line of sales.

**Production of Industrial Goods Statistics, IVP.** Standard Charts of Accounts, SCA, is the basis for enterprises accounting. According to these, the product taxes should not be included in net sales and product subsidies shall be included. In Production of Industrial Goods Statistics (Industrins Varuproduktion, IVP), production is based on data from the enterprises accounting where the product taxes are removed. Valuation of production is therefore at basic prices.

**Structural Business Statistics, SBS.** See IVP above. SBS is also based on data from the enterprises accounting and their annual Reports. Valuation of production in SBS is therefore at basic prices.

**Annual energy statistics for electricity, gas and district heating.** The output of district heating at basic prices is directly available from the source and excludes VAT as producer price indices are used. The output of electricity is estimated by extrapolating the basic prices of the previous year by volume indices from the annual energy statistics and by price indices for domestic supply.

**Financial and insurance activities.** The data on commission charges is collected from the profit and loss accounts and therefore valued at basic prices. The data on FISIM is valued at basic prices as VAT is not applicable on financial data.

**Sweden's central bank, Riksbanken.** The data is collected from the profit and loss account and valued at basic prices.

**Basis of central government.** Basis of central government net lending is derived from the central government accounting system and is valued at basic prices.

**Annual accounts of municipalities, county councils and municipal associations.** The annual accounts are based on data from their annual reports. Valuation of production is at basic prices.

Market outputs from municipalities are included in NACE D, E, G, H and L.

**NPISH including the Church of Sweden.** Non-market production is valued at basic prices in accounts and in surveys.

**The income and costs of the SAS consortia.** Data are obtained by a quarterly survey which has the consortiums accounts as basis. Final data are valued at basic prices.

**NACE F.** For the construction industry, whose output value is determined as the sum of building investment and repairs, VAT must be removed for those industries in which VAT is not deductible. The figures are produced by calculating VAT separately in the investment and repair calculations for those industries in which VAT is not deductible.

**NACE T, Households as employers.** Production values are based on the "price\*quantity" formula. Hours worked and hourly pay constitutes the source data. An addition for hidden activities is also included and this is also based on hourly pay.

### 3.3.1.2 Output for own final use

Output for own final use is valued at basic prices of similar products that are sold on the market or valued at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.

**NACE A.01, Agriculture.** Output for own final use within NACE A.01 is valued at the basic prices of similar products sold on the market. This includes output of potatoes, milk, eggs, meat, reindeers and hunting activities.

**NACE A.02, Forestry and logging.** Output for own final use within A02 for firewood, wild berries, computer programs is valued at basic prices for similar products.

**Mineral exploration.** The calculation is based on costs incurred for mineral exploration in current prices. The data emanate from the Geological Survey of Sweden. The output for own final use is valued at the cost of production plus a mark-up.

**Research and Development.** For market producers a mark-up is added that reflect the need to generate enough operating surplus. The net-operating surplus of market producers of own-account R&D is derived with a mark-up including unsuccessful R&D. No adjustment is done to the sum of cost derived from the Frascati survey which entails that the unsuccessful R&D is included in the calculation of the mark-up. The mark-up is a single mark-up for all industries and is calculated as an average of several years' net operating surplus for all industries, except the pharmaceutical industry and the industry for real estate activities. Further reading is available in section 5.10.

**Software.** For in-house production values are calculated according to production costs plus mark-up for market producers and production costs for non-market producers.

**Originals.** Entertainment, literary and artistic originals are in principle valued according to the discounted value of expected receipts. As there are no statistical sources providing information on the value of original works produced in any given year a model compilation is necessary. It is assumed that the value of the originals in question is equal to the discounted value of future royalty incomes.

The problem is that the future royalties are not known. However, information on current income from royalties from culture and entertainment is available in annual statistics. In the national accounts the simple assumption is chosen, to use the value of royalties received by the artists in question in year  $t$  as a proxy for the value of originals created in year  $t$ . The reasoning behind this simple convention is as follows: Since there is no information on future royalty earnings, it is assumed that in the long term royalties actually increases somewhat faster than the economy as a whole, since leisure activities have income elasticity greater than one. More specifically, the future real growth rate is taken to be equal to the real rate of interest, which likewise is normally greater than the growth rate of the economy. With these assumptions, the equilibrium value of the originals created in any given year may be estimated as the income from royalties in the same year.

In the absence of a better methodology, the value of production of new original musical works is taken to be equivalent to the value of royalties earned on existing originals,

**Owner-occupied housing.** In accordance with international recommendations, a utility value is estimated for the residence of a person in his own home. In Sweden it is not usual for individual houses to be let, hence there is no basis for estimating the utility value with the aid of actual rental costs for single-family houses. Instead the level is ascertained with the aid of rental costs per square metre in multiple-occupancy buildings of a corresponding standard, i.e. similar apartment size, region and age. Further reading is available in section 3.18.4.

**Secondary residences.** For secondary residences the utility value is calculated as the sum of costs. The net operating surplus (mark-up) is measured by applying a real rate of return of 2.5 percent to the value of the capital stock for secondary residences. Further reading is available in section 3.18.5

**Municipalities, NACE F.** Costs for construction for own account arises in units, which are producers for their own final use. These units are included in industry NACE F 41\_43 as construction industry units. The output for own account construction is valued by the help of the cost of production.

### *3.3.1.3 Additions to work-in-progress*

Additions to work-in-progress are valued at the current basic price of the finished product.

**NACE A.02, Forestry and logging.** Gross increment less Gross-fellings give Net increment or Net growth. All is valued with the same prices as for production.

**Mining and manufacturing.** The industrial inventory survey is the source used for work-in-progress in mining and manufacturing industries. In the survey, the valuation of work-in-progress by the

enterprises should be the net sales value of the measurement day, but enterprises not able to do this can use manufacturing cost plus a mark-up.

**Service industries.** The source for inventories in service industries are the SBS. SBS is based on data from the enterprises accounting and their annual reports. Valuation of work-in-progress in SBS is therefore at basic prices.

#### *3.3.1.4 Non-market output*

Non-market output for NPISH is valued at basic prices in accounts and in surveys. Non-market output for general government is calculated as the sum of the costs needed for producing the goods and, mainly, services. See section 3.21.1.

### **3.3.2 Accrual principle in the valuation of output**

Output is recorded and valued when it is generated by the production process.

**Products of agriculture, forestry and fishing.** Output of agricultural products is recorded as being produced continuously over the entire period of production, not just when the crops are harvested or animals slaughtered. Hence, growing crops, standing timber and stocks of fish are treated as inventories of work-in-progress. They are then turned into inventories of finished products when the process is completed. The EAA is the main source for NACE A.01.

**National Forest Survey and loggings.** The volume for gross increment in forest land is coming from spot-sampling inventory on temporary and permanent tracts that is systematically distributed all over the country. Around 6 000 plots are used every year. The national account uses the mean value of five year gross increment. Felling volumes are registered when they are produced. Timber must not be left in the forest for a long time as it may be attacked by harmful insects.

**Fishing statistics and Fishing in Marine Waters by Commercial Fishermen.** The fishing catches are normally registered the same day as they are landed i.e. the quantities and the sales values are accrual. The fishing statistics are the main source for NACE A.03.

**Production of Industrial Goods Statistics, IVP.** In IVP output is registered as deliveries. To get the right valuation a correction for inventories of work-in-progress and finished goods are made. IVP is the main source for NACE B and C.

**Structural Business Statistics, SBS.** The output in SBS is registered as income and not as revenue, i.e. they are accrual. That means that all output where SBS is the source is accrual. SBS is the main source for NACE D35.2, E, G-J, L-N, P-S.

**Annual energy statistics for electricity, gas and district heating.** The output of electricity and district heating is estimated by deliveries to final consumers. Since electricity and district heating are delivered at the same time as production occurs, output is accrual. The annual survey Electricity supply, district heating and supply of natural and gasworks gas is the main source for NACE 35.1 and 35.3.

**Financial enterprises, Financial institutions, assets and liabilities and Insurance enterprises.** The output of financial enterprises, financial institutions and insurance enterprises are accrual, since the data sources are annual economic reports. **Sweden's central bank's Financial Market Statistics.** The output of Sweden's central bank is accrual, since the data source is annual economic reports on costs.

**Basis activity of central government.** In the basis of central government net lending output is recorded and valued when it is generated in the production process.

**Annual accounts of municipalities, county councils and municipal associations.** The annual accounts are recorded and valued when generated in the production process, i.e. on accrual basis. Market outputs from municipalities are included in NACE D, E, G, H and L.

**NPISH and The Church of Sweden.** The business accounts that are the basis for data in both surveys are on accrual basis.

**SAS-consortium.** Data are obtained by a quarterly survey which has the consortiums accounts as basis. Final data are valued at basic prices and accrual basis.

**F41\_43, Construction.** Statistical information in the area is collected in the Structural Business Statistics (SBS). However, because of the complexity of this industry, including a lot of production units from different enterprises, contracted in several stages and engaged in joint ventures, the source have not yet been found to be of an overall sustainable quality. Therefore output is mainly based on compilations of investments and repairs where the SBS partly is used. However, the valuation of output is accrual due to that there is no differences in the valuation from expenditure or the production side. The invoice amount is derived from the time when it was generated from the production process. The output in SBS is registered as income and not as revenue, i.e. they are accrual. That means that all output where SBS is the source is accrual.

**NACE T, Households as employers.** The Swedish Social Insurance Agency delivers records on monthly data of hourly pay.

### 3.3.3 Intermediate consumption at purchasers' prices

Intermediate consumption shall be valued at purchasers' prices, i.e. the price paid for the products by the enterprise excluding deductible VAT.

**Economic Accounts for Agriculture, EAA.** Intermediate consumption is valued at purchasers' prices, i.e. the price paid for the products by the enterprise excluding deductible VAT. The source is the EAA provided by the Swedish Board of Agriculture.

**Forestry and logging.** Production and intermediate consumption are recorded for the same period. There must not be a time lag between felling and taking care of the products, otherwise the products may be destroyed by insects.

**Structural Business Statistics, SBS.** Standard Charts of Accounts, SCA, is the basis for enterprises accounting. According to these, the expenses of enterprises shall be transformed to costs via inventory investments. SBS is based on SCA. Valuation of intermediate consumption in SBS is therefore valued at purchasers' prices. SBS is the main source for NACE B, C, D35.2, E, G-J, L-N, P-S.

**Financial and insurance services and Riksbanken.** Intermediate consumption is collected from the profit and loss accounts and valued at purchasers' prices. i.e. the price paid for the financial services excluding deductible VAT.

**Basis activity of central government.** In the basis of central government the intermediate consumption is excluding the non-deductible VAT. The VAT is calculated separately and added to the intermediate consumption. See section 3.21.1.1

**Annual accounts of municipalities, county councils and municipal associations.** The annual accounts are excluding the non-deductible VAT and the VAT is added as explained in section 3.21.1.1. Market intermediate consumption from municipalities are included in NACE D, E, G, H and L and this intermediate consumption is valued excluding deductible VAT. NPISH and The Church of Sweden, IC is valued at purchasers' prices.

**The income and costs of the SAS consortia.** The business accounts that are the basis for data are valued at purchasers' prices for intermediate consumption.

**F41\_43, Construction.** The intermediate consumption in the construction industry is partly based on the SBS. The input coefficient from the SBS is applied on the output value of the construction industry calculated as described in section 3.12.3.3. Valuation of intermediate consumption in SBS is therefore at purchasers' prices.

### **3.3.4 Changes in inventories are consistent with the valuation of output and intermediate consumption**

In SBS, output includes changes in inventories of finished goods and work-in-progress, see 3.4 for further information. The Swedish accounting principles states that for the intermediate consumption, the enterprises should record purchases of materials used in the production less the change of goods held in inventories. Thus the intermediate consumption figures from SBS only include products used in the production in the accounting period.

In IVP output is registered as deliveries. To get the right valuation on production a correction for inventories of work-in-progress and finished goods are made.

### **3.3.5 Accrual principle to the estimates of taxes and subsidies on products**

See 3.28 where the steps taken to ensure the application of the accrual time of recording principle to the estimates of taxes on products are described.

## **3.4 Transition from private accounting and administrative concepts to ESA 2010 national accounting concepts**

### **3.4.1.-3.4.2. Private and public accounting principles compared to NA concepts and measures taken to ensure a satisfactory transition**

#### **Notes on Swedish Accounting principles**

*Swedish Accounting Standards Board.* The Swedish Accounting Standards Board is a governmental body with the main objective of promoting the development of, in Sweden, generally accepted accounting principles regarding current recording as well as the setting up of annual accounts.

*Legal context.* The accounting legislation in Sweden consists of mandatory accounting acts, the Annual Accounts Act of 1995 and the Book-keeping Act of 1999 being the most important ones. Both the Annual Accounts Act and the Book-keeping Act are general frameworks for accounting and both acts refer to "generally accepted accounting principles". The Annual Accounts Act is based on the EC Fourth, Seventh and Eleventh Directive. Credit institutions, brokers and dealers in securities or insurance companies are covered by two special accounting acts.

*The Standard Setting.* The Board issues general advice and information material on accounting matters and accounting practices. The Swedish Financial Supervisory Authority is responsible for issuing standards required for financial companies.

**Transition from private accounting.** With the adaptation to the SBS regulation, production and intermediate consumption is determined with the aid of statistics, which is not completely adapted to the definitions of the national accounts, so that some adjustments need to be made to the statistical value. The statistical sources are on the basis of company accounting principles, which necessitates a number of corrections to recorded values in order to obtain estimates complying with ESA 2010. An intensive work has been laid down between the processors of the SBS and the national accounts personnel. All the items registered in the SBS are discussed and decided upon how to be handled in the material that is forwarded to the national accounts.

#### Output

When calculating output in SBS, changes in stocks, own-account production and other operating income are added to net turnover. Capital gains, contributions, lease income, insurance compensation are items that are not included in output. The following list is set up for variables to be included or not in output.



**OUTPUT VALUE**

<b><u>Variable name</u></b>	<b>Sign</b>
<b>Total net turnover</b>	+
Lease income	-
Received grants	-
Exchange rate profits on receivables and liabilities relation to operations	-
Profit by realization of tangible and intangible fixed assets	-
Recovered customer losses	-
Insurance compensation	-
Strike pay	-
Remaining net turn over that is not production	-
Securities trading	-
<b>Change of stock and ongoing work</b>	+
<b>Activated work for one's own account</b>	+
<b>Other operating income</b>	+
Received/refunded shareholders' contribution	-
Received group contribution	-
Share in profits in partnerships and limited partnerships	-
Profit from sale of shares	-
Recovered bad debt loss	-
Lease income	-
Insurance compensation	-
Strike pay	-
Received grants (NOT included in production value	-
Exchange rate profits from receivables and liabilities of operational character	-
Profit by realisation of tangible and intangible fixed assets	-
Employment support, investment grants	-
Remaining other operating income that is not production	-
Trading goods	+
Costs for travel via agencies	+

In addition, a few items are added or corrected by the compilers at the national accounts. These items are often compiled according to special models and consist of:

- Extra benefit value of company cars
- Activated work for one's ongoing work
- Own-account software
- Own-account research and development
- Own-account mineral exploration
- Entertainment, literary and artistic originals
- Special exhaustiveness items

*Benefits.* For access to a free car, including fuel, a supplement to output (car hire) and income corresponding to the utility value of the car benefit was introduced in the national accounts.

*Activated work for one's ongoing work:* Since the definition is not completely in line with national accounts, activated work is removed. Instead own-produced items are calculated and added at the NA.

*Research and development and Software.* Own-produced R&D and software are calculated and included in gross fixed capital formation and added to the production as P.12 in all NACE sections.

*Mineral exploration.* Own-produced mineral exploration is calculated and included in gross fixed capital formation and added to the production as P.12 in NACE section B.

*Entertainment, literary and artistic originals.* are calculated and included in gross fixed capital formation and added to the production as P.12 in NACE sections J and R.

*Illegal activities.* Explicit supplements have been made for illegal activities. In this context alcohol and tobacco, drugs, prostitution and gambling are included.

*Under-reported gross output.* Under-reported gross output is added to the production for many industries.

The following item may also be mentioned:

*Valuation of inventories.* SBS is the main source for NACE D35.2, E, G-J, L-N, P-S, so for these industries changes in stocks and ongoing work are valued due to private accounting. Private accounting says that the inventories shall be valued due to the lowest of purchase value and sales value, net (lägsta värdets princip = LVP). Regarding NACE A, B, C and G changes in stocks and ongoing work have been taken from special sources, see section 5.11.

### Intermediate consumption

When calculating intermediate consumption in SBS raw materials, other external costs, social security and other staff costs and other operating costs are added. Many different costs are excluded from these items when calculating intermediate consumption. The following list is set up for variables to be included or not in intermediate consumption.

<b>INTERMEDIATE CONSUMPTION VALUE</b>	
<b>Variable name</b>	<b>Sign</b>
Raw materials	+
Other external costs	+
Loss at short-term receivables	-
Other consumption inventories with a lifespan of more than one year	-
Costs for travel via agencies	-
Site/ground leasehold fees/lease fees	-
Remaining other external costs that is not intermediate consumption	-
Social security costs and other staff costs	+
Severance pay	-
Pension payments	-
Received contributions and remuneration for staff	-
Statutory social contributions	-
Payroll taxes	-
Other charges	-
Pensions provisions	-
Pensions insurance premiums, etc.	-
Other operating costs	+
Other expenses in other operating costs that is not intermediate consumption	-
Grants received reported as cost reduction	-
Foreign exchange losses on receivables and liabilities	-
Loss on disposal of tangible and intangible assets	-
Left/repay shareholder contributions	-
Paid group contributions	-
Share of income in partnerships and limited partnerships	-
Gain/loss on disposal of shares	-

Intermediate consumption is exclusive of the purchase of goods for resale.

In addition, a few items are corrected by the compilers at the national accounts. These items are compiled according to special models and consist of:

Insurance services  
Purchased software

Purchased research and development  
 Financial leasing  
 FISIM  
 Other taxes on production  
 Correction on reimbursements  
 Special exhaustiveness items

*Insurance service charge.* The total amounts of non-life insurance costs are included in intermediate consumption in SBS. With the aid of insurance statistics broken down by different types of insurance, industry by industry adjustments are estimated as the difference between premium payments and insurance services. Left are the service charges included in intermediate consumption. The insurance premiums are treated as current transfers. See 3.17 for a description of the model.

*Purchased software and research and development.* Purchased software and R&D are included in the intermediate consumption in SBS, but a correction is made in national accounts and they are moved to GFCF. See 5.10. 3 for a description of the model.

*Financial leasing.* Charges for financial leasing are included in intermediate consumption in SBS, but a correction is made in national accounts. See 5.10.3 for a description of the model.

*Production and allocation of FISIM.* FISIM are calculated and added to intermediate consumption. See 3.17 for a description of the model.

*Other taxes on production.* Other taxes on production, for example real estate tax and vehicle tax, are items entered as costs in company accounts but should not be included under intermediate consumption. The data are deducted from intermediate consumption.

*Correction on reimbursements.* Since year 2007 are “expenditure by employees, reimbursed by the employer, on items necessary for the employers’ production” in SBS included in wages in salaries. A conceptual correction is made in NA to distinguish these kinds of reimbursements based on the relation from 2006 SBS data.

*Under-reported or over-reported intermediate consumption.* Under-reported or over-reported intermediate consumption is added for many industries. See Chapter 7 for more information.

The following items may also be mentioned:

*Durable goods of small value.* These goods are not included in GFCF, but in intermediate consumption, see 3.2.2.

*Major repairs and renovations.* See Coicop 0431 regarding minor repairs included in HFCE. Repairs and maintenance (not improvements) are part of property costs in private accounting and therefore a part of intermediate consumption in SBS and in NA.

*Entertainment, literary and artistic originals.* Intellectual property products are reported in the balance sheet as a kind of assets. They are therefore not included in intermediate consumption but as intellectual property products.

### **Transition from government accounting**

See section 3.21.2

### 3.4.3 Income in kind, tips and gratuities

**Income in kind, tips and gratuities in private accounting.** Almost all incomes in kind (benefits) are included in production. Only the benefit of cars provided by an employer for his employees' use is added. Gratuities are relatively uncommon in Sweden. It is mainly in the restaurant and taxi trades that tips are given.

Expenditure by employers to be treated as wages and salaries in kind are not a part of intermediate consumption in SBS.

**Income in kind, tips and gratuities in government accounting.** All income in kind is included in the production. Expenditures by employers to be treated as wages and salaries in kind are not part of intermediate consumption in the basis for the central government net lending of central government and the annual accounts for local governments.

### 3.4.4 Conceptual adjustments

The conceptual adjustments on production total SEK 47 billion and on intermediate consumption SEK 131 billion. The value added is affected with 180 billion of SEK. See details in table 3.4.1.

**Table 3.4.1 Various conceptual adjustments – SEK million 2011**

Conceptual adjustments	Output	IC	VA
Own-produced R&D	54 319		
Own-produced Software	22 697		
Own-produced Construction	3 682		
FISIM, non-market producers	2 847	2 847	0
Own-produced Originals	2 513		
Own-produced mineral exploration	351		
Paid back fees for recycling	-2 158		
Activated work for one's own account	-3 076	-3 076	0
Purchased Software, non-market producers	-3 130	-3 130	0
Purchased R&D, non-market producers	-9 124	-9 124	0
Winnings	-22 178	-22 178	0
FISIM, market producers		56 287	
Correction on reimbursements		10 215	
Non-life Insurance service charges		-11 586	
Other taxes on production		-22 974	
Financial leasing		-29 476	
Purchased R&D, market producers		-47 482	
Purchased Software, market producers		-51 708	
<b>TOTAL</b>	<b>46 743</b>	<b>-131 385</b>	<b>178 128</b>

#### Activated work for one's own account / Own-production

In private and public accounting is activated work for one's own account included in net turnover. When a producer has made an asset whose value has been added in his Balance Sheet he adds the item active work to his income side. The purpose is to neutralize the portion of costs relating to own work.

Since the definition is not in line with the national accounts, activated work is removed. Instead own-produced items are calculated at NA: R&D (5.10.3), Software (5.10.3), Construction (5.10.3), mineral exploration (5.2.2) and originals (5.10.3). For descriptions of the different calculation models, see the sections indicated in parentheses.

### FISIM

FISIM is not included in private or public accounting, but is an addition in national accounts. For a description of the calculation model, see 3.17. Non-market producers' production is a sum of costs and because of that their FISIM is adjusted both on the income and the cost side.

### Paid back fees for recycling

An adjustment is made regarding a privately-owned company responsible for the recycling of metal cans and PET-bottles in Sweden. The revenues of this company, which are included in the SBS, consist largely of fees that are paid back when cans and bottles are returned and should therefore not be included in the national accounts.

### Purchased software and R&D

In private and public accounting purchased software and R&D are included in intermediate consumption. In the national accounts they are treated as gross fixed capital formation and therefore a correction is made. For a description of the calculation models, see section 5.10. Non-market producers' production is a sum of costs and because of that their purchased software and R&D are adjusted both on the income and the cost side.

### Winnings

Winnings to players are removed from both production and intermediate consumption since the use, households' final consumption expenditure, is defined net, i.e. except these. See further section 3.24.

### Correction on reimbursements

From 2007 and onwards the Swedish Tax Agency reduced the number of detailed reporting items on personnel costs in the compulsory form SRU, which is part of the sources for the SBS. Prior to 2007 this data were divided into wages and other reimbursements; other social fees; pension expenditures, and; other personnel costs. The larger companies also had to provide details on the last item in order to separate intermediate consumption.

From 2007 and onwards the SRU-form contains information on the total of the four above items. But the larger companies had to provide the same breakdown as earlier. The resulting detailed data did however differ significantly from previous years. In particular it was evident that items classified as intermediate consumption received smaller share. It was concluded therefore that the new SRU underestimated intermediate consumption.

Therefore, from 2007 and onwards the 2006 structure of the components are maintained for each NACE category. The difference each year between the original SRU data on reimbursements and the estimation based on the 2006 structures is treated as an underestimation of intermediate consumption in the SRU data.

### Non-life insurance service charges

A correction is made for the insurance premiums which are treated as current transfers. Left are the service charges included in intermediate consumption. For a description of the calculation model, see section 3.17.

### Other taxes on production

Other taxes on production, for example real estate tax and vehicle tax, are items entered as costs in company accounts but should not be included under intermediate consumption in NA. The data are obtained from the records of the Tax Agency and are deducted from intermediate consumption.

Financial leasing

Charges for financial leasing are included in intermediate consumption in SBS, but a correction is made since financial leasing counts as gross fixed capital formation in national accounts. For a description of the calculation model, see 5.10.3.

### 3.5 The roles of direct and indirect estimation methods and of benchmarks and extrapolations

Direct estimation methods are methods based on sources that give a direct value for the variable to be estimated. Indirect estimation methods are used in the absence of such a direct value and may comprise models, use of ratios, etc.

**Table 3.5.1 Indirect estimation methods used – SEK million 2011**

Output											
NACE	Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Other E&M	Other	Total
A	4 280	98		48 415					40 947		93 740
B	49 226	14	52								49 292
C	1 719 208	2 332	54 408								1 775 948
D	31 307	90	14 804	94 506							140 707
E	14 737	49	45 985								60 771
F	2 214	979	10 066	2 763						350 409	366 431
G	437	3 559	158 030	177 361	212 365						551 752
H	12 541	23 952	434 273			25 311			5 435		501 512
I		122	112 328								112 450
J		1 029	362 012								363 041
K		95 088						83 440	15 857		194 385
L	5 569	679	188 713			170	313 953			18 124	527 208
M	3 302	30 823	352 052			24 708			1 990		412 875
N	658	418	203 479						69		204 624
O	85 282	133 088				37 343			19 337		275 050
P	155 881	38 339	47 886			10 581			7 006		259 693
Q	325 935	11 490	107 017			13 343			11 307		469 092
R	24 291	13 747	71 264			1 955			2 108		113 365
S	12 230	24 422	36 587			1 922			1		75 162
T		742									742
Total	2 447 098	381 060	2 198 956	323 045	212 365	115 333	313 953	83 440	104 057	368 533	6 547 840
Intermediate consumption											
A	963			38 191					5 926		45 080
B	2		22 072								22 074
C	20 897		1 254 152	11 969							1 287 018
D	726		1 242	3 580						54 709	60 257
E	9 316		32 031								41 347
F	3 129								203 084		206 213
G	95		278 197								278 292
H	9 486	18 303	304 547						5 435		337 771
I			67 568								67 568
J			204 182								204 182
K		73 450							6 005		79 455
L	1 029								206 596		207 625
M	1 276	10 254	191 342						1 990		204 862
N	419	7	104 657						69		105 152
O	47 433	55 517	0						18 617		121 567
P	45 980	13 020	20 211						7 006		86 217
Q	86 504	2 521	33 220						11 307		133 552
R	15 232	3 396	51 205						2 021		71 854
S	12 220		19 729						1		31 950
T											0
Total	254 707	176 468	2 584 355	53 740	0	0	0	0	468 057	54 709	3 592 036
VA	2 161 810	204 592	-319 002	178 780	212 365	115 333	313 953	83 440	-364 000	368 533	2 955 804

### 3.5.1 Direct methods used

Direct information contributes with 78 percent to the total sources for output and 91 percent for intermediate consumption. These parts are benchmarked every year.

### 3.5.2 Indirect methods used

#### 3.5.2.1 Benchmark extrapolations

##### 3.5.2.1.1 NACE A

###### Output and Intermediate consumption

Virtually the whole NACE 01 is extrapolated. For a description of the calculation models, see 3.7.1.

- a) The change in output and intermediate consumption in current prices for each product is used to extrapolate the values in current prices from the previous year. Adjustments are performed on product level if necessary.
- b) The benchmark is from 2008 and was benchmarked in connection with the transition to NACE Rev. 2 and when introducing more detailed supply and use-tables.
- c) The indicators, changes in prices and volumes by product from the EAA, are in accordance with the products in the national accounts and are considered to be representative.
- d) The extrapolation model is currently under review. The intention is to use the values from the EAA directly.

##### 3.5.2.1.2 NACE C

###### Intermediate consumption

Estimation of crude oil used of the refineries. For a description of the calculation models, see 3.9.2.3.

- a) The benchmark of crude oil used of the refineries is extrapolated with the crude oil volume growth from a survey and then reflatd with a price index for domestic supply of crude oil.
- b) The benchmark year is 2010, and the value was collected in a survey. Next benchmark year is going to be 2013.
- c) The volume indicator, crude oil volume growth, is considered to be representative indicator. And the price index, index for domestic supply of crude oil, is considered to be representative.
- d) There are no assumptions made.

##### 3.5.2.1.3 NACE D

###### Output and Intermediate consumption

Estimation of output and intermediate consumption in NACE 35.2. For a description of the calculation models, see 3.10.

- a) The output and intermediate consumption in NACE 35.2 is extrapolated with data from the foreign trade statistics.
- b) The benchmark year is 2005 and the values are based on an annual survey.
- c) The domestic supply of natural gas in Sweden consists exclusively of imported natural gas. The foreign trade statistic is therefore considered to be a representative indicator.
- d) There are no assumptions made.

###### Output and Intermediate consumption

Estimation of output in NACE 35.1. For a description of the calculation models, see 3.10.

- a) The output in NACE 35.1 is extrapolated with data from the annual survey Electricity supply, district heating and supply of natural and gasworks gas. The volume indices of electricity used per industry are used to extrapolate the basic prices of the previous year. The output value in NACE 35.1 is estimated as the sum of deliveries of electricity to final consumers.
- b) The benchmark is from 2008 and was benchmarked in connection with the transition to NACE Rev. 2.
- c) The annual survey contains detailed information on use per industry of electricity in terms of quantities and is considered to be representative. The price index for domestic supply of electricity is representative.
- d) There are no assumptions made.

#### 3.5.2.1.4 NACE F

##### Output

Two small parts of output in NACE F is extrapolated. Together they represent less than 0.1 % of GNI.

#### 3.5.2.1.5 NACE G

##### Output

The trade margins for NACE 45 and 47 are extrapolated with information from SBS. The benchmark year is 2006. Mainly information from SBS was used to set the level of trade margins in each industry, but also other information and an expert assessment was used. The residual from the total trade margins in the economy minus trade margins in all other industries is assumed to be wholesale. The model is described in more detail in chapter 3.13. The model and assumptions and benchmark used for calculation of trade margins in the national accounts system will most likely be reviewed in the next major revision of national accounts 2019.

#### 3.5.2.2 Commodity Flow Models

This column contains a commodity flow model used for NACE G to calculate trade margins in a so-called trade margins by product approach. For a description of the calculation model, see 3.13.

- a) The total trade margin for all products is calculated annually in the national accounts supply and use tables.
- b) The Swedish supply and use tables contain supply and use for about 400 product groups. The use side is divided to about 655 different users. The trade margins are directly linked to the purchasers' price value for each use category. For each type of use (i.e. household consumption, intermediate consumption, GFCF, exports), a trade margin is calculated separately for all product groups in the system. Because uses are distributed over a large number of purposes (COICOP, COFOG) and industries, the trade margin is calculated on a very detailed level. From the linkage to each individual purchaser price value follows that the trade margin changes at the same rate as the purchaser price value to which it is linked.
- c) A review of the trade margins in the NA system was done when the ESA95 was implemented in 1999. In this review the margins was set for each combination of product and user, but as the trade margins are a part of the reconciliation between supply and use and are therefore reviewed each year and updated when new information is available.

#### 3.5.2.3 Consumption of Fixed Capital (PIM)

This column contains estimates of the consumption of fixed capital that are included in output of non-market producers. For a description of the calculation model, see 4.12.

The model is calculated annually.

- a) Consumption of fixed assets is calculated on the basis of the information available on gross fixed capital formation. This means that the same classifications as used in the compilations of



gross fixed capital formation provide the benchmark for the calculations of consumption of fixed assets. Statistics Sweden has disaggregated calculation of the consumption of fixed assets for the non-market sector. Statistics Sweden now uses 18 different types of capital assets for non-market producers. The government sector is broken down by sub sector and function. The number of subsectors used is 7 and the number of functions depending on subsector with a maximum of about 28 functions. Further reading is available in section 4.12.

b) No reviews are made on regular basis. However, reviews are made if there is new information that affects earlier assumptions, as for example regarding service lives.

#### 3.5.2.4 Dwellings – stratification method

This column contains estimates of output on imputed and actual dwelling services. For a description of the calculation model, see 3.18.

a) The model is calculated annually.

b) The stratification method is used for all dwellings except for the secondary residences. Regional stratification is used in the calculations, as well as stratification on year of construction and on dwelling size. Strata contain four regions, ten construction periods and six different dwelling sizes. Information regarding the region, year of construction and dwelling size stratification as well as actual rents is obtained.

c) No assumptions are made in the dwelling stratification method.

#### 3.5.2.5 FISIM

This column contains production of FISIM. For a description of the calculation model, see 3.17.

a) The production of FISIM calculated quarterly and the annual data is the sum of the quarters.

b) FISIM is calculated using the method as outlined in annex A, chapter 14, to Council Regulation (EU) No 549/2013 of 21 May 2013 (ESA 2010).

c) Interest rates are collected for user sectors non-financial corporations and households and used in the model. Assumptions on interest rates for other user sectors are made and revised on a quarterly basis.

#### 3.5.2.6 Other extrapolations and models

##### 3.5.2.6.1 NACE A

##### Output

For the most important output in NACE 02, Forestry and logging calculations are based on sources provided by the Swedish Forest Agency on quantities and prices. The net growth is calculated as the gross increment value minus the value of actual gross fellings. These parts of the calculation amount to SEK 39 506 million or 96.5 percent of other extrapolations and models for NACE A.

The compilations are provided in table 3.7.1.3. This table gives the bridge between standing volume of trees and felled trees.

A new benchmark is calculated every year

Some minor models are included in NACE A, but their total is less than 0.1 % of GNI.

##### Intermediate consumption

A model for the intermediate consumption in Forestry and logging is based on annual accounts provided by region for wood production in forestry from the Swedish Forest Agency. As the data

represent around 75 percent of the output level of the NA model, the relation between output and input in the data is used for the total output.

#### 3.5.2.6.2 NACE K

Output and intermediate consumption for NACE K66 *Activities auxiliary to financial services* is based on a model. For a detailed description of the calculations, see chapter 3.17.

- a) The model is calculated annually.
- b) Output and intermediate consumption are been derived from calculations in NACE 64 and NACE 65, which are based on administrative data. Therefore the model gives a representative picture of the component.
- c) The assumptions of the model are regularly reviewed. The weights of the product groups in NACE 64 and NACE 65 are checked for consistency annually.

A small part refers to value-added tax (VAT) for the intermediate consumption of general government. See 3.5.2.6.4 and table 3.5.2.

#### 3.5.2.6.3 NACE L

##### Intermediate consumption

The intermediate consumption value is based mainly on data from the Household Budget Survey (HBS). The level of the intermediate consumption each year for major product groups such as refuse disposal, water and sewage services as well as for minor product groups are extrapolated with the number of dwellings. Further reading is available in section 3.18.9.

- a) The model is calculated annually
- b) The level of the intermediate consumption each year for major product groups such as refuse disposal, water and sewage services as well as for minor product groups are based on number of dwellings in the model. To take in to account the price effect different price indices are used. This should provide a good parameter for the components it is applied too.
- c) The assumptions underlying the model are reviewed regularly.

The intermediate consumption for Multiple-occupancy buildings, other real estate management and real estate intermediation is based on the business statistics with some alterations with help of confronting sources and is therefore recorded as other E&M. For a description of the calculation model, see 3.18.9.

- a) The model is calculated annually.
- b) The ratio used in the model is derived from SBS data and is representative for the components it is applied too.
- c) The assumptions underlying the model are reviewed regularly.

#### 3.5.2.6.4 Other NACE- industries

##### Output and intermediate consumption

The column Other extrapolations and models for many NACE sections relate to information about value-added tax (VAT) for the intermediate consumption of general government. See table 3.5.2 to see the breakdown by section. Non-market producers' production is a sum of costs and because of that their value-added tax is adjusted both on the income and the cost side. For a description of the calculation model, see 3.21.

- a) The model is calculated annually in the tables for supply and use. The theoretical tax amount for each unit of the General government is then adjusted in accordance with the real amounts from the Swedish Tax Agency.
- b) The Swedish supply and use tables contain supply and use for about 400 product groups. The use side is divided to about 655 different users. The value-added tax is directly linked to the basic price value. Value-added tax is calculated separately for all product groups in the system. Because uses are distributed over a large number of purposes the value-added tax is calculated on a very detailed level. From the linkage to each individual basic price value follows that the surcharge on the basic price is the same every year if the rate has not changed.
- c) Data on VAT repayments to government units, i.e. non-deductible VAT for the government sector, are obtained every year.

**Table 3.5.2 VAT included in general government output and intermediate consumption – SEK million, 2011**

NACE	VAT
H	5 435
K	12
M	1 990
N	69
O	18 313
P	7 006
Q	11 307
R	2 021
S	1
<b>Total</b>	<b>46 154</b>

### 3.5.2.7 Other

#### 3.5.2.7.1 NACE F

##### Output

The total output value is obtained as the sum of all investments and expenditures for purchased repair and maintenance services in respect of buildings and structures. For a description of the calculation model, see 3.12.

- a) The model is calculated annually
- b) The total output value is obtained at both current and constant prices as the sum of all investment and expenditures for purchased repair and maintenance services in respect of buildings and structures. The output value of the construction industry is obtained by deducting building production produced within other industries from the total output value obtained as above. SBS data is also partly used. The main source for investments is the SBS and the special compilations of dwellings. The model is representative for the components it is applied too.
- c) The calculation of the construction industry is reviewed regularly to validate the calculations.

##### Intermediate consumption

The difference between the intermediate consumption for NACE F obtained from the SBS and the calculation described in 3.12.3.3 is found in this column. It totals less than 0.1 % of GNI.

#### 3.5.2.7.2 NACE L

##### Output

To calculate the utility value for secondary residences a sum of costs approach is used. For a description of the calculation model, see 3.18.5.

- a) The model is calculated annually
- b) For secondary residences the utility value is calculated as the sum of costs. The user cost method follows the recommendation in Commission Regulation No 1722/2005.
- c) The calculation of output for secondary residences is reviewed regularly to validate the calculations.

## **3.6 The main approaches taken with respect to exhaustiveness**

### **3.6.1 Main methods used to ensure exhaustiveness**

In the product accounts information is collected and separate estimates are compiled for all parts. Explicit supplements to the output value for non-recorded activities are provided for most industries. Many industries are more or less affected by these adjustments.

In construction, output is measured with the aid of investment and expenditure on repairs, hence problems of hidden activity in the construction industry are substantially reduced. However, an explicit supplement provided for construction covers work on owner-occupied dwellings. Previous estimates for hidden activities were mainly based on an inquiry conducted by the Swedish National Audit Office in 1998. A new material from the Swedish Tax Agency published in 2006 is now also used. It is however difficult to quantify the value of output or value added of hidden activities even from these inquiries. The magnitude of the supplements made is therefore also based on other information as well as on assessments and analysis of the supply and use tables. The supplement for the hairdressing trade is e.g. calculated as the difference between the values of the household budget statistics (HBS) and the SBS.

Incomes in kind (benefits) are added to the estimates. The largest benefit in kind in Sweden is represented by the benefit of cars provided by an employer for his employees' use. Information on the total amount of benefits in kind apart from car benefits, which are specified separately, is provided as a lump sum to the NA from the Income declarations to the Tax Agency. Included is e.g. luncheon concessions and housing concessions, telephone, parking, medicines, etc. Gratuities are relatively uncommon in Sweden. It is mainly in the restaurant and taxi trades and possibly in hairdressing that tips are given.

The calculations on the production and expenditure side are balanced with the aid of the supply and use tables. These tables cover approx. 400 product groups, 134 industries, 140 household consumption items, some 50 COFOG purposes for public sector activity and over 100 industries and purposes for investment.

The supply and use tables are produced simultaneously at current and constant prices, and the constant price calculation is carried out in a consistent price index system, which enables the double indicator method to be applied. Analysis of the trend in constant prices can affect the current price reconciliation. The balancing technique often involves an adjustment of intermediate consumption for industry.

**Table 3.6.1 Exhaustiveness adjustments - SEK million 2011**

<b>Output</b>								
NACE	N1	N2	N3	N4	N5	N6	N7	Total
A						3 798		3 798
B						93		93
C		117				4 636		4 753
D								0
E								0
F						24 436		24 436
G		2 872				5 868		8 740
H						10 246		10 246
I						4 222		4 222
J						4 399		4 399
K						355		355
L						2 609		2 609
M						543		543
N						3 432		3 432
O								0
P						1 274		1 274
Q						3 502		3 502
R		1 029				2 728		3 757
S		572				7 900		8 472
T						408		408
Total	0	4 590	0	0	0	80 449	0	85 039
<b>Intermediate consumption</b>								
A						-1 831		-1 831
B								0
C								0
D								0
E						-1 152		-1 152
F			1 442			3 921		5 363
G								0
H						-735		-735
I						-1 167		-1 167
J						-1 802		-1 802
K								0
L						-2 071		-2 071
M						-8 106		-8 106
N						-2 934		-2 934
O								0
P						-1 097		-1 097
Q								0
R								0
S								0
T								0
Total	0	0	1 442	0	0	-16 974	0	-15 532
VA	0	4 590	-1 442	0	0	97 423	0	100 571

The meaning of the different column headings are:

N1 Producer should have registered (underground producer)

N2 Illegal producer that fails to register

N3 Producer is not obliged to register

N4 Registered legal person is not included in statistics

N5 Registered entrepreneur is not included in statistics

N6 Misreporting by the producer

N7 Statistical deficiencies in the data

### 3.7 NACE A, Agriculture, forestry and fishing

In the Swedish national accounts NACE rev.2 Section A consists of three divisions;

NACE A01 Crop and animal production, hunting and related service activities,

NACE A02 Forestry and logging and

NACE A03 Fishing and aquaculture

#### GVA compilation and breakdown by institutional sectors

Table 3.7.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section A. The table also includes shares of the division in the gross value added of section A and in the total gross value added, GDP and GNI.

**Table 3.7.1: NACE A – Output, IC and GVA, SEK million and percentages, 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
A01	Crop and animal production, hunting and related service activities	50 877	37 475	13 402	25,5	0,4	0,4	0,4
A02	Forestry and logging	46 180	7 863	38 317	72,9	1,2	1,0	1,0
A03	Fishing and aquaculture	1 823	993	830	1,6	0,0	0,0	0,0
<b>A</b>	<b>Agriculture, forestry and fishing</b>	<b>98 880</b>	<b>46 331</b>	<b>52 549</b>	<b>100,0</b>	<b>1,6</b>	<b>1,4</b>	<b>1,4</b>

Table 3.7.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual divisions are included as well.

**Table 3.7.2: NACE A, Output, IC and GVA by institutional sectors, SEK million and percentages, 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
A01	Crop and animal production, hunting and related service activities	Output	21 633	0	0	29 244	0	50 877
		IC	15 533	0	0	21 942	0	37 475
		GVA	6 100	0	0	7 302	0	13 402
		%-GVA of A01	45,5	0,0	0,0	54,5	0,0	100,0
A02	Forestry and logging	Output	31 619	0	0	14 561	0	46 180
		IC	6 699	0	0	1 164	0	7 863
		GVA	24 920	0	0	13 397	0	38 317
		%-GVA of A02	65,0	0,0	0,0	35,0	0,0	100,0
A03	Fishing and aquaculture	Output	1 056	0	0	767	0	1 823
		IC	672	0	0	321	0	993
		GVA	384	0	0	446	0	830
		%-GVA of A03	46,3	0,0	0,0	53,7	0,0	100,0
<b>A</b>	<b>Agriculture, forestry and fishing</b>	Output	54 314	0	0	44 566	0	98 880
		IC	22 904	0	0	23 427	0	46 331
		GVA	31 410	0	0	21 139	0	52 549
		%-GVA of A	59,8	0,0	0,0	40,2	0,0	100,0

**Table 3.7.3: NACE A – Excerpt from Process Tables of Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments. The Basis for NA Figures are commented on each sub industry A01-A03.

			NACE Rev 2 Division A		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		4 280	963	3 317
	Administrative Records		98		98
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations	48 415	38 191	10 224
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M	40 947	5 926	35 021
		Total Extrap+Models	89 362	44 117	45 245
	Other				
	Total (sources)		93 740	45 080	48 660
Adjustments	Data validation		1 078		1 078
	Conceptual	Allocation of FISIM		2 759	-2 759
		Other conceptual	264	-54	318
		Total conceptual	264	2 705	-2 441
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	3 798	-1 831	5 629
		N7			
		Total exhaustiveness	3 798	-1 831	5 629
	Balancing			377	-377
	Total (adjustments)		5 140	1 251	3 889
Final estimate			98 880	46 331	52 549

### 3.7.1 NACE A01, Crop and animal production, hunting and related service activities

#### Output

The output in NACE A01 Agriculture is determined primarily through the Economic Accounts for Agriculture (EAA). The Swedish Board of Agriculture is responsible of the compilations and provides the national accounts with relevant data. The EAA-manual is in accordance with the ESA, however, some minor additions or subtractions still have to be made.

Table 3.7.1.1 provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments and is followed by descriptions of sources and adjustments.

**Table 3.7.1.1: NACE A01 – Excerpt from Process Tables - Output, intermediate consumption and gross value added, millions of SEK, 2011**

			NACE Rev 2 Division A01		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		44		44
	Administrative Records		29		29
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations	48 415	37 259	11 156
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models	48 415	37 259	11 156
	Other				
Total (sources)			48 488	37 259	11 229
Adjustments	Data validation		1 102		1 102
	Conceptual	Allocation of FISIM		1 773	-1 773
		Other conceptual	124	-30	154
		Total conceptual	124	1 743	-1 619
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	1 163	-1 831	2 994
		N7			
		Total exhaustiveness	1 163	-1 831	2 994
	Balancing			304	-304
	Total (adjustments)		2 389	216	2 173
Final estimate			50 877	37 475	13 402

*Surveys and censuses* refer to Production of commodities and industrial services (IVP). The output consists mainly of non-farming activities and goods such as prepared meals and dishes and is thus not covered by the Economic accounts for Agriculture. Agricultural output of non-farm based enterprises in the manufacturing industry is almost insignificant but is also covered by IVP and consists primarily of support services to crop production

*Administrative records* refer to car benefits, see section 3.2 for details.

*Extrapolation and models* refer to the Economic Accounts for Agriculture (EAA) (48119 millions of SEK) and additions for hunting and peat harvesting for horticultural use (296 millions of SEK). The EAA provides information about agricultural production and some non-farming activities and services of farmers. The calculations are built up from data drawn from different sources such as The Swedish farm register (LBR), estimates for harvest, statistics of slaughter and retail prices. Output is regarded as being produced continuously over the entire period of production, not just when the crops are harvested. Hence, growing crops minus supplies are treated as inventories of work-in-progress. They are then turned into inventories of finished stocks when the process is complete. Animals for slaughter, on the other hand, are produced and registered at the same time as the transaction occurs. Livestock of animals used for more than one year are classified as fixed assets.

The calculations only include income from agricultural production and costs associated with it. The income of farmers from other industries, e.g. forestry, is not included. This means that the operating surplus in the sector calculations is not a measure of the total income of farmers as many farmers also are forest owners.



Table 3.7.1.2 describes the transition from Economic Accounts for Agriculture to national accounts. The EAA-codes are translated and linked to products by activity in the national accounts. The change in output in current prices for each product is used to extrapolate the output value in current prices from the previous year. Adjustments are performed on product level if necessary. The benchmark is from 2008 and was benchmarked in connection with the transition to NACE Rev. 2 and when introducing more detailed supply and use-tables.

**Table 3.7.1.2: Transition from Economic Accounts for Agriculture to national accounts - Output, SEK million 2010-2011**

Code			Output EAA Current Price	Output EAA Current Price	Output EAA Change in	Output NA Current Price	Output NA Current Price	Output NA Data valid.	Output NA Total
NewCrono	Description EAA	Product	2010	2011	%	2010	2011	2011	2011
01000	CEREALS	A0111A	6 511	6 991	1,07	5 801	6 229	1 113	7 342
05000	POTATOES	A0113001	1 977	1 479	0,75	1 656	1 239		1 239
04100	Fresh vegetables	A0113A	1 683	2 006	1,19	1 456	1 736		1 736
03000	FORAGE PLANTS	A0116	7 536	8 000	1,06	230	244		244
03000	FORAGE PLANTS	A0119	7 536	8 000	1,06	3 972	4 217	-244	3 973
02100	Oil seeds	A011A	1 093	1 028	0,94	1 059	996		996
02400	Sugar beet	A011B	484	600	1,24	634	786		786
06000	FRUITS	A012A	519	699	1,35	564	759		759
11200	Pigs	A0146	3 272	2 836	0,87	3 907	3 386		3 386
12200	Eggs	A01471	1 511	1 695	1,12	1 494	1 675		1 675
11500	Poultry	A01472	1 343	1 481	1,10	1 314	1 450		1 450
11900	Other animals	A01492	692	731	1,06	684	722	-24	698
12900	Other animal products	A0149A	780	805	1,03	668	689		689
12100	Milk	A014A	10 160	10 496	1,03	9 898	10 226		10 226
11100	Cattle	A014B	3 928	4 056	1,03	4 247	4 386		4 386
11300	Equines	A014C	559	564	1,01	579	585	257	842
11400	Sheep and goats	A014D	181	203	1,12	199	223		223
	Live/breeding stock	A014E	-118	-114		-32	-118		-118
	Reindeers	A01491	163	168	1,03	166	171		171
15000	AGR. SERV. OUTP	A016A	2 528	2 719	1,08	3 632	3 906		3 906
15000	NON-AGR. SEC. ACT	A016A	3 743	3 730	1,00	291	290		290
04220	Orn.plants+oth.ind.cro	A01A	1 144	1 219	1,07	1 086	1 157		1 157
17000	NON-AGR. SEC. ACT	E382	3 743	3 730	1,00	194	193		193
17000	NON-AGR. SEC. ACT	E39	3 743	3 730	1,00	194	193		193
17000	NON-AGR. SEC. ACT	F41_43	3 743	3 730	1,00	635	633		633
17000	NON-AGR. SEC. ACT	H494A	3 743	3 730	1,00	291	290		290
17000	NON-AGR. SEC. ACT	I55A	3 743	3 730	1,00	314	313		313
17000	NON-AGR. SEC. ACT	N773	3 743	3 730	1,00	388	387		387
17000	NON-AGR. SEC. ACT	N812	3 743	3 730	1,00	970	967		967
18000	OUTPUT AGR. IND	S9609	50 462	52 273	1,04	182	189		189
Total						46 673	48 119	1 102	49 221

Table 3.7.1.3 illustrates supplementary information about the differences per item between the Economic accounts for agriculture and the national accounts. Forage crops produced for own use is not included in the national accounts, which explains the major difference between the EAA and the national accounts. The subsidies on products in the national accounts are obtained from the Swedish Financial Management Authority and differ slightly from the EAA-calculations.

**Table 3.7.1.3: Bridge table illustrating the differences between Economic Accounts for Agriculture and the national accounts, - Output, SEK million 2011**

New Cronos Code	EAA			NA			Differences EAA-NA		
	Value at producer prices	Subsidies on products	Value at basic prices	Value at producer prices	Subsidies on products	Value at basic prices	Value at producer prices	Subsidies on products	Value at basic prices
01000	6 991		6 991	7 342		7 342	-351		-351
02000	1 722		1 722	1 774	8	1 782	-52	-8	-60
03000	8 000		8 000	4 206	11	4 217	3 794	-11	3 783
04000	3 962	1	3 963	2 892	1	2 893	1 070		1 070
05000	1 408	71	1 479	1 205	34	1 239	203	37	240
06000	699		699	751	8	759	-52	-8	-60
07000									
08000									
09000	102		102				102		102
10000	22 885	72	22 957	18 170	62	18 232	4 715	10	4 725
11000	9 589	337	9 926	10 712	326	11 038	-1 123	11	-1 112
12000	12 737	258	12 995	12 332	258	12 590	405		405
13000	22 272	595	22 867	23 044	584	23 628	-772	11	-761
14000	45 157	667	45 824	41 214	646	41 860	3 943	21	3 964
15000	2 719		2 719	4 196		4 196	-1 477		-1 477
16000	47 876	667	48 543	45 410	646	46 056	2 466	21	2 487
17000	3 730		3 730	3 165		3 165	565		565
18000	51 606	667	52 273	48 575	646	49 221	3 031	21	3 052

Extrapolation and models also refer to additions for hunting and peat harvesting for horticultural use. The benchmark from 2008 is extrapolated with volumes and prices from Statistics Sweden, the Swedish Peat Producers Association, The Swedish Hunting Association and the Swedish Board of Agriculture.

To estimate the total intermediate consumption in current prices the annual changes in value for e.g. seeds and planting stock, fertilizers and soil improvers, pesticides, veterinary expenses, animal feeding stuffs, maintenance of materials, maintenance of buildings, agricultural service and other goods and services are used.

Table 3.7.1.4 separates the intermediate consumption in derived and direct values. The Economic Accounts for Agriculture are used to achieve direct values for the intermediate consumption for some agricultural products in the national accounts. The change in intermediate consumption in current prices for each product is used to extrapolate the intermediate consumption in current prices from the previous year. The intermediate consumption of other goods and services within division A01 are derived residually, with exception of the intermediate consumption of FISIM, fuels and electricity that are calculated separately.

*Intermediate consumption***Table 3.7.1.4: Direct and derived values– Intermediate consumption, SEK million 2011**

<b>Product group</b>	<b>Description</b>	<b>SEK million</b>	<b>Share</b>
<b>Direct values</b>			
A016A	Agriculture services	4095	10.9
C1091	Animal feed	7525	20.0
C192000B-C1920012	Fuels	4579	12.2
C2015-C202	Soil improvers an plant protection	3176	8.5
D351-D353	Electricity, gas, steam and air conditioning	1155	3.1
F41-43	Construction	1429	3.8
H494A	Road haulage	223	0.6
FISIM	FISIM	1773	4.7
M75	Veterinary services	697	1.9
Sum		24652	65.8
<b>Derived values</b>			
A011A-A03	Agriculture, forestry and fishing	5504	14.7
B0811-B0899	Other mineral and quarrying products	575	1.5
C1013-C14	Food, beverages and textiles products	440	1.2
C161-C181	Wood, paper and printing services	206	0.5
C1920012-C243	Other fuels, chemicals and metal products	926	2.5
C254-C331A	Industrial products	2619	7.0
E381A-E39	Materials recovery and waste management	105	0.3
G45A-G4B	Wholesale and retail trade services	284	0.8
H491A-H53	Transportation and storage services	365	1.0
I1551-I56A	Accommodation and food services	45	0.1
J581-J631	Information and communication services	121	0.3
K64B-K66	Financial and insurance services	404	1.1
M692-M712	Legal, accounting and engineering services	660	1.8
N7711-N82	Administrative and support services	232	0.6
O84A-O84C	Public administration services	200	0.5
Q8621201-Q86B	Human health services	59	0.2
S941-S951	Other services	55	0.5
X9901	Swedish consumption abroad	23	0.1
Sum		12823	34.2
<b>Total</b>		<b>37475</b>	<b>100</b>

*Data validation* refers to implausible EAA-data corrected in order to obtain consistency in the supply- and use tables.

*Conceptual adjustments* refer to allocation of FISIM and other conceptual adjustments such as software and research and development. See section 3.4 for details.

*Exhaustiveness.* This column refers to several adjustments. N6, production not registered, consists of production for own final use and is calculated by using shares of output by product. The shares are estimated by the Swedish Board of Agriculture. N6, output misreported by the producer, consists of forage crops underreported by the producer. The value is benchmarked by The Swedish Board of Agriculture and is extrapolated with the change in output from EAA. N6 refers also to intermediate consumption over-reported by the producer in order to reduce value added tax. The value is estimated in cooperation with the Swedish Board of Agriculture. Section 3.6 provides further information on exhaustiveness.

Illegal output (N2), in terms of production of drugs, occurs on a very small scale in Sweden. In the case of heroin and cocaine, there is no indication that they are manufactured in Sweden. There is a certain degree of limited home cultivation of cannabis plants for own consumption, but the effect on total supply is considered very marginal. In this context, no attempt is made to calculate domestic output, as consistent data reveal this to be very marginal. Instead it is assumed that all drug consumption in Sweden is supplied through imports. See section 3.6 for more information on illegal output.

*Balancing* is the item used in the final consolidation process between the production approach and the expenditure approach. See section 6.1 for details.

### **3.7.2 NACE A02, Forestry and logging**

#### ***Introduction***

The total land area in Sweden in 2011 was 40 727 ha. Of this, 22 360 ha (approx. 56 percent) consisted of forested land, 4 098 ha (approx. 10 per cent) protected areas like national parks, nature reserves and certain shooting ranges and the remaining 13 833 ha (approx. 34 per cent) farmland, moorland, mountains, built environments etc.

In accordance with SNA2008 and ESA 2010 a large proportion of the Swedish standing timber of forest is treated as cultivated forest. In the case of forest growth in all regions of Sweden, there is a good statistical basis for the production of incremental calculations over a period going back to the 1920s. The output growth is intended to be disposed of on the market even if it takes time until the standing growing timber is mature to be cut down. Growing trees are treated as inventories of work-in-progress. They are transformed into inventories of finished stocks when they are mature. Finished stocks of trees become normally cut down saw timber, pulpwood and fuel wood.

#### ***Output***

The value of forestry output is defined on the basis of the activities and products listed below. Output is regarded as being produced continuously over the entire period of production, not just when the timber is felled. Therefore output is calculated for variations in the quantity of timber cut. In addition, forest drainage, forest cleaning and other forest protection measures, tree cultivation and other forestry management for energy and woodchips are included. Also products used for food, such as wild berries and mushrooms are included.

Output comprises mostly market output and about 2 percent output for own final use. The main information for quantities and prices for the calculations of National accounts are delivered by the Swedish University of Agricultural Sciences (SLU) and the Swedish Forest Agency (Skogsstyrelsen).

*Output***Table 3.7.2.1 Forestry output, allocated to products, 2011**

<b>Product group</b>		<b>SEK million</b>
A022B	Sawlogs (1)	19 204
A022A	Pulpwood (2)	11 560
A02101	Net increment (growth)	10 278
A02102A	Forest drainage	2 749
C161	Woodchips	1 143
A0220004	Firewood (own final use)	574
A023	Wild berries (own final use)	191
A02109A	Forest management for energi	164
M72EG	R&D produced on own account	113
N7710	Car benefits	67
A0220004	Firewood sold	65
A023	Wild berries sold	45
J62AEG	Software produced on own account	27
<b>Total output</b>		<b>46 180</b>
(1) hidden production includes 842 SEKm		
(2) hidden production includes 694 SEKm		

*Net increment or net growth of standing forest, product group A02101*

Output of standing timber (net increment) is derived from the total of forestry resources, which grow and are felled on forestry land. Increment and felling are dependent on use and incremental preconditions. The gross increment (bruttotillväxten) in the forest stand of the entire country is calculated by the Swedish University of Agricultural Sciences. This process involves studies and compilations of annual growth of trees on several sample plots geographically well dispersed over the country. The total annual drain (decrement) of trees (bruttoavgången) indicates the amount of timber felled in the forest together with the amount remaining (of branches, tops etc.), calculated by a method, which takes account of the relation between material extracted (saw timber, etc.) and the trees from which this timber was produced. The Swedish Forest Agency provides this information.

The net increment in cubic metres of standing forest (nettotillväxten), is the difference between gross increment and total drain. The net increment in forestry increases or reduces total supply in the form of an output value and at the same time affects total use as a change in inventories.

*Sawlog and pulpwood, product groups A022B/A022A*

The output value of felled timber (delivered to a motor road) is calculated with the aid of data on gross felling per cubic metre of sawlog and pulpwood. The source is the calculation model of the Swedish Forest Agency for supply. The relevant price data are obtained from the Swedish Forestry Data Centre (Skogsnäringsdatacentral, SDC), who collects prices from enterprises.

<b>Data from Swedish University of Agricultural Science</b>	<b>milj.m<sup>3</sup></b>	<b>price</b>	<b>SEK million</b>		
Pinetree	40,9				
Spruce	49,5				
Birch tree	15,3				
Other leaf tree	6,4				
Gross Increment (plus)	112,1	443	49 674		
Total drain (minus)	88,9	443	39 396		
Net Increment= Net growth, million m <sup>3</sup> standing volume	23,2	443	10 278		
<b>Data on calculation of total drain from Swedish Forest Agency</b>				<b>Hidden</b>	<b>Total value</b>
Coniferous sawlogs	33,8	538	18 255	842	19 204
Broad.leaved sawlogs	0,2	536	107		
Coniferous & broad-leaved pulpwood	32	340	10 866	694	11 560
Other round wood	0,5				
Fuelwood of steamwood	5,9				
Total Net fellings, miljon m <sup>3</sup> under cortex	72,4				
Total Net fellings, million m <sup>3</sup> standing volume	86,7				
Cut whole trees left in forest	2,2				
Total drain, gross fellings plus left trees, branches, etc	88,9				

The price used to calculate the net increment value used to be the price of standing forest timber for sale provided by the Swedish Forest Agency. However, from 2004 onwards this price is no longer published, so the 2003 level has been extrapolated with delivery prices of felled timber delivered to forest roads from the Swedish Forest Agency.

Forest drainage, product group A02102A comprises cleaning, drainage and other forestry management operations. Output is calculated with the aid of data covering output for intermediate consumption and investments. The data on intermediate consumption cover expenditure for forest cleaning while investments represents expenditure for new drainage, soil preparation, forest planting etc.

#### *Forest management for energy, product group A02109A*

The source is a yearly survey of the area cultivation of energy- forest per hectare made by the National Board of Agriculture. This survey gives the harvest and tonnage and calorific units. The price of calorific unit woodchips free delivered to the Bio (energy) factory from the Swedish Forest Agency is used to calculate values.

#### *Woodchips, product group C161*

Woodchips are mainly produced in manufacturing industry, often as a waste product in sawmills etc., but a certain amount of production takes place in forestry in conjunction with timber felling. The benchmark was set in 1993 in the reconciliation in the supply/use tables. The trend follows corresponding products in the relevant industry.

#### *Firewood, product group A0200004*

The output value for firewood includes both output for sale to the market and output for own use. The source for the calculation of output is annual Energy statistics for one and two-dwelling buildings from the Swedish Energy Agency, which has information on quantities used. The price per unit of wood is the purchase price per cubic metres for birch pulpwood from Swedish Forestry Data Centre/Swedish Forest Agency.

*Wild berries, product group A023*

Wild berries and mushrooms were benchmarked in 2007. Annual growth is calculated by help of population changes and prices of fruits and vegetables. Values are confronted with annual changes in relevant consumption products.

**Table 3.7.2.2 – NACE A02 – Excerpt from Process Tables - Output, IC and GVA, SEK million, 2011**

			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		2 749	963	1 786
	Administrative Records		67		
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M	40 947	5 926	35 021
		Total Extrapol+Models			
	Other				
	Total (sources)		43 763	6 889	36 807
Adjustments	Data validation		-24		-24
	Conceptual	Allocation of FISIM		933	-933
		Other conceptual	140	-24	164
		Total conceptual	140	909	-769
	Exhaustiveness	N1			0
		N2			0
		N3			0
		N4			0
		N5			0
		N6	2 301		2 301
		N7	0		0
		Total exhaustiveness	2 301		2 301
	Balancing			65	-65
	Total (adjustments)		2 417	974	1 443
	Final estimate		46 180	7 863	38 317

*Surveys and censuses* refer to data of Forest drainage, product group A02102A

*Administrative records* refer to car benefits, see section 3.2 for details.

*Extrapolation and models* refer to net growth or variation in timber felling in forest land in Sweden, product group A02101 and also calculation of the values of actual gross felling per cubic meter of Pulpwood and sawlogs, product group A022A/A022B felled and delivered to motor roads and forest management for energy product group A02109A, sold firewood, product group A0220004, woodchips, product group C161 and sold wild berries product group A023. All these items have more or less direct data connected to the involved subject and are together with external information incorporated in different models that gives estimates of the production.

A kind of Other Extrapolations and Models made for the intermediate consumption is based on the annual accounts provided by region for wood production in forestry from the Swedish Forest Agency.

The Swedish Forest Agency gives the frame value and total growth for all the intermediate consumption for logged wood and woodchips. The data originate from Regional accounts figures for wood production in forestry 2011 where output (timber production, fixed capital information) intermediate consumption and value added are summarized.

Table 3.7.2.3 separates the intermediate consumption in derived and direct values. The accounted value from the Swedish Forest Agency helps to calculate a total value for all the intermediate

consumption (derived and direct values) used in forestry. The intermediate consumption within division A02 are derived values and received residually, with exception of the intermediate consumption of FISIM, fuels, forest drainage, building constructions and electricity that are calculated separately.

### *Intermediate consumption*

**Table 3.7.2.3 Direct and derived values– Intermediate consumption, SEK million 2011**

<b>Product group</b>	<b>Description</b>	<b>SEK million</b>	<b>Share</b>
<b>Direct values</b>			
A02102A	Forest drainage	963	12.2
C192000B-C1920012	Fuels	1850	23.6
D351	Electricity	142	1.8
F41-43	Construction	355	4.5
FISIM	FISIM	933	11.9
Sum		4243	54.0
<b>Derived values</b>			
A0119-A024	Agriculture and forestry products	533	6.8
C14	Clothes	27	0.3
C161-C181	Wood, paper and printing services	238	3.0
C1920012-C243	Other fuels, chemicals and metal products	245	3.1
C254-C331A	Industrial products	1308	16.6
E381A-E39	Materials recovery and waste management	67	0.9
G45A-G4C	Wholesale and retail trade services	158	2.0
H4932-H53	Transportation and storage services	102	1.3
I1551-I56A	Accommodation and food services	32	0.4
J581-J631	Information and communication services	166	2.1
K64B-K66	Financial and insurance services	83	1.1
M692-M712	Legal, accounting and engineering services	406	5.2
N7711-N82	Administrative and support services	106	1.3
O84A-O84C	Public administration services	48	0.6
Q8621201-Q86B	Human health services	35	0.4
S941-S951	Other services	33	0.4
X9901	Swedish consumption abroad	33	0.4
Sum		3620	46.0
<b>Total</b>		<b>7863</b>	<b>100</b>

*Data validation* refers to data corrected in order to obtain consistency in the supply-and use tables.

*Conceptual adjustments* refer to allocation of FISIM. See section 3.4 for details.

Other conceptual adjustments refer to software and research and development. See section 3.4 for details.

*Exhaustiveness.* This column refers to data miss-reported by the producer (N6) (pulp wood and saw timber underreported by the producer).

*Balancing* is the item used in the final consolidation process between the production approach and the expenditure approach. See section 6.1 for details.



### 3.7.3 NACE A 03, Fishing and aquaculture

#### Output

Table 3.7.3.1 describes the compilation method for output and is followed by descriptions of sources and adjustments.

**Table 3.7.3.1: NACE division A03 – Excerpt from Process Tables - Output, SEK million 2011**

			NACE Rev 2 Division A03		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		1 487		1 487
	Administrative Records		2		2
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations		932	-932
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		1 489	932	557
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		53	-53
		Other conceptual			
		Total conceptual		53	-53
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	334		334
		N7			
		Total exhaustiveness	334		334
	Balancing			8	-8
	Total (adjustments)		334	61	273
Final estimate			1 823	993	830

*Surveys and censuses* refer to three different sources; fishing in marine waters by commercial fishermen and fishing in inland waters by commercial fishermen provided by the Swedish Agency for Marine and Water Management, and aquaculture in Sweden by the Swedish Board of Agriculture. See table 3.7.3.2 for details.

**Table 3.7.3.2: NACE division A03 Excerpt from Process Tables – Output, Surveys and censuses, millions of SEK, 2011**

NACE Rev 2		Fishing in marine waters	Fishing in inland waters	Aquaculture	Total
Division					
A03	Fishing	998	85	404	1 487

Together, these sources give a full account of output in marine and inland waters as well as in aquaculture. The output is in accordance with the SBS but the fishing statistics contain more detailed information including landings and landing values.

*Administrative records* refer to car benefits, see section 3.2 for details.

*Exhaustiveness.* This column refers to data misreported by the producer (N6, output underreported by the producer. The value is a fixed share of output and is estimated in cooperation with The Swedish

Tax Agency and their reports on hidden income from work and wages & salaries in kind (N7). See sections 3.4 and 3.6 for details.

### *Intermediate consumption*

**Table 3.7.3.3 Direct and derived values– Intermediate consumption, SEK million 2011**

<b>Product group</b>	<b>Description</b>	<b>SEK million</b>	<b>Share</b>
<b>Direct values</b>			
C192000B-C1920012	Fuels	332	33.4
F41-43	Construction	5	0.5
FISIM	FISIM	53	5.3
Sum		390	39.3
<b>Derived values</b>			
B0893	Salt	10	1.0
C1013	Textile products	95	9.6
C161-C17123	Wood, paper etc	152	15.3
C1920012-C243	Other fuels, chemicals and metal products	36	3.6
C254-C331A	Industrial products	159	16.0
E381A-E39	Materials recovery and waste management	3	0.3
G45A-G4C	Wholesale and retail trade services	6	0.6
H4932-H53	Transportation and storage services	112	11.3
I1551-I56A	Accommodation and food services	3	0.3
J581-J631	Information and communication services	4	0.4
K64B-K66	Financial and insurance services	16	1.6
O84A-O84C	Public administration services	3	0.3
S941-S951	Other services	4	0.4
Sum		603	60.7
<b>Total</b>		<b>993</b>	<b>100</b>

*Extrapolations and Models.* The total intermediate consumption is estimated through extrapolation with the growth rate in intermediate consumption from the SBS. Additional necessary adjustments could be made if the growth rate in output from the fishing statistics clearly differs from the SBS.

*Conceptual adjustments* refer to allocation of FISIM. See section 3.4 for details.

*Balancing* is the item used in the final consolidation process between the production approach and the expenditure approach. See section 6.1 for details.

### 3.8 NACE B, Mining and quarrying

This section includes only one division in A\*64.

In Sweden there are, according to the business register, no enterprises classified in division B05 *Mining of coal and lignite* or B06 *Extraction of crude*.

**Table 3.8.1: NACE B - GVA compilation, SEK million and percentages 2011**

NACE Rev 2	Output	IC	GVA	Share of GVA in			
				total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
B05-09 Mining and quarrying	49 927	21 989	27 938	100,0	0,9	0,8	0,7
<b>B Mining and quarrying</b>	<b>49 927</b>	<b>21 989</b>	<b>27 938</b>	<b>100,0</b>	<b>0,9</b>	<b>0,8</b>	<b>0,7</b>

Section B represents 0.9 percentage of total GVA.

**Table 3.8.2: NACE B – Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
B05-09 Mining and quarrying	Output		49 729	0	0	198	0	49 927
	IC		21 899	0	0	90	0	21 989
	GVA		27 830	0	0	108	0	27 938
	%-GVA of B05-09		99,6	0,0	0,0	0,4	0,0	100,0
<b>B Mining and quarrying</b>	Output		49 729	0	0	198	0	49 927
	IC		21 899	0	0	90	0	21 989
	GVA		27 830	0	0	108	0	27 938
	%-GVA of B		99,6	0,0	0,0	0,4	0,0	100,0

The institutional sector S11, Non-financial corporations is dominant for this section.

**Table 3.8.3: NACE B – Excerpt from Process Tables - Output, IC and GVA, SEK million 2011.**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		49 226	2	49 224
	Administrative Records		14		14
	Combined Data		52	22 072	-22 020
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models	0	0	0
	Other				
	Total (sources)		49 292	22 074	27 218
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		103	-103
		Other conceptual	542	-367	909
		Total conceptual	542	-264	806
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	93		93
		N7			0
		Total exhaustiveness	93	0	93
	Balancing			179	-179
	Total (adjustments)		635	-85	720
	Final estimate		49 927	21 989	27 938

### 3.8.1 Output

Output calculations are carried out for the different activities of the mining and quarrying section although one of them, the activity B05-06, has no output. The three NACE-activities are:

B05\_06  
B07  
B08\_09

Estimates in row *Surveys & Censuses* in table 3.8.3 refer to the statistics Production of commodities and industrial services (Industrins varuproduktion, IVP). See table 3.8.4 for details.

Some of the data in IVP are deliveries. They have to be corrected with work in progress and finish products of own manufacture to show production. The source for changes in inventories is a special quarterly survey carried out for mining and manufacturing. See further in section 5.11.

**Table 3.8.4: NACE B – Output, Surveys & Censuses, SEK million 2011**

		Surveys & Censuses-----						
		Changes in inventories	Production of commodities and industrial services (IVP)-----				Total IVP	Total S&C
NACE Rev 2	Sektion		Goods	Contract processing	Other processing	Other activities		
B	Mining and quarrying	488	46 430	248	309	1 751	48 738	49 226

IVP reports net sales with a breakdown on different products.

The output values for industrial *enterprises with 0-19 employees* are calculated on the basis of the Tax Agency's standardized accounting statements (SRU). Total turnover on the basis of SRU is adjusted for gross trading activity. With the aid of industry-based coefficients for trading activity in larger activity units in accordance with the IVP, income and costs are calculated for trading activity. The trade margins are calculated and total output value is obtained as the sum of trade margins and other output. Other output is assumed in its entirety to be industrial production.

Industrial production covers production of commodities, repairs /maintenance for outside entities, contract processing for outside entities, assembly / installation at the premises of outside entities and other processing. Not all parts are represented in this section.

*Production of goods* is recorded in the IVP as values and quantities broken down by products in accordance with the Combined Nomenclature (CN). Products that are manufactured in another activity unit within the enterprise and are sold on without further processing are only recorded for the activity unit in which the products were manufactured. The valuation includes any profit margin for re-selling units.

*Contract processing for outside entities* covers remuneration received for processing and compensation for own materials if used.

*Other processing* covers all other processing, such as bleaching, dyeing, grinding, printing, gilding, etching, lacquering etc.

*Other activities:* The output value represents income from non-industrial activity. This is recorded in the statistics on various products in accordance with the Swedish Standard Classification of Products of Activity (Svensk produktindelning, SPIN). Income from trading activity, which is recorded gross in the statistics, is converted to net values by comparison with the data on purchase value of goods of outside manufacture which are sold without further processing (goods for resale).

The row *Administrative Records* in table 3.8.3 refers to wages & salaries in kind. This consists of car benefits. See further in section 3.2.

The row *Combined Data* in table 3.8.3 refers to data from Structural Business Survey (SBS). See table 3.8.5 for details.

**Table 3.8.5: NACE B – Output, Combined Data, SEK million 2011**

		Structural Business Statistics (SBS)--		
NACE Rev 2		Ancillary		
Sektion		activities	Rental	Total SBS
B	Mining and quarrying	15	37	52

*Ancillary activities:* Corporations associated with activities outside NACE B but which are calculated inside NACE B since their output is used exclusively of corporations inside NACE B.

*Rental:* Parts of other operating income included in output.

The row *Other conceptual* in table 3.8.3 refers to production for own final use of Software, R&D and Mineral exploration. See table 3.8.6 for details. They are treated as GFCF. See section 5.10.3.

**Table 3.8.6: NACE B – Output, Other conceptual, SEK million 2011**

		Production own final use-----			
NACE Rev 2		Software	R & D	Mineral exploration	
Sektion					Total
B	Mining and quarrying	8	183	351	542

*Exhaustiveness* in table 3.8.3 refers row N6 to under-reported gross output. See further in section 3.6.

### 3.8.2 Intermediate consumption

Estimates on row *Surveys & Censuses* in table 3.8.3 refer to the statistics Production of commodities and industrial services (Industrins varuproduktion, IVP), where internal deliveries are extracted and added as intermediate consumption as they are included in output but not in SBS. Internal deliveries are not included in SBS since it is KAUs which is examined there.

The row *Combined Data* in table 3.8.3 contains data from SBS.

For a detailed break-down of raw materials and consumables the survey Industrial consumption of purchased goods (Industrins förbrukning av inköpta varor, INFI) is used. INFI is an intermittent survey that every year measures the costs for a third of the industries on a detailed level.

The row *Other conceptual adjustments* in table 3.8.3 refer to insurance, software, financial leasing, research and development, other taxes on production and a correction on reimbursements. See table 3.8.7 and section 3.4 for details.

**Table 3.8.7: NACE B – Intermediate consumption, Other conceptual adjustments, millions of SEK, 2011**

NACE Rev 2 Sektion		Other conceptual adjustments-----						
		Insurance	Software	Financial leasing	R o D	Other tax. on prod.	Correction of SRU	Total
B	Mining and quarrying	-107	-36	-70	-25	-147	18	-367

*Correction of Standardized accounting statements (SRU):* Since year 2007 has a correction been made on other personnel costs (reimbursements) in SBS to properly distinguish the part of it which shall be included in intermediate consumption. For more information, see section 3.4.

The row *Balancing* in table 3.8.3 refers to the final consolidation process between production and expenditure sides. See section 6.1.

### 3.9 NACE C, Manufacturing

This section includes 19 divisions (A\*64) and represents 18.3 percent of total GVA.

**Table 3.9.1: NACE C, Output, IC and GVA, SEK million and percentages, 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
C10-12	Manufacture of food products, beverages and tobacco products	151 449	110 973	40 476	6,9	1,3	1,1	1,1
C13-15	Manufacture of textiles, wearing apparel and leather products	10 976	6 886	4 090	0,7	0,1	0,1	0,1
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	85 255	68 257	16 998	2,9	0,5	0,5	0,5
C17	Manufacture of paper and paper products	131 933	97 667	34 266	5,8	1,1	0,9	0,9
C18	Printing and reproduction of recorded media	23 833	15 608	8 225	1,4	0,3	0,2	0,2
C19	Manufacture of coke and refined petroleum products	113 759	105 454	8 305	1,4	0,3	0,2	0,2
C20-21	Chemical industry and manufacture of pharmaceutical products	160 396	79 815	80 581	13,7	2,5	2,2	2,1
C22	Manufacture of rubber and plastic products	43 956	28 521	15 435	2,6	0,5	0,4	0,4
C23	Manufacture of other non-metallic mineral products	43 643	28 467	15 176	2,6	0,5	0,4	0,4
C24	Manufacture of basic metals	156 604	130 128	26 476	4,5	0,8	0,7	0,7
C25	Manufacture of fabricated metal products, except machinery and equipment	124 351	77 108	47 243	8,0	1,5	1,3	1,3
C26	Manufacture of computer, electronic and optical products	144 429	66 926	77 503	13,2	2,4	2,1	2,1
C27	Manufacture of electrical equipment	63 344	40 682	22 662	3,9	0,7	0,6	0,6
C28	Manufacture of machinery and equipment n.e.c.	207 731	130 319	77 412	13,2	2,4	2,1	2,1
C29	Manufacture of motor vehicles, trailers and semi-trailers	250 277	187 596	62 681	10,7	1,9	1,7	1,7
C30	Manufacture of other transport equipment	37 554	18 633	18 921	3,2	0,6	0,5	0,5
C31-32	Manufacture of furniture; Other manufacturing	54 179	33 369	20 810	3,5	0,6	0,6	0,6
C33	Repair and installation of machinery and equipment	29 671	18 379	11 292	1,9	0,4	0,3	0,3
<b>C</b>	<b>Manufacturing</b>	<b>1 833 340</b>	<b>1 244 788</b>	<b>588 552</b>	<b>100,0</b>	<b>18,3</b>	<b>16,1</b>	<b>15,6</b>



**Table 3.9.2: NACE C – Output, IC and GVA by institutional sectors, SEK million and percentages, 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
C10-12	Manufacture of food products, beverages and tobacco products	Output	150 472	0	0	977	0	151 449
		IC	110 390	0	0	583	0	110 973
		GVA	40 082	0	0	394	0	40 476
		% GVA of C10-12	99,0	0,0	0,0	1,0	0,0	100,0
C13-15	Manufacture of textiles, wearing apparel and leather products	Output	10 188	0	0	788	0	10 976
		IC	6 456	0	0	430	0	6 886
		GVA	3 732	0	0	358	0	4 090
		% GVA of C13-15	91,2	0,0	0,0	8,8	0,0	100,0
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	Output	83 269	0	0	1 986	0	85 255
		IC	67 216	0	0	1 041	0	68 257
		GVA	16 053	0	0	945	0	16 998
		% GVA of C16	94,4	0,0	0,0	5,6	0,0	100,0
C17	Manufacture of paper and paper products	Output	131 923	0	0	10	0	131 933
		IC	97 659	0	0	8	0	97 667
		GVA	34 264	0	0	2	0	34 266
		% GVA of C17	100,0	0,0	0,0	0,0	0,0	100,0
C18	Printing and reproduction of recorded media	Output	23 455	0	0	378	0	23 833
		IC	15 401	0	0	207	0	15 608
		GVA	8 054	0	0	171	0	8 225
		% GVA of C18	97,9	0,0	0,0	2,1	0,0	100,0
C19	Manufacture of coke and refined petroleum products	Output	113 737	0	0	22	0	113 759
		IC	105 436	0	0	18	0	105 454
		GVA	8 301	0	0	4	0	8 305
		% GVA of C19	100,0	0,0	0,0	0,0	0,0	100,0
C20-21	Chemical industry and Manufacture of pharmaceutical products	Output	160 342	0	0	54	0	160 396
		IC	79 766	0	0	49	0	79 815
		GVA	80 576	0	0	5	0	80 581
		% GVA of C20-C21	100,0	0,0	0,0	0,0	0,0	100,0
C22	Manufacture of rubber and plastic products	Output	43 737	0	0	219	0	43 956
		IC	28 425	0	0	96	0	28 521
		GVA	15 312	0	0	123	0	15 435
		% GVA of C22	99,2	0,0	0,0	0,8	0,0	100,0
C23	Manufacture of other non-metallic mineral products	Output	43 334	0	0	309	0	43 643
		IC	28 263	0	0	204	0	28 467
		GVA	15 071	0	0	105	0	15 176
		% GVA of C23	99,3	0,0	0,0	0,7	0,0	100,0
C24	Manufacture of basic metals	Output	156 579	0	0	25	0	156 604
		IC	130 107	0	0	21	0	130 128
		GVA	26 472	0	0	4	0	26 476
		% GVA of C24	100,0	0,0	0,0	0,0	0,0	100,0
C25	Manufacture of fabricated metal products, except machinery and equipment	Output	121 822	0	0	2 529	0	124 351
		IC	75 943	0	0	1 165	0	77 108
		GVA	45 879	0	0	1 364	0	47 243
		% GVA of C25	97,1	0,0	0,0	2,9	0,0	100,0
C26	Manufacture of computer, electronic and optical products	Output	144 338	0	0	91	0	144 429
		IC	66 852	0	0	74	0	66 926
		GVA	77 486	0	0	17	0	77 503
		% GVA of C26	100,0	0,0	0,0	0,0	0,0	100,0
C27	Manufacture of electrical equipment	Output	63 267	0	0	77	0	63 344
		IC	40 635	0	0	47	0	40 682
		GVA	22 632	0	0	30	0	22 662
		% GVA of C27	99,9	0,0	0,0	0,1	0,0	100,0
C28	Manufacture of machinery and equipment n.e.c.	Output	207 248	0	0	483	0	207 731
		IC	130 088	0	0	231	0	130 319
		GVA	77 160	0	0	252	0	77 412
		% GVA of C28	99,7	0,0	0,0	0,3	0,0	100,0
C29	Manufacture of motor vehicles, trailers and semi-trailers	Output	250 117	0	0	160	0	250 277
		IC	187 455	0	0	141	0	187 596
		GVA	62 662	0	0	19	0	62 681
		% GVA of C29	100,0	0,0	0,0	0,0	0,0	100,0
C30	Manufacture of other transport equipment	Output	37 353	0	0	201	0	37 554
		IC	18 554	0	0	79	0	18 633
		GVA	18 799	0	0	122	0	18 921
		% GVA of C30	99,4	0,0	0,0	0,6	0,0	100,0
C31-32	Manufacture of furniture; Other manufacturing	Output	52 696	0	0	1 483	0	54 179
		IC	32 656	0	0	713	0	33 369
		GVA	20 040	0	0	770	0	20 810
		% GVA of C31-32	96,3	0,0	0,0	3,7	0,0	100,0
C33	Repair and installation of machinery and equipment	Output	28 152	0	0	1 519	0	29 671
		IC	17 559	0	0	820	0	18 379
		GVA	10 593	0	0	699	0	11 292
		% GVA of C33	93,8	0,0	0,0	6,2	0,0	100,0
C	Manufacturing	Output	1 822 029	0	0	11 311	0	1 833 340
		IC	1 238 861	0	0	5 927	0	1 244 788
		GVA	583 168	0	0	5 384	0	588 552
		% GVA of C	99,1	0,0	0,0	0,9	0,0	100,0



**Table 3.9.3: NACE C – Excerpt from Process Tables - Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		1 719 208	20 897	1 698 311
	<b>Administrative Records</b>		2 332		2 332
	<b>Combined Data</b>		54 408	1 254 152	-1 199 744
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>		11 969	-11 969
		<b>Commodity Flow Model</b>			
		<b>CFC(PIM)</b>			
		<b>Dwellings - stratification method</b>			
		<b>FISIM</b>			
		<b>Other E&amp;M</b>			
		<b>Total Extrap+Models</b>	0	11 969	-11 969
	<b>Other</b>				
	<b>Total (sources)</b>		<b>1 775 948</b>	<b>1 287 018</b>	<b>488 930</b>
<b>Adjustments</b>	<b>Data validation</b>		-656	-5 798	5 142
	<b>Conceptual</b>	<b>Allocation of FISIM</b>		3 974	-3 974
		<b>Other conceptual</b>	53 295	-50 543	103 838
		<b>Total conceptual</b>	<b>53 295</b>	<b>-46 569</b>	<b>99 864</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>	117		117
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>	4 636		4 636
		<b>N7</b>			
		<b>Total exhaustiveness</b>	<b>4 753</b>	<b>0</b>	<b>4 753</b>
	<b>Balancing</b>			10 137	-10 137
	<b>Total (adjustments)</b>		57 392	-42 230	99 622
<b>Final estimate</b>			<b>1 833 340</b>	<b>1 244 788</b>	<b>588 552</b>

### 3.9.1 Output

Output calculations are carried out for 35 different sub-industries of the manufacturing section. See chapter 9 for more information of these 35 activities.

Estimates in row *Surveys & Censuses* in table 3.9.3 refer to the Annual energy statistics for electricity, gas and district heating and the statistics Production of commodities and industrial services. See table 3.9.4 for details.

Some of the data in IVP are deliveries. They have to be corrected with work in progress and finish products of own manufacture to show production. The source for changes in inventories is a special quarterly survey carried out for mining and manufacturing.

**Table 3.9.4: NACE C – Output, Surveys & Censuses, SEK million 2011**

		Surveys & Censuses									Changes in inventories	Total Surveys & Censuses
NACE Rev 2		Annual energy statistics	Production of commodities and industrial services (IVP)									
Sektion			Goods	Repair / Maintenance	Contract processing	Assembly / Installation	Other processing	Other activities	Total IVP			
C	Manufacturing	2 009	1 390 602	34 649	15 913	10 037	83 866	173 929	1 708 996	8 203	1 719 208	

The part of the Annual energy statistics, which is included here, are energy produced by units in NACE 17 and used by the same units. The use is included in the intermediate consumption for NACE 17.

IVP reports net sales with a breakdown on different products.

The output values for industrial *enterprises with 0-19 employees* are calculated on the basis of the Tax Agency's standardized accounting statements (SRU). Total turnover on the basis of SRU is adjusted for gross trading activity. With the aid of industry-based coefficients for trading activity in larger activity units in accordance with the IVP, income and costs are calculated for trading activity. The trade margins are calculated and total output value is obtained as the sum of trade margins and other output. Other output is assumed in its entirety to be industrial production.

Industrial production covers production of commodities, repairs /maintenance for outside entities, contract processing for outside entities, assembly / installation at the premises of outside entities and other processing.

*Production of goods* is recorded in the IVP as values and quantities broken down by products in accordance with the Combined Nomenclature (CN). Products that are manufactured in another activity unit within the enterprise and are sold on without further processing are only recorded for the activity unit in which the products were manufactured. The valuation includes any profit margin for re-selling units.

*Repairs/maintenance for outside entities* covers remuneration for all such work, apart from that done on buildings, structures and motor vehicles. This is included in income from other activity.

*Contract processing for outside entities* covers remuneration received for processing and compensation for own materials if used.

*Assembly/installation for outside entities* represents remuneration for such work carried out by the establishment's own staff.

*Other processing* covers all other processing, such as bleaching, dyeing, grinding, printing, gilding, etching, lacquering etc.

*Other activities:* The output value represents income from non-industrial activities. This is recorded in the statistics on various products in accordance with the Swedish Standard Classification of Products of Activity (Svensk produktindelning, SPIN). Income from trading activities, which are recorded gross in the statistics, are converted to net values by comparison with the data on purchase value of goods of outside manufacturing which are sold without further processing (goods for resale).

The row *Administrative Records* in table 3.9.3 refers to wages & salaries in kind. This consists of car benefits. See further in section 3.2.

The row *Combined Data* in table 3.9.3 refers to data from Structural Business Survey (SBS). See table 3.9.5 for details.

**Table 3.9.5: NACE C – Output, Combined Data, SEK million 2011**

		Structural Business Statistics (SBS)-----					Total
NACE Rev 2		Ancillary					Combined
Sektion		activities	Licenses	Rental	Commissions	Total SBS	Data
C	Manufacturing	25 083	655	1 506	27 164	54 408	54 408

*Ancillary activities:* Corporations associated with activities outside NACE C but which are calculated inside NACE C since their output is used exclusively of corporations inside NACE C.

*Licenses, Rental, Commissions:* Parts of other operating income included in output.

The row *Data Validation* in table 3.9.3 refers to some corrections of source data. The biggest part consists of a correction for double counted production due to that a company has invoiced sales also for their subsidiaries.

The row *Other conceptual* in table 3.9.3 refers to production for own final use of Software and R&D. See table 3.9.6 for details. They are treated as GFCF. See section 5.10.3.

**Table 3.9.6: NACE C – Output, Other conceptual, SEK million 2011**

NACE Rev 2		Production own final use-----		
Sektion		Software	R & D	Total
C	Manufacturing	3 700	49 595	53 295

In section *Exhaustiveness* in table 3.9.3 refers row N2 to illegal activities (smuggling of liquor) and row N6 to under-reported gross output. See further in section 3.6.

### 3.9.2 Intermediate consumption

Estimates in row *Surveys & Censuses* in table 3.9.3 refer to the yearly energy statistics showing energy produced by units in NACE 17 and used by the same units and the statistics Production of commodities and industrial services (Industrins varuproduktion, IVP). See table 3.9.7 for details.

**Table 3.9.7: NACE C – Intermediate consumption, Surveys & Censuses, SEK million 2011**

		Annual	IVP	
NACE Rev 2		energy	Internal	Total Surveys
Sektion		statistics	deliveries	& Censuses
C	Manufacturing	2 009	18 888	20 897

The part of the Annual energy statistics, which is included here, are energy produced by units in NACE 17, Manufacture of paper and paper products and used by the same units. The production is included in the output for NACE 17.

From IVP internal deliveries are added as intermediate consumption as they are included in output but not in SBS.

The row *Combined Data* in table 3.9.3 contains data from SBS.

For the detailed break-down of raw materials and consumables the survey INFI (Industrins förbrukning av inköpta varor och tjänster) is used. INFI is an intermittent survey that every year measures the costs for a third of the industries on a detailed level.

The row *Benchmark extrapolations* in table 3.9.3 refer to an estimation of crude oil used of the refineries. The crude oil is not included in SBS but the products manufactured by the refineries are included in IVP.

The benchmark from year 2010 was collected in the INFI survey.

The benchmark has been extrapolated with the crude oil volume growth according to the survey Monthly fuel, gas and inventory statistics, and then reflat with a price index for domestic supply of crude oil.

The row *Data Validation* in table 3.9.3 refers to a correction made since year 2007 for activity 30, Manufacture of other transport equipment. In SBS there is an incorrect change in inventories which affects intermediate consumption. In SBS this error is corrected for from 2013 and onwards.

The row *Other conceptual adjustments* in table 3.9.3 refer to insurance, software, financial leasing, research and development, other taxes on production and a correction on reimbursements. See table 3.9.8 and section 3.4 for details.

**Table 3.9.8: NACE C – Intermediate consumption, other conceptual adjustments, SEK million 2011**

		Other conceptual adjustments-----						
NACE Rev 2		Insurance	Software	Financial leasing	R o D	Other tax. on prod.	Correction of SRU	Total
Sektion								
C	Manufacturing	2 363	11 416	1 843	844	36 214	-2 137	50 543

*Correction of Standardized accounting statements (SRU):* Since year 2007 a correction has been made on other personnel costs (reimbursements) in SBS to properly distinguish the part of it which shall be included in intermediate consumption. For more information, see section 3.4.

The row *Balancing* in table 3.9.3 refers to the final consolidation process between production and expenditure sides. See section 6.1.

### 3.10 NACE D, Electricity, gas, steam and air conditioning supply

In the Swedish national accounts NACE D consists of three sub-industries;

NACE 35.1 Electricity works

NACE 35.2 Gasworks and

NACE 35.3 Heat generating plants

#### GVA compilation and breakdown by institutional sectors

Table 3.10.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section D. The table also includes shares of the division in the gross value added of section D and in the total gross value added, GDP and GNI.

**Table 3.10.1: NACE D, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
D35	Electricity, gas, steam and air-conditioning supply	139 488	52 174	87 314	100,0	2,7	2,4	2,3
D	Electricity, gas, steam and air conditioning supply	139 488	52 174	87 314	100,0	2,7	2,4	2,3

Table 3.10.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division D35 are included as well.

**Table 3.10.2: NACE D, Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2		Institutional sectors						
			S11	S12	S13	S14	S15	Total
D35	Electricity, gas, steam and air-conditioning supply	Output	138 106	0	1 191	191	0	139 488
		IC	51 283	0	726	165	0	52 174
		GVA	86 823	0	465	26	0	87 314
		%-GVA of D35	99,4	0,0	0,5	0,0	0,0	100,0
D	Electricity, gas, steam and air conditioning supply	Output	138 106	0	1 191	191	0	139 488
		IC	51 283	0	726	165	0	52 174
		GVA	86 823	0	465	26	0	87 314
		%-GVA of D	99,4	0,0	0,5	0,0	0,0	100,0

### *Output and gross value added*

The output in NACE Section D is ascertained primarily through the annual general inquiry Electricity supply, district heating and supply of natural and gasworks gas by the Swedish Energy Agency and Statistics Sweden. The survey incorporates data from producers and distributors of electricity, natural and gasworks gas and district heating. In addition the annual inquiry “Energy use in manufacturing industry” provides data on the intermediate consumption of electricity, gas and district heating in the manufacturing industry. A number of sources are utilized and together they result in an exhaustive breakdown by other users. With these sources, deliveries of electricity, gas and district heating to final consumers are ascertained.

Furthermore, secondary output consists of construction works and of consultancy services which significantly contribute to the total value of output. These data are collected from the SBS:

The data are obtained in terms of quantities or values and are also broken down by different consumer categories. The output value is obtained as the sum of deliveries to final consumers (including exports), minus imports. Information is also gathered from the summaries of accounts of local government activity and from the SBS.

**Table 3.10.3 Output is distributed according to the following product groups**

<b>Product group</b>		<b>SEK million</b>
D351	Electricity and power transmission	91 559
D353	Supply services for heating and cooling	28 322
D352	Manufactured gas and gas distribution	6 200
F41_43	Construction	5 133
E36_37	Water and waste services	1 795
E382	Treatment and disposal of waste	1 472
M701	Services of head offices	1 285
J611	Wired telecommunications services	825
M7112	Technical consulting	586
L682A	Other real estate letting	565
M74A	Translation, other services	547
M702	Management consulting services	338
J62AEG	Software produced on own account	258
J62B	Technical IT support	239
C16291	Wood fuels	115
M72EG	R&D produced on own account	104
N7710	Car benefits	90
M692	Business consultancy	55
<b>Total output</b>		<b>139 488</b>

***Intermediate consumption***

The total estimate of intermediate consumption in NACE D is obtained residually as the difference between output from the annual energy statistics and value added from the SBS. The intermediate consumption of fuels is based on data from the same source as output, the annual energy statistics. In order to calculate costs of repairs and maintenance of buildings and consumption of other services, use is made of data from the SBS.

**Table 3.10.4: NACE D – Excerpt from Process Tables Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			NACE Rev 2 Section D		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		31 307	726	
	Administrative Records		90		90
	Combined Data		14 804	1 242	79 959
	Extrapolation and Models	Benchmark extrapolations	94 506	3 580	401
		Commodity Flow Model CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models	94 506	3 580	401
	Other			54 709	
	Total (sources)		140 707	60 257	80 450
Adjustments	Data validation		-1 581	2 300	-3 881
	Conceptual	Allocation of FISIM		837	-837
		Other conceptual	362	-11 644	12 006
		Total conceptual	362	-10 807	11 169
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6			
		N7			
		Total exhaustiveness			
	Balancing			424	-424
	Total (adjustments)		-1 219	-8 083	6 864
	Final estimate		139 488	52 174	87 314

*Surveys and censuses* refer to the annual survey Electricity supply, district heating and supply of natural and gasworks gas. The survey contains the value of production and deliveries of district heating to final consumers, which is used to estimate output in NACE 35.3. The Annual accounts for municipalities and county councils provide information of output and intermediate consumption in local government activities. IVP gives a small addition of production of goods.

*Administrative records* refer to car benefits, see section 3.2 for details.

*Combined data* refer to the SBS. The output of the most products, except electricity, gas and heat, is based on the SBS. In order to assign the output of electricity and district heating to specific industries, i.e. NACE 35.1 Electricity works and NACE 35.3 Heat generating plants information from the SBS is used. More specifically, the relative shares of output according to the SBS are used to determine the amount of production to assign to each industry.

*Benchmark extrapolations.* The annual surveys Electricity supply, district heating and supply of natural and gasworks gas and Energy are used to estimate output in NACE 35.1. These sources contain detailed information on the supply and use per industry of electricity in terms of quantities. The volume indices of electricity per industry are used to extrapolate the basic prices of the previous year. Current prices are obtained by reflating the constant prices with price indices for domestic supply.

Benchmark extrapolations refer also to an addition for gas. The Swedish monopoly on natural gas trade was abolished between the years of 2005 and 2007. Since then, the annual energy statistics have experienced difficulties with the statistical population and to separate revenues and costs from the distribution and from the trade of gas. The domestic supply of natural gas in Sweden consists exclusively of imported natural gas. Therefore, the output and intermediate consumption in NACE 35.2, which are benchmarked in the year 2005 based on the annual survey Electricity supply, district

heating and supply of natural and gasworks gas is extrapolated with data from the foreign trade statistics.

*Other sources* refer to the intermediate consumption in NACE 35.1 and 35.3 which are estimated residually as the difference between output from the annual energy statistics and value added from the SBS.

*Data validation* refers to corrected implausible data. Two competing data sources of supply and use were confronted and validated. The intermediate consumption was corrected in order to obtain consistency with the SBS.

*Conceptual adjustments* refer to allocation of FISIM and other conceptual adjustments such as insurance, software, financial leasing, research and development other taxes on production and a correction of Standardized accounting statements (SRU) concerning reimbursements. Corrections of SRU have been made on other personnel costs in the SBS since year 2007 to properly distinguish the part which shall be included in intermediate consumption. For more information, see section 3.4 and 3.6.

*Balancing* is the item used in the final consolidation process between the production approach and the expenditure approach. For more information, see section 6.1.

### 3.11 NACE E Water supply; sewerage, waste management and remediation

In the Swedish national accounts NACE E consists of two sub-industries

NACE 36-37 Water collection, treatment, supply and Sewerage

NACE 38-39 Waste management and remediation.

In Sweden, waterworks are extensively integrated with sewerage functions. It is therefore very difficult to obtain data for waterworks separately in respect of several aspects, e.g. income, costs and employment. The industry thus covers both water supply and sewage disposal.

#### GVA compilation and breakdown by institutional sectors

Table 3.11.1 provides values for output, intermediate consumption and value added by NACE divisions (A\*64) within section E. The table also includes shares of individual divisions in the gross value added of section E and in the total gross value added, GDP and GNI.

**Table 3.11.1: NACE E, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2	Output	IC	GVA	Share of GVA in			
				total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
E36_37 Water collection, treatment and supply	15 862	8 564	7 298	35,6	0,2	0,2	0,2
E38_39 Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services	42 718	29 500	13 218	64,4	0,4	0,4	0,4
<b>E Water supply; sewerage, waste management and remediation activities</b>	<b>58 580</b>	<b>38 064</b>	<b>20 516</b>	<b>100,0</b>	<b>0,6</b>	<b>0,6</b>	<b>0,5</b>



Table 3.11.2 gives the breakdown of output, intermediate consumption and value added by NACE divisions (A\*64) and institutional sectors and the shares of the individual sectors in the total value added of the individual divisions.

**Table 3.11.2: NACE E – Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors						
			S11	S12	S13	S14	S15	Total	
E36_37	Water collection, treatment and supply	Output	6 564	0	9 285	13	0	15 862	
		IC	3 479	0	5 072	13	0	8 564	
		GVA	3 085	0	4 213	0	0	7 298	
		%-GVA of E36_37	42,3	0,0	57,7	0,0	0,0	100,0	
E38_39	Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services	Output	37 115	0	5 453	150	0	42 718	
		IC	25 256	0	4 244	0	0	29 500	
		GVA	11 859	0	1 209	150	0	13 218	
		%-GVA of E38_39	89,7	0,0	9,1	1,1	0,0	100,0	
E	Water supply; sewerage, waste management and remediation activities	Output	43 679	0	14 738	163	0	58 580	
		IC	28 735	0	9 316	13	0	38 064	
		GVA	14 944	0	5 422	150	0	20 516	
		%-GVA of E	72,8	0,0	26,4	0,7	0,0	100,0	

### *Output, intermediate consumption and gross value added*

Data on output and intermediate consumption are obtained from the SBS and from the Accounts of local government activities. Primary output consists of waste management, water supply and sewerage and secondary production includes district heating and electricity. The output value attributable institutionally to the local government sector is calculated in the summaries of accounts for local government activity and added to the output value from the SBS.

The production value of NACE E 36\_37 E 38\_39 is distributed on the following product groups:

Product group		SEK million
E36_37	Water and sewerage services	15 183
F41_43	Construction activities	296
D353	Steam and air conditioning supply services	177
E382	Services treatment and disposal services	171
J62AEG	Software produced on own account	13
M712	Technical testing and analysis services	12
L682A	Other real estate letting	7
N7710	Car benefits	3
<b>Total output</b>		<b>15 862</b>

The production value of NACE E 38\_39 is distributed on the following product groups

ProductGrupp		SEK million
E38320A	Metal materials recovery services	12 384
E381A	Waste collection services	14 881
E382	Services treatment and disposal services	7 804
E38320B	Non-metal materials recovery services	2 914
E3831	Dismantling services of wrecks	1 250
D353	Steam and air conditioning supply services	951
E36_37	Water and sewerage services	942
E39	Remediation and other waste services	761
D351	Electricity, transmission and power transmission	313
G4D	Trade margins	204
L682A	Other real estate letting	130
D352	Manufactured gas and distribution	58
N7710	Car benefits	46
M701	Services of head offices	41
J62AEG	Software produced on own account	21
M712	Technical testing and analysis services	8
M72EG	R&D produced on own account	5
L682A	Other real estate letting	4
M72EG	R&D produced on own account	1
<b>Total output</b>		<b>42 718</b>

**Table 3.11.3: NACE E – Excerpt from Process Tables, Output, IC and GVA, SEK million, 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments

			NACE Rev 2 Section E		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		14 737	9 316	5 421
	Administrative Records		49		49
	Combined Data		45 985	32 031	13 954
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		60 771	41 347	19 424
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		108	-108
		Other conceptual	-2 191	-2 550	359
		Total conceptual	-2 191	-2 442	251
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6		-1 152	1 152
		N7			
		Total exhaustiveness		-1 152	1 152
	Balancing			311	-311
	Total (adjustments)		-2 191	-3 283	1 092
	Final estimate		58 580	38 064	20 516

*Surveys and censuses* refer to the Annual accounts for municipalities and county councils.

*Administrative records* refer to car benefits, see section 3.2 for details.

*Combined data* refer to the SBS.

*Conceptual adjustments* consist mainly of an adjustment made with respect to a privately-owned company responsible for the recycling of metal cans and PET-bottles in Sweden. The revenues, which are included in the SBS, consist largely of fees that are paid back when cans and bottles are returned and should therefore not be included in the national accounts.

Conceptual adjustments refer also to the allocation of FISIM and other conceptual adjustments such as capitalized production costs, insurance, software, financial leasing, research and development other taxes on production and a correction of Standardized accounting statements (SRU) concerning reimbursements. Corrections of SRU have been made on other personnel costs in the SBS since year 2007 to properly distinguish the part which shall be included in intermediate consumption. For more information, see section 3.4 and 3.6.

N6 refers to intermediate consumption over-reported by the producer in order to reduce value added tax. The value is extrapolated by the annual change in intermediate consumption in NACE division 38-39 according to the SBS. See section 3.6 for details.

*Balancing* is the item used in the final consolidation process between the production approach and the expenditure approach. For more information, see section 6.1.

## 3.12. NACE F, Construction

### 3.12.1 Introduction

Construction activities are defined as the erection, alteration and repair of accommodation buildings and other structures, including demolition and foundation works, installations and miscellaneous ancillary activities. The output of the industry comprises both activities carried out by actual construction and building trade enterprises and construction on own account by central and local government, self-builders etc. In order to be classified as a construction activity, construction on own account must either constitute new production or, as regards repair and maintenance work, be carried out by separate establishments or similar units. This means that much of the repair and maintenance work carried out by own staff must be treated as intermediate consumption of materials and not of building production services.

**Table 3.12.1: NACE F, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2	Output	IC	GVA	Share of GVA in			
				total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
F41_43 Construction	394 863	209 042	185 821	100,0	5,8	5,1	4,9
<b>F Construction</b>	<b>394 863</b>	<b>209 042</b>	<b>185 821</b>	<b>100,0</b>	<b>5,8</b>	<b>5,1</b>	<b>4,9</b>

**Table 3.12.2: NACE F, Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2		Institutional sectors						
		S11	S12	S13	S14	S15	Total	
F41_43	Construction	Output	355 149	0	3 682	36 032	0	394 863
		IC	193 387	0	3 129	12 526	0	209 042
		GVA	161 762	0	553	23 506	0	185 821
		%-GVA of F41_43	87,1	0,0	0,3	12,6	0,0	100,0
F	Construction	Output	355 149	0	3 682	36 032	0	394 863
		IC	193 387	0	3 129	12 526	0	209 042
		GVA	161 762	0	553	23 506	0	185 821
		%-GVA of F	87,1	0,0	0,3	12,6	0,0	100,0

### 3.12.2 Type of sources and adjustments

Statistical information in the area is collected in the Structural Business Statistics. However, because of the complexity of this industry, including a lot of production units from different enterprises, contracted in several stages and engaged in joint ventures, this source has not yet been found to be of an overall sustainable quality. Therefore, the approach described in the following is used, where the SBS is used partly.

Output is mainly based on compilations of investments and repairs see section 3.12.3.1 below. However, complete calculations for output as well as for intermediate consumption are done from SBS data and the model based approach from the expenditure side for validation purposes.

**Table 3.12.3: NACE F Excerpt from Process Tables, Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		2 214	3 129	-915
	Administrative Records		979		979
	Combined Data		10 066		10 066
	Extrapolation and Models	Benchmark extrapolations	2 763		2 763
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M		203 084	-203 084
		Total Extrap+Models	2 763		2 763
Other		350 409		350 409	
	Total (sources)	366 431	206 213	160 218	
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		2 676	-2 676
		Other conceptual	3 996	-6 908	10 904
		Total conceptual	3 996	-4 232	8 228
	Exhaustiveness	N1			
		N2			
		N3		1 442	-1 442
		N4			
		N5			
		N6	24 436	3 921	20 515
		N7			
			Total exhaustiveness	24 436	5 363
Balancing			1 698	-1 698	
	Total (adjustments)	28 432	2 829	25 603	
Final estimate		394 863	209 042	185 821	

*Surveys and censuses* refer to industry statistics.

*Administrative records* refer to benefits in kind.

Other E&M refer to own production of sand, gravel, rock and clay and security services.

*Conceptual adjustments* for output refer to, own account software, R&D and public sector own account building production. For IC the adjustments refer to software, financial leasing, insurance, bought R&D, standardized accounting statement, FISIM and other taxes on production.

*Exhaustiveness* N6 refer to estimates for hidden activities. N3 is an addition to IC for the GFCF made in owner occupied dwellings produced on own account.

Data about subcontracting activities is collected in SBS. However, one of the reasons that the SBS is not entirely used to calculate the construction industry is that data on subcontracting has not yet been found to be of sustainable quality. Nevertheless, the mismatch between revenue and expenditure of subcontractors indicates missing revenue for subcontractors. Therefore, the indication of missing revenue is an indicator in the assessment basis of the hidden activities N6 in the construction industry.

### 3.12.3 Methods

#### 3.12.3.1 Construction, Product group F41\_43

The total output value is obtained as the sum of all investments and expenditures for purchased repair and maintenance services in respect of buildings and structures.

The output value of the construction industry is obtained by deducting building production produced within other industries from the total output value obtained as above. This refer to basis for NA figures - Other.

The main sources for investments are the SBS and the special compilations of dwellings. The SBS data is collected from company book-keeping and they have certain rule to follow, called successive profit reduction which means that the degree of completion in each period is invoiced to the client.

For dwellings the construction cost are distributed over quarters using a construction cost profile, based on data supplied at the beginning and at the end of the project showing the cost incurred each quarter. The investment calculations are described in more detail in section 5.10 on acquisition less disposals of fixed assets.

Repairs to buildings and structures are calculated for all sectors and industries in which they occur. The statistical material is almost entirely calculated from the SBS. Repair estimates are explicitly available for agriculture and for permanent dwellings. The statistical material for departments and agencies of government also contains data on building repairs. Building repairs in agriculture are calculated by the Swedish Board of Agriculture. Housing repairs in multiple-occupancy buildings are compiled be the help of an annual SCB inquiry, the revenues and expenditure survey for multi-dwellings (IKU). Repairs for one and two family houses are compiled based on an annual SCB sample survey Household finances (HEK). In the HEK survey the respondents (households) are asked separate questions about their maintenance and repairs and their reconstructions and extensions of the dwellings. The statistics are based on interview responses and the respondent get information and instructions what should be accounted for as repairs and what should be accounted for as reconstructions and extensions.

#### 3.12.3.2 Other major and special product groups

The trade margin (G4D), other real estate letting (L682A) and architectural and technical consultancy (M7112) all use data from the SBS while concrete, cement and plaster products (C236), repairs of machinery and equipment (C331A), Installation of industrial machinery, equipment (C332) use data from the industrial goods production statistics (IVP). One part of sand, gravel, rock and clay (B0812), use data from the industrial goods production statistics (IVP). The other part of sand, gravel, rock and clay (B0812) is for own use and is extrapolated from a benchmark-year data which also applies for security service (N80). For car benefits (N7710) see section 3.2 and for Software and R&D produced on own account (J62AEG, M72EG) see section 5.10.3. Construction carried out abroad for a period less than one year is recorded as domestic output. SBS include questions about construction output made abroad by general contractors as well as subcontractors. However, the source for exports of

construction is the foreign trade statistic in services. For sources and calculation methods on construction services abroad (M711A) see section 5.14. For an exhaustive account of all product groups in the construction industry, see table 3.12.4.

**Table 3.12.4: NACE F, Output values for product groups in the construction industry, SEK million 2011**

Product group		SEK Million
F41_43	Construction	350 409
F41_43	Construction (hidden activities)	24 436
M711A	Construction services abroad	5 803
B0812	Gravel, rock and clay	4 624
F41_43	Construction (public sector)	3 682
N7710	Car benefits	979
L682A	Real estate letting	845
C332	Installation of industrial machinery and equipment	844
M7112	Architectural and technical consultancy	782
G4D	Trade margin	561
F41_43	Construction (industry statistics)	294
C236	Concrete, cement and plaster products	245
N80	Security services	242
M72EG	R&D produced on own account	162
J62AEG	Software produced on own account	152
C331A	Repairs of machinery and equipment	105
C3314	Repair services of electrical equipment	104
C3311	Repair services of fabricated metal products	97
C2712	Electricity distribution and control apparatus	75
C239	Abrasive, other non-metallic mineral products	73
C251	Structural metal products	72
C2319	Other glass, including technical glassware	68
C1920016	Petro coke, bitumen (asphalt)	58
C203	Paints, varnishes, printing inks etc	54
C259	Other metal products	31
C252	Tanks, reservoirs and containers of metal	28
C2899	Other general purpose machinery	25
C2892	Mining, quarrying and construction equipment	10
C273	Cables and cable accessories	3
<b>Total output</b>		<b>394 863</b>

### 3.12.3.3 Intermediate consumption

Intermediate consumption in the construction industry is partly based on the SBS.

First, intermediate consumption from the SBS is configured with the conceptual adjustments, exhaustiveness adjustments as well as with the survey and censuses data that refer to the public sector. Thereafter an input coefficient is calculated as the ratio between SBS IC and SBS output.

Second, this input coefficient is applied on the output value of the construction industry calculated as above. This refers to basis for NA figures - Other E&M.

Conceptual adjustments refer to software, financial leasing, insurance, bought R&D, standardized accounting statement, FISIM, and other taxes on production. The exhaustiveness adjustment N6 refer to hidden activities and N3 refer to the intermediate consumption for the GFCF produced on own account. Further reading about the conceptual adjustment and the exhaustiveness can be done in section 3.4 and 3.6. Balancing is the item used in the final consolidation process between the production and expenditure sides.

Information on some large projects characteristic to the industry has been validated against the calculations for intermediate consumption. Information has been supplied in meetings with the Swedish Construction Federation (Sveriges Byggindustrier).

### 3.12.3.4 Value added

Value added is obtained as the difference between output value and intermediate consumption value.

## 3.13 NACE G, Wholesale and retail trade; repair of motor vehicles and motorcycles

In the Swedish NA the NACE G is divided into three sub-divisions

NACE G45 Wholesale and retail trade and repair of motor vehicles and motorcycles

NACE G46 Wholesale trade, except of motor vehicles and motorcycles

NACE G47 Retail trade, except of motor vehicles and motorcycles

Table 3.13.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section G. The table also includes shares of the division in the gross value added of section G and in the total gross value added, GDP and GNI.

**Table 3.13.1: NACE G – GVA compilation, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
G45	Wholesale and retail trade and repair of motor vehicles and motorcycles	81 701	31 240	50 461	14,4	1,6	1,4	1,3
G46	Wholesale trade, except of motor vehicles and motorcycles	300 730	116 204	184 526	52,7	5,7	5,0	4,9
G47	Retail trade, except of motor vehicles and motorcycles	184 579	69 560	115 019	32,9	3,6	3,1	3,0
<b>G</b>	<b>Wholesale and retail trade; repair of motor vehicles and motorcycles</b>	<b>567 010</b>	<b>217 004</b>	<b>350 006</b>	<b>100,0</b>	<b>10,9</b>	<b>9,6</b>	<b>9,3</b>

Table 3.13.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual NACE G divisions are included as well.

**Table 3.13.2: NACE G – Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
G45	Wholesale and retail trade and repair of motor vehicles and motorcycles	Output	74 343	0	0	7 358	0	81 701
		IC	28 946	0	0	2 294	0	31 240
		GVA	45 397	0	0	5 064	0	50 461
		%-GVA of G45	90,0	0,0	0,0	10,0	0,0	100,0
G46	Wholesale trade, except of motor vehicles and motorcycles	Output	297 572	0	0	3 158	0	300 730
		IC	114 695	0	0	1 509	0	116 204
		GVA	182 877	0	0	1 649	0	184 526
		%-GVA of G46	99,1	0,0	0,0	0,9	0,0	100,0
G47	Retail trade, except of motor vehicles and motorcycles	Output	175 629	0	438	8 512	0	184 579
		IC	66 285	0	689	2 586	0	69 560
		GVA	109 344	0	-251	5 926	0	115 019
		%-GVA of G47	95,1	0,0	-0,2	5,2	0,0	100,0
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	Output	547 544	0	438	19 028	0	567 010
		IC	209 926	0	689	6 389	0	217 004
		GVA	337 618	0	-251	12 639	0	350 006
		%-GVA of G	96,5	0,0	-0,1	3,6	0,0	100,0

**Table 3.13.3 NACE G – Excerpt from the Process Tables of Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			G45-47		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		437	95	342
	Administrative Records		3 559	0	3 559
	Combined Data		158 030	278 197	-120 167
	Extrapolation and Models	Benchmark extrapolations	177 361	0	177 361
		Commodity Flow Model	212 365		212 365
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models	389 726	0	389 726
	Other				
	Total (sources)		551 752	278 292	273 460
Adjustments	Data validation		3 676	-55 014	58 690
	Conceptual	Allocation of FISIM	0	3 653	-3 653
		Other conceptual	2 842	-11 680	14 522
		Total conceptual	2 842	-8 027	10 869
	Exhaustiveness	N1			
		N2	2 872		2 872
		N3			
		N4			
		N5			
		N6	5 868		5 868
		N7	0		0
		Total exhaustiveness	8 740	0	8 740
	Balancing		0	1 753	-1 753
	Total (adjustments)		15 258	-61 288	76 546
Final estimate			567 010	217 004	350 006



In the Swedish NA the trade industry (NACE G) is divided into three sub-divisions. Detailed tables for each of these NACE divisions (G45, G46 and G47) with an accompanied description of sources, compilation methods and adjustments for each division are outlined below. For all three divisions, these notes are in common:

*Surveys and censuses* refer to the Annual accounts of local government (see more details in section 10.3).

*Administrative records* refer to benefits in kind (described in section 3.4)

*Combined data* refer to SBS (see more details in section 10.2).

*Conceptual adjustments* refer to software, financial leasing, insurance, a correction of Standardized accounting statements (SRU) concerning reimbursements and FISIM (described in section 3.4).

*Balancing* is the item used in the final consolidation process between production and expenditure sides (described in section 6.1).

### NACE G45 Wholesale and retail trade and repair of motor vehicles and motorcycles

**Table 3.13.4 NACE G45 – Excerpt from the Process Tables of output, intermediate consumption and gross value added for NACE G45, 2011, SEK million**

			G45		
			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>				
	<b>Administrative Records</b>		519		519
	<b>Combined Data</b>		45 015	36 994	8 021
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	30 307		30 307
		<b>Commodity Flow Model</b>			
		<b>CFC(PIM)</b>			
		<b>Dwellings - stratification method</b>			
		<b>FISIM</b>			
		<b>Other E&amp;M</b>			
		<b>Total Extrap+Models</b>	30 307	0	30 307
	<b>Other</b>				
	<b>Total (sources)</b>		75 841	36 994	38 847
<b>Adjustments</b>	<b>Data validation</b>		-122	-4 373	4 251
	<b>Conceptual</b>	<b>Allocation of FISIM</b>		707	-707
		<b>Other conceptual</b>	114	-2 342	2 456
		<b>Total conceptual</b>	114	-1 635	1 749
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>			
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>	5 868		5 868
		<b>N7</b>			
		<b>Total exhaustiveness</b>	5 868	0	5 868
	<b>Balancing</b>			254	-254
	<b>Total (adjustments)</b>		5 860	-5 754	11 614
<b>Final estimate</b>			<b>81 701</b>	<b>31 240</b>	<b>50 461</b>

#### *Output*

*Combined data.* The output value is obtained from the SBS. The industry comprises enterprises whose main activity is the maintenance and repair of motor vehicles (G452) as well as enterprises with wholesale and resale of such goods (G45A).

*Benchmark extrapolation.* In G45A, the trade margin from the previous year is extrapolated with the information from SBS and accounted for here.

*Data validation*, Here are adjustments to correct problems spotted in data during the NA calculation processes recorded. They include changes in inventories and deductions of internal production in holding companies

*Exhaustiveness*, *N6* refer to additions to output are made for production misreported by the producer.

Product group		SEK million
G45A	Services of motor vehicles incl. MC	40 890
G4D	Trade margins	33 382
G4B	Tour operator services	2 208
N7711	Rental and leasing, cars and light motor vehicles	1 397
M701	Services of head offices	972
L682A	Other real estate letting	564
N7710	Car benefits	519
G4A	Merchanting	433
C2211	Rubber tyres and tubes; retreading of tyres	301
M702	Management consulting services	194
N7712	Rental and leasing services of trucks	189
H5221A	Other services incidental to land transportation	177
N774	Licensing services	172
J62AEG	Software produced on own account	138
N78	Employment services	72
D351	Electricity, transmission and distribution services	68
C1629A	Other products of wood, cork, straw and plaiting	9
C3315	Repair and maintenance services of ships and boats	9
I56A	Restaurant and other food services	7
<b>Total output</b>		<b>81 701</b>

### ***Intermediate consumption***

Intermediate consumption is obtained from the SBS. Balancing and consistency assessment are performed in the supply and use tables. As a result of the extrapolated trade margins the intermediate consumption from SBS is adjusted accordingly under the *Data validation* heading.

### ***Value added***

Value added is obtained as the difference between output value and intermediate consumption value.

**NACE G46 Wholesale trade, except of motor vehicles and motorcycles****Table 3.13.5 NACE G46 – Excerpt from the Process Tables of Output, IC and GVA, SEK million 2011**

			<b>G46</b>		
			<b>Output</b>	<b>IC</b>	<b>GVA</b>
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>				
	<b>Administrative Records</b>		2 572		2 572
	<b>Combined Data</b>		79 014	143 088	-64 074
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>			
		<b>Commodity Flow Model</b>	212 365		212 365
		<b>CFC(PIM)</b>			
		<b>Dwellings - stratification method</b>			
		<b>FISIM</b>			
		<b>Other E&amp;M</b>			
		<b>Total Extrap+Models</b>	<b>212 365</b>	<b>0</b>	<b>212 365</b>
	<b>Other</b>				
	<b>Total (sources)</b>		<b>293 951</b>	<b>143 088</b>	<b>150 863</b>
<b>Adjustments</b>	<b>Data validation</b>		5 163	-23 811	28 974
	<b>Conceptual</b>	<b>Allocation of FISIM</b>		1 728	-1 728
		<b>Other conceptual</b>	1 616	-5 735	7 351
		<b>Total conceptual</b>	<b>1 616</b>	<b>-4 007</b>	<b>5 623</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>			
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>			
		<b>N7</b>			
		<b>Total exhaustiveness</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Balancing</b>			934	-934
	<b>Total (adjustments)</b>		<b>6 779</b>	<b>-26 884</b>	<b>33 663</b>
<b>Final estimate</b>			<b>300 730</b>	<b>116 204</b>	<b>184 526</b>

**Output**

The output value in the wholesale industry is obtained from the SBS with adjustments to comply with the national accounts definitions in line with ESA 2010. Output is made up mainly of the trade margins which arise on the resale of goods in wholesale trade, i.e. the difference in value between the sales price and the cost of purchases of the goods sold. *CFM* refers to trade margins residually estimated in the SUT framework. The model used in the Swedish NA to calculate trade margins is the so-called *trade margins by product approach*. The total trade margin for all products is calculated annually in the national accounts supply and use tables. The trade margins are directly linked to the basic price value for each user category. For each type of use (i.e. household consumption, intermediate consumption, GFCF, exports), a trade margin is calculated separately for all product groups in the system.

Because uses are distributed over a large number of purposes (COICOP, COFOG) and industries, the trade margin is calculated on a very detailed level. From the linkage to each individual purchaser price value follows that the trade margin changes at the same rate as the basic price to which it is linked, if no other information on changes in margin rates is available. The total value of trade margins that results from the annual supply and use tables is the estimate of the output of wholesale and retail trade activities in the economy. This estimate is compared with the SBS estimate of trade margins. The trade margins in wholesale trade industry are compiled as the total trade margins according to this product approach minus trade margins produced in all the other industries according to SBS.

Adjustments to correct problems spotted in data during the NA calculation processes are accounted for under *Data validation*. These include additions for synthetic rubber, changes in inventories, imported

provisions, deductions for production abroad and provisions. The provision is adjusted because in 2006, after a thorough review, the SBS data was considered too high.

Product group		SEK million
G4D	Trade margins	212 365
G4A	Merchanting	29 442
G4B	Commissions, Swedish products	8 250
N774	Licensing services	7 631
M702	Management consulting services	4 681
M701	Services of head offices	4 017
M72	Scientific research and development services	3 736
L682A	Other real estate letting	3 611
J62B	IT technical support services	2 658
N7710	Car benefits	2 572
F41_43	Construction	2 346
C256	Treatment and coating services of metals	2 239
H494A	Freight transport services by road	1 794
N78	Employment services	1 627
C331A	Repair of machinery and of other equipment	1 554
M691	Legal services	1 531
S951	Repair of computers and communication	1 319
J62AEG	Software produced on own account	1 277
C3313	Repair of electronic and optical equipment	1 032
M72EG	R&D produced on own account	606
J62A	Computer programming services; IT design, development	569
C2017	Synthetic rubber in primary forms	526
J61A	Satellite and telecommunications services	515
C3314	Repair services of electrical equipment	502
C282A	Other general-purpose machinery n.e.c	480
C103	Processed and preserved fruit and vegetables	399
N773	Rental and leasing services of other machinery	366
C32501	Medical and dental instruments and supplies	292
M73A	Advertising and market research services	272
C2223	Builders' ware of plastic	271
C266	Irradiation, electro medical equipment	259
D351	Electricity and power transmission	255
J611	Wired telecommunications services	218
C259	Other fabricated metal products	208
C251	Structural metal products	126
C1623A	Builders' carpentry and joinery	114
C235	Cement, lime and plaster	109
N82	Office administrative services	104
	Other miscellaneous	857
<b>Total output</b>		<b>300 730</b>

### *Intermediate consumption*

Intermediate consumption is obtained as the difference between output value and value added. As a

result of the residually calculated trade margins the intermediate consumption from SBS is adjusted accordingly, to stay in line with value added, under the *Data validation* heading.

#### **Value added**

Value added is picked up from the SBS.

#### **NACE G47 Retail trade, except of motor vehicles and motorcycles**

**Table 3.13.6 NACE G47 – Excerpt from the Process Tables of Output, IC and GVA, SEK million 2011**

			<b>G47</b>		
			<b>Output</b>	<b>IC</b>	<b>GVA</b>
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		437	95	342
	<b>Administrative Records</b>		468		468
	<b>Combined Data</b>		34 001	98 115	-64 114
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	147 054		147 054
		<b>Commodity Flow Model</b>			
		<b>CFC(PIM)</b>			
		<b>Dwellings - stratification method</b>			
		<b>FISIM</b>			
		<b>Other E&amp;M</b>			
		<b>Total Extrap+Models</b>	<b>147 054</b>	<b>0</b>	<b>147 054</b>
	<b>Other</b>				
	<b>Total (sources)</b>		<b>181 960</b>	<b>98 210</b>	<b>83 750</b>
<b>Adjustments</b>	<b>Data validation</b>		-1 365	-26 830	25 465
	<b>Conceptual</b>	<b>Allocation of FISIM</b>		1 218	-1 218
		<b>Other conceptual</b>	1 112	-3 603	4 715
		<b>Total conceptual</b>	<b>1 112</b>	<b>-2 385</b>	<b>3 497</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>	2 872		2 872
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>			
		<b>N7</b>			
		<b>Total exhaustiveness</b>	<b>2 872</b>	<b>0</b>	<b>2 872</b>
	<b>Balancing</b>			565	-565
	<b>Total (adjustments)</b>		<b>2 619</b>	<b>-28 650</b>	<b>31 269</b>
<b>Final estimate</b>			<b>184 579</b>	<b>69 560</b>	<b>115 019</b>

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

#### **Output**

The output value in the retail industry is obtained from the business statistics with adjustments to comply with the national accounts definitions in line with ESA 2010. The trade margins previous year is extrapolated with the information from SBS and accounted for under *Benchmark extrapolation*. Output is made up mainly of the trade margins which arise on the sale of goods in retail trade. Adjustments to correct problems spotted in data during the NA calculation processes are accounted for under *Data validation*, which include adjustment for changes in inventories. A deduction for provisions is also made due the fact that in 2006, after a thorough review, the SBS data was considered too high. In the data validation item is also included an adjustment for transportation support activities. Enterprises in retail trade industry who receive payments for transportation other than with own vehicles are normally not engaged in transport support activities.

*Exhaustiveness* refers to estimates for hidden activities like illegal output (N2) and misreporting by the producer (N6).

Product group		SEK million
G4D	Trade margins	150 171
N774	Licensing services	7 597
G4B	Commissions, Swedish products	4 644
J62B	IT technical support services	4 053
C1085	Prepared meals and dishes	2 241
I56A	Restaurant and other food services	2 169
M701	Services of head offices	2 123
H521	Warehousing and storage services	1 315
G45A	Services of motor vehicles incl. MC	1 285
Q86901	Medical lab	1 278
J62AEG	Software produced on own account	1 144
L682A	Other real estate letting	1 131
M702	Management consulting services	897
S952	Repair of personal and household goods	762
N7711	Rental and leasing, cars and light motor veh	648
C1091	Prepared animal feeds	631
Q86B	Other health and medical care	536
N7710	Car benefits	468
N7712	Rental and leasing services of trucks	319
N78	Employment services	214
M742	Photographic services	162
N79A	Travel agency services	152
J62A	Computer programming services; IT design, c	147
C251	Structural metal products	118
C107	Bakery and farinaceous products	116
	Other miscellaneous	258
<b>Total output</b>		<b>184 579</b>

### ***Intermediate consumption***

Intermediate consumption is obtained as the difference between output and value added. As a result of the extrapolated trade margins the intermediate consumption from SBS is adjusted accordingly under the *Data validation* heading. This item also includes an incorrect adjustment made for trade margins and rents in the governmental sector.

### ***Value added***

Value added is picked up from the SBS.

### ***Trade margins***

Compilations of trade margins require business surveys to collect sales value of products as well as replacement costs of products sold. This is difficult to achieve in practice because business report cost of goods sold based on the purchase price rather than the current replacement cost. The consequence of this is that holding gains and losses will be included in the measures of output. In the calculations of Swedish NA no explicit adjustment is made, because non-existing relevant data. On the other hand, products are not stored for long periods and inflation is not a problem today, so price changes can be considered an almost non-existing problem in this context.

There is a need in NA of information on trade margins by product and wholesale, retail and motor trade industry. This could improve the supply and use tables and thus the GDP estimates. To a large

extent, the basis for trade margins originate (with adjustments from year to year) from surveys and studies carried out in 1980s and 1990s. In 2007 Statistics Sweden did a pilot survey on trade margins. However, the results from the survey were not implemented because of several difficulties, some of them were the fact that the survey had low response rates and was not detailed enough on product level. The trade margins in the survey also lacked connection to actual users (i.e. household consumption, export and so on), which was a drawback<sup>2</sup>. There are currently no plans to release a new survey.

The supply and use framework and the model used to calculate trade margins assures that double counting is avoided when other industries have trade as a secondary activity. From the SBS is known the total output of trade margins per industry, but we do not know exactly the products concerned. All these trade margins are recorded on one product group in the system, G4D. From the use side trade margins are applied on products where there is a retail or wholesale trader link between producer and user/buyer, i.e. a specific trade margin per user per product. The sum of all calculated trade margins (by product) from the use side is compared with the sum of trade margins from supply side and the residual is recorded as the wholesale industry output of trade margins. The risk of double counting is thus avoided.

In the balancing process of the supply and demand estimates, trade margins are analysed and validated on a detailed product and industry level. Sources, models and assumptions behind every estimate is confronted to validate they are in line with each other.

Turnover statistics in retail trade industries are used when extrapolating HFCE for related COICOPs. The figures are compared and to some extent made consistent. These calculations are described more in detail in chapter 5.7.2.

Trade activities in local government are included in output of retail trade industry. The source is the Annual accounts of local governments. It consists of output that stems from commercial activities that the local governments direct or indirect provide citizens in the form of auctions and markets.

The initial household expenditure on repairs of motor vehicles for 1995 was calculated with the aid of the Swedish Consumer Agency's car repair survey of 1995. This survey covered about 12 000 vehicles. The car repairs are calculated with a model containing a breakdown by insurance repairs and repairs paid for directly by households. Repairs made on own account and by friends were also covered. Data on the number of insurance policies and claims settled were obtained from statistics of the Financial Supervisory Authority. Extrapolation is carried out using the production of repairs from the SBS. In the balancing process of supply and use the change of household consumption and output of repair of motor vehicles are validated against each other.

Trade margins that arise on illegal activities are recorded for liquor, beer, wine, tobacco and cigarettes and drugs. In the models for estimating the illegal activities in the Swedish NA the assumption that there is no intermediate consumption is made. For instance, when it comes to drugs as a product, the model assumes that there are only imports, trade margins and a minor production (total resources) which equals HFCE, which is also the total expenditures, but no intermediate consumption. For a more detailed description see Chapter 5, Section 5.7.3 and Chapter 7.

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<sup>2</sup> [http://www.scb.se/statistik/publikationer/NR9999\\_2010A01\\_BR\\_08\\_NRFT1002.pdf](http://www.scb.se/statistik/publikationer/NR9999_2010A01_BR_08_NRFT1002.pdf)



### 3.14 NACE H, Transportation and storage

#### 3.14.1 Introduction

In the Swedish National Accounts NACE section H consists of f NACE divisions

H49 Land transport and transport via pipelines

H50 Water transport

H51 Air transport

H52-53 Warehousing and storage and support activities for transportation, postal and courier activities

#### 3.14.2 GVA compilation and breakdown by institutional sector

Table 3.14.1 contains values for output, intermediate consumption and gross value added by NACE division within section H. The table also shows the GVA of each division as the share of the GVA of section H. Finally, both the GVA of each division and the GVA of section H is shown as the share of the total GVA, GDP and GNI.

The GVA of section H represents 5.6 per cent of total GVA, 4.9 per cent of GDP and 4.8 per cent of GNI.

**Table 3.14.1: NACE H, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
H49	Land transport and transport via pipelines	183 028	105 158	77 870	43,3	2,4	2,1	2,1
H50	Water transport	35 388	29 117	6 271	3,5	0,2	0,2	0,2
H51	Air transport	25 884	17 374	8 510	4,7	0,3	0,2	0,2
H52-53	Warehousing and support activities for transportation, postal and courier activities	255 822	168 778	87 044	48,4	2,7	2,4	2,3
H	Transportation and storage	500 122	320 427	179 695	100,0	5,6	4,9	4,8

Table 3.14.2 shows the breakdown of output, intermediate consumption and GVA by NACE divisions and institutional sectors. The table also contains the share of each institutional sector of both total GVA for each division and total GVA for section H as a whole.



**Table 3.14.2: NACE H –Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
H49	Land transport and transport via pipelines	Output	164 631	0	1 424	16 973	0	183 028
		IC	98 224	0	1 137	5 797	0	105 158
		GVA	66 407	0	287	11 176	0	77 870
		%-GVA of H49	85,3	0,0	0,4	14,4	0,0	100,0
H50	Water transport	Output	35 176	0	46	166	0	35 388
		IC	28 992	0	37	88	0	29 117
		GVA	6 184	0	9	78	0	6 271
		%-GVA of H50	98,6	0,0	0,1	1,2	0,0	100,0
H51	Air transport	Output	25 857	0	0	27	0	25 884
		IC	17 349	0	0	25	0	17 374
		GVA	8 508	0	0	2	0	8 510
		%-GVA of H51	100,0	0,0	0,0	0,0	0,0	100,0
H52-53	Warehousing and support activities for transportation, postal and courier activities	Output	189 934	0	64 671	1 217	0	255 822
		IC	136 944	0	31 493	341	0	168 778
		GVA	52 990	0	33 178	876	0	87 044
		%-GVA of H52-53	60,9	0,0	38,1	1,0	0,0	100,0
H	Transportation and storage	Output	415 598	0	66 141	18 383	0	500 122
		IC	281 509	0	32 667	6 251	0	320 427
		GVA	134 089	0	33 474	12 132	0	179 695
		%-GVA of H	74,6	0,0	18,6	6,8	0,0	100,0

**Table 3.14.3: NACE H - Excerpt from Process Tables, Output, IC and GVA, SEK million 2011**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

NACE H, 2011			Millions of SEK, current prices		
Basis for NA Figures			Output	IC	GVA
			12 541	9 486	3 055
	Administrative Records		23 952	18 303	5 649
	Combined Data		434 273	304 547	129 726
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	25 311	0	25 311
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	5 435	5 435	0
		Total Extrapol+Models	30 746	5 435	25 311
	Other		0	0	0
	Total (sources)		501 512	337 771	163 741
Adjustments	Data validation		-12 050	-9 121	-2 883
	Conceptual	Allocation of FISIM	0	2 064	-2 064
		Other conceptual	414	-11 903	12 317
		Total conceptual	414	-9 839	10 253
	Exhaustiveness	N1	0	0	0
		N2	0	0	0
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	10 246	-735	10 935
		N7	0	0	0
		Total exhaustiveness	10 246	-735	10 935
	Balancing		0	2 351	-2 351
	Total (adjustments)		-1 390	-17 344	15 954
	Final estimate		500 122	320 427	179 695

In the text below H49 is divided into four sub-industries

- H49A Railway transports
- H49B Public transports
- H49C Taxi transport
- H49D Road transports and pipelines

Table 3.14.3 shows the process table for NACE section H. Later in this chapter process tables for the individual NACE divisions/subindustries H49A, H49B, H49C, H49D, H50, H51 and H52-53 are shown and explained in detail in 3.14.3 Output, intermediate consumption, GVA, process tables by NACE divisions

### *3.14.3.1 H49A Railway transports (NACE 49.1-2)*

#### *Output*

The group comprises passenger and goods transports by main-line railway services. Rail based local transports, for example tramway services in towns, are not included. These forms of transports are recorded in H49B. Commuter train services within the Greater Stockholm area are also classified in this group. However, some commuter trains are operated under contract by railway companies, hence output values for these transports also arise under Railway transports. SBS is the source for all output. The three main products in Output could be seen in table below.

Product group		SEK million
H5229	Passenger rail transport services	7 920
H494A	Freight rail transport services	6 985
G4D	Transport of ore	667
	Other miscellaneous	1 510
<b>Total output</b>		<b>17 082</b>

#### *Intermediate consumption*

Intermediate consumption is obtained from SBS. Balancing and plausibility assessments are performed in the supply and use tables.

Total intermediate consumption: 10 791 SEK million

#### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.  
Value Added: 6 291 SEK million

#### *Process tables*

The railway transports have not specifically been that much a victim of adjustments. There is just 37 million in conceptual adjustments for output. In general these adjustments are calculated centrally for each activity and one example could be software for own use. For the same reason there is also an adjustment, a bit larger, made in intermediate consumption for software and financial leasing. Intermediate consumption has slightly been adjusted in conjunction with tuning in the supply and use tables. Value added, as being a residual, is just the difference between output and input.

**Table 3.14.4: H49A (NACE 49.1-2) - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments

H49 A:Railway transports 2011			Million SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		61		61
	Administrative Records		5		5
	Combined Data		16979	11182	5797
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		17045	11182	5863
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		48	-48
		Other conceptual	37	-526	563
		Total conceptual	37	-478	515
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6			
		N7			
		Total exhaustiveness			
	Balancing			87	-87
	Total (adjustments)		37	-391	428
Final estimate			17082	10791	6291

### 3.14.3.2 H49B, Public transports (NACE 49.31+49.39)

#### Output

The output value in this industry covers public transport and scheduled bus services and is based mainly on the SBS. The output value includes chartered bus services, coach excursions and other unscheduled bus transport. The public transport industry has the most product subsidies in the Swedish economy. Users of public transport facilities pay only about half of the real costs themselves. The three main products in Output are shown in table below.

Product group		SEK million
H493A	Public transport (on contract)	28 076
H493A	Public transport (subsidies)	16 836
H493A	Public transport (tickets)	10 636
	Other miscellaneous	5 396
<b>Total output</b>		<b>60 944</b>

#### Intermediate consumption

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessments are performed in the supply and use tables.

Total intermediate consumption: 43 177 SEK million

#### Value added

Value added is obtained as the difference between output value and intermediate consumption value.

Value Added: 17 767 SEK million

### Process tables

In the public transports there are a number of adjustments made. However, the total amount adjusted is not that large. In the data validation column there are some items that need to be adjusted, one big correction is made to avoid double counting another small item is an internal transaction. During the heading conceptual there are adjustments for software for own use and data from the local governments accounts that are not found in the survey. There is also a small item noted under exhaustiveness.

**Table 3.14.5: H49B (NACE 49.31+49.39) - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments

H49B: Public transports 2011			Million SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		1424	1130	294
	Administrative Records		16		16
	Combined Data		61490	44013	17477
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
Total (sources)			62930	45143	17787
Adjustments	Data validation		-2103		-2103
	Conceptual	Allocation of FISIM		176	-176
		Other conceptual	86	-2490	2576
		Total conceptual	86	-2314	2400
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	31		31
		N7			
Total exhaustiveness			31		31
Balancing				348	-348
Total (adjustments)			-1986	-1966	-20
Final estimate			60944	43177	17767

In the intermediate consumption there is one major conceptual adjustment (-2314 million) as well as an entry incurred in connection with the tuning of data.

#### 3.14.3.3 NACE H49C (49.32) - Taxi transports

##### Output

The output value includes mainly transports by taxi. The output value is obtained from the SBS. The main three products in Output are shown in table below.

Product group		SEK million
H4932	Taxi services	14 200
H4932	Taxi services (hidden activities)	3 029
H5221907	Supporting act to taxi	128
	Other miscellaneous	5 396
<b>Total output</b>		<b>17 415</b>

### *Intermediate consumption*

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessments are carried out in the supply and use tables. A substantial part of output comes from hidden activities. Total intermediate consumption: 6 214 SEK million

### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value. Value Added: 11 201 SEK million

### *Process tables*

Adjustments are introduced almost entirely because of hidden activities/exhaustiveness (almost 17 per cent of Output). This supplement was established some years ago in connection with a study performed by the tax authorities. After this adjustment set some years back the figure has been projected as a fixed share of production. Minor adjustments are made on intermediate consumption. Intermediate consumption has slightly been adjusted in conjunction with tuning in the supply and use tables.

**Table 3.14.6: NACE H49C (49.32) - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

H49C: Taxi transports 2011			Million SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		11		11
	Combined Data		14453	5937	8516
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PiM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		14464	5937	8527
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		389	-389
		Other conceptual	29	-162	191
		Total conceptual	29	227	-198
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	2922		2922
		N7			
		Total exhaustiveness	2922		2922
	Balancing			50	-50
	Total (adjustments)		2951	277	2674
Final estimate			17415	6214	11201

#### 3.14.3.4 NACE H49D (49.4-5) Road transports and pipelines

##### Output

The industry covers transport by goods vehicles operated by haulage firms. Transport by goods vehicles is also performed extensively by the intermediaries and the manufacturing and construction industries, but such transport operations are ancillary activities within these industries. The output value including allocation to product groups is obtained from the business statistics SBS. There are no data on pipelines, because the activity does not yet exist in Sweden.

The main products in Output are shown in table below.

Product group		SEK million
H494A	Freight transport services by road	74 038
H5229	Other transportation support services	10 511
H4942001	Removal services for households	938
G4D	Trade margins	529
H521	Warehousing and storage services	463
H5224	Cargo handling services	268
F41_43	Construction	249
L682A	Other real estate letting	217
E382	Services treatment and disposal services	119
N7710	Car benefits	108
	Other miscellaneous	147
<b>Total output</b>		<b>87 587</b>

### *Intermediate consumption*

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessments are performed in the supply and use tables.

Total intermediate consumption: 44 976 SEK million

### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

Value Added: 42 611 SEK million

**Table 3.14.7: NACE H49D (49.4-5) - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

H49D: Road transports and pipelines 2011			Million SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		26		26
	Administrative Records		108		108
	Combined Data		82111	46253	35858
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		82245	46253	35992
Adjustments	Data validation	Conceptual	-996		-996
		Allocation of FISIM		680	-680
		Other conceptual	6	-2323	2329
		Total conceptual	6	-1643	1649
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	6332		6332
		N7			
		Total exhaustiveness	6332		6332
	Balancing			366	-366
	Total (adjustments)		5342	-1277	6619
Final estimate			87587	44976	42611

### Process tables

Also road transports are adjusted a lot because of hidden activities. The level of the supplement is set some years ago and projected as a percentage share. This activity has been reduced due to data validation with almost SEK 1000 million. Conceptual adjustments represent a heavy negative adjustment of the input (mostly other taxes on production). Intermediate consumption has also been adjusted slightly in conjunction with tuning in the supply and use tables.

#### 3.14.3.5 NACE H50 Water transport

##### Output

Data on the output value are obtained from the SBS. A breakdown of output value by the three most important product groups is shown in the table below. Primary output consists of passenger transport and freight transport by sea, coastal waters and inland waterways and the provision of ships and boats for charter in sea, coastal and inland waterway transport.

The trade margin and restaurant and bar services apply to on-board sales that are not contained in ticket prices. For passenger transport, a supplement is included for informal activities. Apart from shipping output calculated directly, output of car benefits and software produced on own account in the industry is also ascertained by special calculations. In addition a certain amount of shipping output arises in the primary municipalities. On the cost side figures recorded include fuels, port, navigation



and pilotage dues, loading and discharging costs, time-charters, commissions, repairs and maintenance, provisioning, procurement of restaurant supplies etc., wages and salaries and miscellaneous items.

Data on the costs of overseas shipping are used in order to calculate the import value of shipping. The main products in Output is shown in table below.

Product group		SEK million
H50B	Water transport services, goods	18 376
H50C	Rental services of vessels with crew	6 624
N78	Employment services	3 770
H50A	Water transport services, passengers	3 198
I56A	Restaurant and other food services	1 054
N773	Rental and leasing services of other machinery	534
G4D	Trade margins	460
H5229	Other transportation support services	398
N82	Office administrative, business support services	193
M701	Services of head office	189
N7912	Tour operator services	182
	Other miscellaneous	410
<b>Total output</b>		<b>35 388</b>

### *Intermediate consumption*

Intermediate consumption is also obtained from the business statistics. Balancing and plausibility assessment are carried out in the supply and use tables.

Total intermediate consumption: 29 117 SEK million

### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

Value Added: 6 271 SEK million

### *Process tables*

Water transports are adjusted very little both in terms of production, intermediate consumption as well as value added. There are some adjustments for conceptual reasons concerning intermediate consumption, on output there are some minor conceptual adjustments. Intermediate consumption has slightly been adjusted in conjunction with tuning in the supply and use tables.

**Table 3.14.8: NACE H50 - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

H50: Water transport 2011			Million SEK, current prices		
Basis for NA Figures	Surveys & Censuses		Output	IC	GVA
	Administrative Records		46		46
	Combined Data		30		30
	Extrapolation and Models	Benchmark extrapolations	35157	29223	5934
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
	Other E&M				
	Total Extrap+Models				
Other					
Total (sources)		35233	29223	6010	
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		107	-107
		Other conceptual	109	-455	564
		Total conceptual	109	-348	457
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	46		
		N7			
	Total exhaustiveness	46			
Balancing			242	-242	
Total (adjustments)		155	-106	261	
Final estimate			35388	29117	6271

### 3.14.3.6 NACE H51 Air transport

#### Output

The industry includes all enterprise units covered by NACE H51. Scandinavian Airlines System (SAS) is jointly owned by the Scandinavian countries. The enterprise is a consortium, 3/7 of which is owned by Sweden and 2/7 each by Norway and Denmark respectively. Under an agreement between the countries, the consortium's total income and expenditure is divided between them in proportion to their ownership shares. Accordingly, three sevenths of the output, intermediate consumption and value added of the SAS consortium are assigned to the Swedish national accounts.

The data for SAS are collected every quarter through a special survey. The survey provides information both on income and expenditures for the SAS consortium as a whole as well as an estimate of sales to and from Swedish subjects. From the data for the consortium as a whole, the 3/7 fraction to be allocated to the Swedish national accounts is derived. In the product-by-product supply and use tables output and intermediate consumption on Swedish territory are shown allocated to different products. SAS is also included in the SBS where the total amount is picked up.

Remaining air transport enterprises are also covered by the SBS.

The total output value is allocated to a number of product groups including passenger transport, goods transport, hire of aircraft, air transport support, trade margins, as well as a variety of business services. Output consists mainly of transports of passengers and goods which make up nearly 93 percent of the total output, see the table below.

Product group		SEK million
H511	Passenger air transport services	22 694
H512	Freight air transport	1 259
	Other miscellaneous	1 931
<b>Total output</b>		<b>25 884</b>

### *Intermediate consumption*

Intermediate consumption is calculated on the basis of the SBS. Balancing and plausibility assessment are carried out in the supply and use tables.

Total intermediate consumption: 17 374 SEK million

### *Value added*

The industry's value added is obtained as the difference between output value and intermediate consumption.

Value Added: 8 510 SEK million

### *Process tables*

Air transport is adjusted marginally, at least in terms of output. Intermediate consumption is adjusted - 1.6 billion SEK due to conceptual causes, mostly financial leasing. SAS is included in the total so their figures represent no adjustment. Intermediate consumption has slightly been adjusted in conjunction with tuning in the supply and use tables.

**Table 3.14.9: NACE H51 - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

H51: Air transport 2011			Million SEK, current prices		
Basis for NA Figures	Surveys & Censuses Administrative Records		Output	IC	GVA
			17		17
Adjustments	Combined Data		25795	18794	7001
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
	Other	Other E&M			
		Total Extrap+Models			
	Total (sources)		25812	18794	7018
	Data validation				
		Conceptual			
		Allocation of FISIM		73	-73
	Conceptual	Other conceptual	72	-1635	1707
		Total conceptual	72	-1562	1634
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6			
		N7			
		Total exhaustiveness			
	Balancing			142	-142
	Total (adjustments)		72	-1420	1492
Final estimate			25884	17374	8510

### 3.14.3.7 NACE H52-53 Warehousing and storage and support activities for transportation, postal and courier activities

#### Output

H52-53 contains both market production and non-market production. The statistical sources and calculation methods differ between them.

The main statistical source of output from market production is the SBS. The SBS provides an estimate on total output value from market production, but also detailed information on the allocation of output to different product groups.

To obtain the correct total output value of market production several adjustments of the SBS's output value have to be made (see Process table for details). The output value of capitalized work and a few adjustments specific to industry H52-53 in order to avoid double counting are all subtracted, while the output values of hidden activities, car benefits, software produced on own account, scientific research and development produced on own account and market production by non-market producers are all added to the output value of the SBS to arrive at the total output value of market production.

The statistical sources of output from non-market production and the methods for calculating the different components of this output are described in section 3.21. Output value from non-market production is calculated as the sum of the costs necessary to produce the goods/services in question. The main cost components of output from non-market production are normally intermediate consumption and wages and salaries.

### *Intermediate consumption*

An estimate on the total value of the intermediate consumption of market production in industry H52-53 is obtained from the SBS. Several adjustments are made directly on this SBS estimate (see Process table for details) - adjustments for non-market producers (intermediate consumption of non-market producers performing market production), a few adjustments specific to industry H52-53 to avoid double counting, adjustments for FISIM, capitalized work, insurance, purchased software, financial leasing, other taxes on production, purchased scientific research and development, correction on reimbursements and hidden activities.

The statistical sources of intermediate consumption in non-market production and the methods for calculating the different components of this intermediate consumption are described in section 3.21.

Balancing and plausibility assessments are then carried out in the framework of the supply and use tables.

Total intermediate consumption of industry H52-53 is SEK 168 778 million.

### *Value added*

Value added is calculated as the difference between output value and intermediate consumption value.

Total value added of industry H52-53 is SEK 87 044 million.

### *Process table*

*Surveys and censuses* refer to non-market producers performing market production and to data from the annual accounts of local government.

*Administrative records* refer to car benefits (described in section 3.4) and to data from central government records (ESV).

*Combined data* refer to data from the SBS.

*Extrapolations and models* refer to consumption of fixed capital CFC (Output) and calculated value added tax (Output and IC).

*Data validation* refers to adjustments to avoid double counting (Output and IC) and to non-market producers performing market production (IC).

*Conceptual adjustments* refer to FISIM (IC), capitalized work (both Output and IC), software produced on own account (Output), scientific research and development produced on own account (Output), insurance (IC), purchased software (IC), financial leasing (IC), other taxes on production (IC), purchased scientific research and development (IC) and correction on reimbursements (IC) (all described in section 3.4).

*Exhaustiveness adjustments N6* refer to hidden activities (Output and IC) (see section 7).

*Balancing (adjustment)* is the item used in the final consolidation (balancing) process between the production side and the expenditure side (described in section 6.1).

**Table 3.14.10: NACE H52-53 - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011**

NACE H52-53, 2011			Millions of SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		10 984	8 356	2 628
	Administrative Records		23 765	18 303	5 462
	Combined Data		198 288	149 145	49 143
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	25 311	0	25 311
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	5 435	5 435	0
		Total Extrap+Models	30 746	5 435	25 311
	Other		0	0	0
	Total (sources)		263 783	181 239	82 544
Adjustments	Data validation		-8 951	-9 121	170
	Conceptual	Allocation of FISIM	0	591	-591
		Other conceptual	75	-4 312	4 387
		Total conceptual	75	-3 721	3 796
	Exhaustiveness	N1	0	0	0
		N2	0	0	0
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	915	-735	1 650
		N7	0	0	0
		Total exhaustiveness	915	-735	1 650
	Balancing		0	1 116	-1 116
	Total (adjustments)		-7 961	-12 461	4 500
Final estimate			255 822	168 778	87 044

### 3.15 NACE I, Accommodation and food service activities

In the Swedish National Accounts NACE section I consists of two NACE divisions

NACE I 55, Accommodation

NACE I 56, Food and beverage service activities

Table 3.15.1 provides values for output, intermediate consumption and value added by NACE (A\*64) within section I. The table also includes shares of gross value added of section I and in the total gross value added, GDP and GNI.

**Table 3.15.1: NACE I, Output, IC and GVA, SEK million percentages, 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
I	Accommodation and food service activities	116 664	67 147	49 517	100,0	1,5	1,4	1,3

Table 3.15.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual NACE I divisions are included as well.

**Table 3.15.2: NACE I – Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2		Institutional sectors					
		S11	S12	S13	S14	S15	Total
I55-56	Output	103 856	0	0	12 808	0	116 664
	IC	60 718	0	0	6 429	0	67 147
	GVA	43 138	0	0	6 379	0	49 517
	%-GVA of I55-56	87,1	0,0	0,0	12,9	0,0	100,0
	Output	103 856	0	0	12 808	0	116 664
I	Acommodation; food and beverage service activities	60 718	0	0	6 429	0	67 147
	IC	60 718	0	0	6 429	0	67 147
	GVA	43 138	0	0	6 379	0	49 517
	%-GVA of I	87,1	0,0	0,0	12,9	0,0	100,0

**Table 3.15.3 NACE I Excerpt from the Process Tables of output, IC and GVA for NACE I, SEK million 2011**

			NACE I		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		122		122
	Combined Data		112 328	67 568	44 760
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		112 450	67 568	44 882
Adjustments	Data validation		-16		-16
	Conceptual	Allocation of FISIM		911	-911
		Other conceptual	8	-711	719
		Total conceptual	8	200	-192
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	4 222	-1 167	5 389
		N7			
		Total exhaustiveness	4 222	-1 167	5 389
	Balancing			546	-546
	Total (adjustments)		4 214	-421	4 635
	Final estimate		116 664	67 147	49 517

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

*Combined data* refer to SBS.

*Data validation* refers to changes in inventories, which is deducted from output.

*Conceptual adjustments* refer to benefits in kind, software, financial leasing, insurance, a correction of the Standardized accounting statements (SRU) concerning reimbursements and FISIM.

*Exhaustiveness* refers to estimates for hidden activities like misreporting by the producer (N6) and statistical deficiencies in the data.

*Balancing* is the item used in the final consolidation process between production and expenditure sides. In the Swedish national accounts NACE section I is divided in two divisions:

- NACE I55 Accommodation
- NACE I56 Food and beverage service activities

In the following, the compilation methods for output and intermediate consumption and gross value added are described for each division, with particular emphasis on the specificities of the individual sections.

## I55 Accommodation

**Table 3.13.4 Excerpt from the Process Tables of output, intermediate consumption and gross value added for NACE division I55, SEK million 2011**

			NACE I55		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		44		44
	Combined Data		35 707	21 138	14 569
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		35 751	21 138	14 613
Adjustments	Data validation		10		10
	Conceptual	Allocation of FISIM		161	-161
		Other conceptual	4	-284	288
		Total conceptual	4	-123	127
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	801	-370	1 171
		N7			
		Total exhaustiveness	801	-370	1 171
	Balancing			169	-169
	Total (adjustments)		815	-324	1 139
	Final estimate		36 566	20 814	15 752

### Output

The output in this industry mainly consists of hotel and accommodation services, but also food and beverage etc. consumed. It involves hotels, youth hostels, camping sites etc. It also consists of amusement and recreation services. The main source is SBS.

In the balancing process the output is validated against the VAT register, Statistics Sweden Accommodation statistics and the household consumption of hotel services and other overnight accommodation (COICOP 112). Output is distributed on the following product groups:



Product group		SEK million
I551	Hotel and similar accommodation services	22 566
I56A	Restaurant and mobile food serving services	9 476
I55A	Other accommodation services	2 592
R932	Amusement and recreation services	793
M701	Activities of head offices	721
L682A	Other real estate letting	145
R90	Creative, arts and entertainment services	92
R931	Sporting services	75
N7710	Car benefits	44
G4D	Trade margins	24
J62AEG	Software produced on own account	21
S9602	Hairdressing and other beauty services	17
<b>Total output</b>		<b>36 566</b>

### Intermediate consumption

Intermediate consumption is obtained from the business statistics. Balancing and plausibility assessment are performed in the supply and use tables.

### Gross value added

Value added is obtained as the difference between output value and intermediate consumption value.

## NACE I 56, Food and beverage service activities

**Table 3.15.4 NACE I56 – Excerpt from the Process Tables of Output, IC and GVA, SEK million 2011**

			NACE I56		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		78		78
	Combined Data		76 621	46 430	30 191
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model CFC(PIM)			
		Dwellings - stratification method FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		76 699	46 430	30 269
Adjustments	Data validation		-26		-26
	Conceptual	Allocation of FISIM		750	-750
		Other conceptual	4	-427	431
		Total conceptual	4	323	-319
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	3 421	-797	4 218
		N7			
		Total exhaustiveness	3 421	-797	4 218
	Balancing			377	-377
	Total (adjustments)		3 399	-97	3 496
	Final estimate		80 098	46 333	33 765

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

### *Output*

The enterprises in the industry of food and beverage service activities involve restaurants, catering, bars etc. It also includes fast food, beverage etc. consumed. Data on output are obtained from the SBS. However, a number of special investigations have been made of the restaurant business and there are evidence of hidden turnover and not registered staff and wages. Therefore an addition of 5 percent has been made on output for hidden activities. The size of the estimate is based on the Tax Agency investigation of hidden income as reported in their Report 2006:4B. Estimates of these activities are of course uncertain and no information on annual changes is available. The present estimate is benchmarked for 2000 and extrapolated with the annual change of declared activities. Steps have been taken in order to reduce hidden activities and actions taken to introduce a special employee register and unannounced inspections and fines if the register is not correct by inspection time. This law is in effect from 1 January 2007 and there was a considerable increase in wages paid from that date. In the balancing process output is validated against VAT registers and Statistics Sweden's Restaurant index.

Output is distributed on the following product groups:

Product group		SEK million
I56A	Restaurant and other food services	72 495
I562A	Event catering services	5 328
N774	Licensing services	550
G4B	Commissions, Swedish products	393
I551	Hotel and similar accommodation services	327
R92	Gambling and betting services	294
R90	Creative, arts and entertainment services	178
G4D	Trade margins	160
L682A	Other real estate letting	143
N7710	Car benefit	78
M701	Activities of head offices	75
J62AEG	Software produced on own account	43
C107	Bakery and farinaceous products	34
<b>Total output</b>		<b>80 098</b>

### *Intermediate consumption*

Intermediate consumption is obtained from the business statistics. Balancing and plausibility assessment are performed in the supply and use tables.

### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

Imports and exports of hotel and restaurants services are measured in the Balance of payments statistics travel item. There is detailed information in tourist satellite accounts on a product group level of the exports of hotel and restaurant services, but only on a total level of imports.

### 3.16 NACE J, Information and communication

In the Swedish national accounts section J is calculated divided into six sub-industries

NACE J 58 Publishing activities

NACE J 59 Motion picture, video and television programme production, sound recording and music publishing activities Activities of head offices, management consultancy activities

NACE J 60 Programming and broadcasting activities

NACE J 61 Telecommunications

NACE J 62 Computer programming, consultancy and related activities

NACE J 63 Information service activities

**Table 3.16.1: NACE J – GVA compilation, SEK million and percentages, 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
J58	Publishing activities	62 998	34 998	28 000	15,9	0,9	0,8	0,7
J59-60	Motion picture, video and television programme, sound recording and music publishing activities; programming and broadcasting activities	40 670	24 917	15 753	8,9	0,5	0,4	0,4
J61	Telecommunications	107 739	67 898	39 841	22,6	1,2	1,1	1,1
J62-63	Computer programming, consultancy and related activities; information service activities	161 179	68 540	92 639	52,6	2,9	2,5	2,5
<b>J</b>	<b>Information and communication</b>	<b>372 586</b>	<b>196 353</b>	<b>176 233</b>	<b>100,0</b>	<b>5,5</b>	<b>4,8</b>	<b>4,7</b>

The share of GVA in GDP for NACE J is 4.8 percent 2011. The share in NACE J for J58 Publishing services is 15.9 percent J59 Motion pictures, video and television program production services, sound recording and music publishing 5.0 percent, J60 Programming and broadcasting services 3.9 percent, J61 Telecommunication 22.6 percent, J62 Computer programming, consultant and related services 49.4 percent and J63 Information services 3.1 percent. Licenses charged for television and royalties, included in J60 is 3.8 percent.

**Table 3.16.2: NACE J, Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
J58	Publishing activities	Output	62 136	0	0	862	0	62 998
		IC	34 892	0	0	106	0	34 998
		GVA	27 244	0	0	756	0	28 000
		%-GVA of J58	97,3	0,0	0,0	2,7	0,0	100,0
J59-60	Motion picture, video and television programme, sound recording and music publishing activities; programming and broadcasting activities	Output	38 924	0	0	1 746	0	40 670
		IC	24 376	0	0	541	0	24 917
		GVA	14 548	0	0	1 205	0	15 753
		%-GVA of J59-60	92,4	0,0	0,0	7,6	0,0	100,0
J61	Telecommunications	Output	107 695	0	0	44	0	107 739
		IC	67 859	0	0	39	0	67 898
		GVA	39 836	0	0	5	0	39 841
		%-GVA of J61	100,0	0,0	0,0	0,0	0,0	100,0
J62-63	Computer programming, consultancy and related activities; information service activities	Output	156 787	0	0	4 392	0	161 179
		IC	67 592	0	0	948	0	68 540
		GVA	89 195	0	0	3 444	0	92 639
		%-GVA of J62-63	96,3	0,0	0,0	3,7	0,0	100,0
J	Information and communication	Output	365 542	0	0	7 044	0	372 586
		IC	194 719	0	0	1 634	0	196 353
		GVA	170 823	0	0	5 410	0	176 233
		%-GVA of J	96,9	0,0	0,0	3,1	0,0	100,0

The institutional accountings use the SBS for separating the household sector from the non-financial corporations.

**Table 3.16.3 NACE J – Extracts from Process Tables - Output, SEK million, 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output						
			J	J58	J59	J60	J61	J62	J63
Basis for NA Figures	Surveys & Censuses								
	Administrative Records		1029	127	34	7	139	691	31
	Combined Data		362012	61101	25605	12715	106881	144018	11692
	Extrapolation and Models	Benchmark extrapolations							
		Commodity Flow Model							
		CFC(PIM)							
		Dwellings - stratification method							
		FISIM							
		Other E&M							
		Total Extrap+Models							
	Other								
	Total (sources)		363041	61228	25639	12722	107020	144709	11723
Adjustments	Data validation								
	Conceptual	Allocation of FISIM							
		Other conceptual	5146	812	323	35	719	2786	471
		Total conceptual	5146	812	323	35	719	2786	471
	Exhaustiveness	N1							
		N2							
		N3							
		N4							
		N5							
		N6	4399	958	839	1112		1490	
		N7							
		Total exhaustiveness	4399	958	839	1112		1490	0
	Balancing								
	Total (adjustments)		9545	1770	1162	1147	719	4276	471
Final estimate			372586	62998	26801	13869	107739	148985	12194

*Administrative records* refer to car benefits.

*Combined data* refer to SBS.

*Conceptual adjustments* refer to own produced software and R&D.

*Exhaustiveness* (N6) refers to estimates for hidden activities.

**Table 3.16.4: NACE J – Extracts from Process Tables - Intermediate consumption, SEK million, 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Intermediate consumption (IC)						
			J	J58	J59	J60	J61	J62	J63
Basis for NA Figures	Surveys & Censuses								
	Administrative Records								
	Combined Data		204182	38054	18356	8259	62627	69549	7337
	Extrapolation and Models	Benchmark extrapolations							
		Commodity Flow Model CFC(PIM)							
		Dwellings - stratification method							
		FISIM							
		Other E&M							
		Total Extrapol+Models							
	Other								
	Total (sources)		204182	38054	18356	8259	62627	69549	7337
Adjustments	Data validation		9937				9937		
	Conceptual	Allocation of FISIM	1096	170	135	30	225	503	33
		Other conceptual	-18656	-3510	-674	-1391	-5443	-7019	-619
		Total conceptual	-17560	-3340	-539	-1361	-5218	-6516	-586
	Exhaustiveness	N1							
		N2							
		N3							
		N4							
		N5							
		N6	-1802					-1688	-114
		N7							
		Total exhaustiveness	-1802	0	0	0	0	-1688	-114
	Balancing		1596	284	145	57	552	504	54
	Total (adjustments)		-7829	-3056	-394	-1304	5271	-7700	-646
Final estimate			196353	34998	17962	6955	67898	61849	6691

*Combined data* refer to SBS

*Data validation.* In J61 Telecommunication there is some data validation of SBS estimates of reservations and negative trade margins since 2005.

*Conceptual adjustments* refer to software, financial leasing, insurance, R&D and FISIM

*Exhaustiveness* N6 refers to estimates for over-reported intermediate consumption.

*Balancing* is the item used in the final consolidation process between production and expenditure sides.

**Table 3.16.5: NACE J – Extracts from Process Tables – Gross Value Added, SEK million 2011.**  
The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			GVA						
			J	J58	J59	J60	J61	J62	J63
Basis for NA Figures	Surveys & Censuses								
	Administrative Records		1029	127	34	7	139	691	31
	Combined Data		157830	23047	7249	4456	44254	74469	4355
	Extrapolation and Models	Benchmark extrapolations							
		Commodity Flow Model							
		CFC(PIM)							
		Dwellings - stratification method							
		FISIM							
		Other E&M							
		Total Extrap+Models							
	Other								
	Total (sources)		158859	23174	7283	4463	44393	75160	4386
Adjustments	Data validation		-9937				-9937		
	Conceptual	Allocation of FISIM	-1096	-170	-135	-30	-225	-503	-33
		Other conceptual	23802	4322	997	1426	6162	9805	1090
		Total conceptual	22706	4152	862	1396	5937	9302	1057
	Exhaustiveness	N1							
		N2							
		N3							
		N4							
		N5							
		N6	6201	958		1112		3178	114
		N7							
		Total exhaustiveness	6201	958	839	1112		3178	114
	Balancing		-1596	-284	-145	-57	-552	-504	-54
	Total (adjustments)		17374	4826	1556	2451	-4552	11976	1117
Final estimate			176233	28000	8839	6914	39841	87136	5503

### 3.16.1 NACE J 58, Publishing activities

#### Output

The total output value is obtained from the SBS. The output value covers publishing services of books and software, computer programs and computer facilities management service, representation services license services etc. and is allocated to product groups according to the table below. Black production is included in the product group J581 Publishing of books and J582 Software publishing services for unrecorded production. Conceptual adjustments are car benefits, own produced software and own produced research and development.

**Table 3.16.6 Data on the output value NACE J 58**

<b>Product group</b>		<b>SEK million</b>
J581	Publishing services of books	38 496
J582	Software publishing services	11 376
J62A	Computer programming and consultancy	4 399
J62B	Computer facilities management services	2 504
M7312	Media representation services	1 001
G4D	Trade margins	902
N774	Licences services	847
M73A	Other representations services	672
J62AEG	Software produced for own accounts	612
M701	Services of head office	494
M72EG	R&D produced on own account	359
N78	Employment services	189
L682A	Other real estate letting	162
C181	Printing services and services related to printing	161
S951	Repair and maintenance	149
N7710	Car benefits	127
P855A	Other education services	108
J612	Wireless telecommunication services	102
M741	Legas and business consultancy	97
M7112	Engineering and related technical services	95
N82	Office administrative, business support services	57
C262	Computers and peripthel equipment	43
J611	Wired telecommunication services	39
C332	Installation industrial machinery and equipment	7
<b>Total output</b>		<b>62 998</b>

***Intermediate consumption***

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.7 Data on the intermediate consumption value NACE J58**

		IC	SHARE IC
		2011	2011
Product group	Description	SEK million	SHARE IC
DIRECT VALUE			
C192000B-C1920012	Fuels	105	0,3
D351-D353	Electricity, gas, steam and air conditioning	176	0,5
F41-43	Construction and construction works	199	0,6
FISIM	FISIM	170	0,5
Sum		650	1,9
DERIVED VALUE			
A011A-A03	Agriculture, forestry and fishing	5	0,0
C1013-C15	Food, beverages and textiles products	38	0,1
C161-C181	Wood, paper and printing services	7 976	22,8
C2011-C245	Chemical, plastic and rubber products	1 020	2,9
C254-C331A	Industrial products	1 062	3,0
E36-E39	Water, sewerage and waste services	167	0,5
G45A-G4B	Wholesale and retail trade services	136	0,4
H491A-H53	Transportation and storage services	6 846	19,6
I1551-I56A	Accommodation and food services	607	1,7
J581-J631	Information and communication services	3 304	9,4
K64B-K66	Financial and insurance activities	162	0,5
L682A	Real estate services	1 666	4,8
M692-M712	Legal, accounting and engineering services	6 527	18,6
N7711-N82	Administrative and support service	3 050	8,7
O84A-O84C	Public adminstration services	206	0,6
P854-P8554	Education services	186	0,5
Q8621201-Q86B	Human health services	66	0,2
R90-R932	Arts, entertainment and recreation activities	657	1,9
S941-S951	Other services	316	0,9
X9901	Swedish consumption abroad	351	1,0
Sum		34 348	98,1
Total		34 998	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

### **3.16.2 NACE J 59, Motion picture, video and television program production, sound recording and music publishing activities.**

**Output**

The total output value is obtained from the SBS. The output value covers most products of programming and broadcasting and also motion picture, video and television program services, sound recording and music publishing services and licenses for the later etc. A minor part of the output is covered in the other product groups according to the table below. Black production is included in the product group J591 Motion picture, video and television program services, and J592 Sound recording and music publishing services for undeclared production. Conceptual adjustments are car benefits, own produced research and developments.



**Table 3.16.8 Data on the output value NACE J59**

<b>Product group</b>		<b>SEK million</b>
J591	Motion picture, video and television programme	13 099
J60	Programming and broadcasting	8 189
J592	Sound recording and music publishing services	1 931
J591	Licences motion picture	1 222
J592	Licences sound recordings	815
J591	Original	366
M702	Management consulting services	281
G4D	Trade margins	237
M701	Services of head office	169
M7312	Media representation services	138
C182	Transcript recordings	115
N78	Employment services	86
M691	Legal consultancy	59
N7710	Car benefits	34
L682A	Other real estate letting	21
N82	Office administrative and other business services	20
J62AEG	Software produced for own accounts	19
<b>Total output</b>		<b>26 801</b>

**Intermediate consumption** is obtained from the SBS.

Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.9 NACE J 59, Data on the intermediate consumption value**

Product group	Description	IC 2011 SEK million	SHARE IC 2011 SHARE IC
<b>DIRECT VALUE</b>			
C192000B-C1920012	Fuels	92	0,5
D351-D353	Electricity, gas, steam and air conditioning	218	1,2
F41-43	Construction and construction works	63	0,4
FISIM	FISIM	135	0,8
Sum		<b>508</b>	2,8
<b>DERIVED VALUE</b>			
A011A-A03	Agriculture, forestry and fishing	0	0,0
C1013-C15	Food, beverages and textiles products	95	0,5
C161-C181	Wood, paper and printing services	444	2,5
C2011-C245	Chemical, plastic and rubber products	103	0,6
C254-C331A	Industrial products	239	1,3
E36-E39	Water, sewerage and waste services	82	0,5
G45A-G4B	Wholesale and retail trade services	52	0,3
H491A-H53	Transportation and storage services	181	1,0
I1551-I56A	Accommodation and food services	420	2,3
J581-J631	Information and communication services	6 218	34,6
K64B-K66	Financial and insurance activities	76	0,4
L682A	Real estate services	1 087	6,1
M692-M712	Legal, accounting and engineering services	2 332	13,0
N7711-N82	Administrative and support service	4 068	22,6
O84A-O84C	Public administration services	151	0,8
P854-P8554	Education services	16	0,1
Q8621201-Q86B	Human health services	45	0,3
R90-R932	Arts, entertainment and recreation activities	1 658	9,2
S941-S951	Other services	61	0,3
X9901	Swedish consumption abroad	126	0,7
Sum		<b>17 454</b>	97,2
<b>Total</b>		<b>17 962</b>	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

**3.16.3 NACE J 60, Programming and broadcasting activities****Output**

The total output value is obtained from the SBS. The output is broadly about programing and broadcasting and almost half of the output 48.3 percent is in the form of television charges. The undeclared production is estimated to SEK 1 112 million in 2011.

**Table 3.16.10 Data on the output value NACE J60**

<b>Product group</b>		<b>SEK million</b>
J60	Television charges (Licences and royalties)	6 682
J60	Programming and broadcasting	6 429
J591	Motion picture, video and TV programme services	601
M701	Services of head office	65
L682A	Other real estate letting	37
J62AEG	Software produced for own accounts	29
G4D	Trade margins	11
M72EG	R&D produced for own accounts	8
N7710	Car benefits	7
<b>Total output</b>		<b>13 869</b>

***Intermediate consumption***

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.11 Data on the intermediate consumption value NACE J60**

Product group	Description	IC 2011 SEK million	SHARE IC 2011 SHARE IC
<b>DIRECT VALUE</b>			
C192000B-C1920012	Fuels	22	0,3
D351-D353	Electricity, gas, steam and air conditioning	90	1,3
F41-43	Construction and construction works	100	1,4
FISIM	FISIM	30	0,4
Sum		<b>242</b>	3,5
<b>DERIVED VALUE</b>			
A011A-A03	Agriculture, forestry and fishing	0	0,0
C1013-C15	Food, beverages and textiles products	46	0,7
C161-C181	Wood, paper and printing services	120	1,7
C2011-C245	Chemical, plastic and rubber products	40	0,6
C254-C331A	Industrial products	97	1,4
E36-E39	Water, sewerage and waste services	33	0,5
G45A-G4B	Wholesale and retail trade services	24	0,3
H491A-H53	Transportation and storage services	92	1,3
I1551-I56A	Accommodation and food services	195	2,8
J581-J631	Information and communication services	3 611	51,9
K64B-K66	Financial and insurance activities	38	0,5
L682A	Real estate services	536	7,7
M692-M712	Legal, accounting and engineering services	567	8,2
N7711-N82	Administrative and support service	479	6,9
O84A-O84C	Public administration services	62	0,9
P854-P8554	Education services	5	0,1
Q8621201-Q86B	Human health services	16	0,2
R90-R932	Arts, entertainment and recreation activities	669	9,6
S941-S951	Other services	23	0,3
X9901	Swedish consumption abroad	60	0,9
Sum		<b>6 713</b>	96,5
Total		<b>6 955</b>	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

**3.16.4 NACE J 61, Telecommunications****Output**

The total output value is obtained from the SBS. Apart from the business statistics, statistics from The Swedish Post and Telecom Agency (PTS) is available. The PTS monitors the electronic communications and postal sectors in Sweden. Electronic communications' includes telephony, the Internet and radio. The PTS statistics is used to calculate output value for the three main product groups; J611 wired telecommunications services, J612 wireless telecommunications services and J61A satellite and other telecommunications services. The output values on the rest of the product groups are according to the SBS. The difference in output value between the two sources is distributed over the two main product groups J611 and J612.

**Table 3.16.12 Data on the output value NACE J 61**

<b>Product group</b>		<b>SEK million</b>
J612	Wireless telecommunications services	51 395
J611	Wired telecommunications services	44 120
J61A	Services of satellite and other telecommunications	5 011
M7112	Engineering and related technical services	3 038
N82	Office administrative services	1 460
J62AEG	Software produced for own accounts	1 000
D351	Electricity and power transmission	702
M701	Services of head offices	190
L682A	Other real estate letting	174
M72EG	R&D produced on own account	164
N7710	Car benefits	139
J62A	Computer programming services	111
J62B	IT technical support services	71
M702	Management consulting services	66
G4D	Trade margins	63
N774	Licensing services for the right to use IPP	35
N773	Rental and leasing services of other machinery	0
<b>Total output</b>		<b>107 739</b>

***Intermediate consumption***

Intermediate consumption is obtained from the SBS. Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.13 Data on the intermediate consumption value NACE J 61**

		IC	SHARE IC
		2011	2011
Product group	Description	SEK million	SHARE IC
DIRECT VALUE			
C192000B-C1920012	Fuels	574	0,8
D351-D353	Electricity, gas, steam and air conditioning	308	0,5
F41-43	Construction and construction works	733	1,1
FISIM	FISIM	225	0,3
Sum		1 840	2,7
DERIVED VALUE			
A011A-A03	Agriculture, forestry and fishing	0	0,0
C1013-C15	Food, beverages and textiles products	156	0,2
C161-C181	Wood, paper and printing services	917	1,4
C2011-C245	Chemical, plastic and rubber products	303	0,4
C254-C331A	Industrial products	4 954	7,3
E36-E39	Water, sewerage and waste services	178	0,3
G45A-G4B	Wholesale and retail trade services	490	0,7
H491A-H53	Transportation and storage services	930	1,4
I1551-I56A	Accommodation and food services	2 553	3,8
J581-J631	Information and communication services	31 412	46,3
K64B-K66	Financial and insurance activities	1 463	2,2
L682A	Real estate services	2 889	4,3
M692-M712	Legal, accounting and engineering services	11 101	16,3
N7711-N82	Administrative and support service	6 220	9,2
O84A-O84C	Public administration services	299	0,4
P854-P8554	Education services	32	0,0
Q8621201-Q86B	Human health services	129	0,2
R90-R932	Arts, entertainment and recreation activities	306	0,5
S941-S951	Other services	949	1,4
X9901	Swedish consumption abroad	777	1,1
Sum		66 058	97,3
Total		67 898	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

**3.16.5 NACE J 62, Computer programming, consultancy and related activities****Output**

The output value is obtained from the Structural Business Statistics (SBS). The output value covers IT consultancy activity, data processing, database activity etc. and is allocated to product groups according to the table below. A supplement is included in the product group J62A (Computer programming and consultancy services) for unrecorded turnover.

**Table 3.16.14 Data on the output value NACE J62**

<b>Product group</b>		<b>SEK million</b>
J62A	Computer programming services; IT design, development	97 722
J62B	IT technical support services	28 552
J582	Software publishing services	7 908
J62AEG	Software produced on own account	3 485
G4D	Trade margins	3 157
S951	Repair of computers and communication equipment	2 132
J631	Data processing, hosting and related services; web portals	1 990
N773	Rental and leasing services of other machinery	699
N7710	Car benefits	691
M701	Services of head offices	634
M702	Management consulting services	421
C262	Computers and peripheral equipment	342
G4B	Commissions, Swedish products	230
L682A	Other real estate letting	223
N774	Licensing services	189
M7312	Media representation services	102
J612	Wireless telecommunications services	87
N78	Employment services	83
M7112	Engineering services, technical consulting services	80
P856	Education support services	75
N82	Office administrative services	69
J611	Wired telecommunications services	58
J61A	Services of satellite and other telecommunications	35
P855A	Other education	21
	<b>Total output</b>	<b>148 985</b>

***Intermediate consumption***

Intermediate consumption is obtained from the SBS. A reduction on the value is made due to over-reported intermediate consumption. The initial value for the over-reported intermediate consumption is calculated with information from a study made by the Swedish Tax Agency in 2006. The over-reported value is updated with the change of the total. Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.15 Data on the intermediate consumption value NACE J 62**

Product group	Description	IC 2011 SEK million	SHARE IC 2011 SHARE IC
<b>DIRECT VALUE</b>			
C192000B-C1920012	Fuels	274	0,4
D351-D353	Electricity, gas, steam and air conditioning	156	0,3
F41-43	Construction and construction works	242	0,4
FISIM	FISIM	503	0,8
Sum		<b>1 175</b>	1,9
<b>DERIVED VALUE</b>			
A011A-A03	Agriculture, forestry and fishing	0	0,0
C1013-C15	Food, beverages and textiles products	198	0,3
C161-C181	Wood, paper and printing services	2 027	3,3
C2011-C245	Chemical, plastic and rubber products	531	0,9
C254-C331A	Industrial products	1 816	2,9
E36-E39	Water, sewerage and waste services	177	0,3
G45A-G4B	Wholesale and retail trade services	315	0,5
H491A-H53	Transportation and storage services	2 005	3,2
I1551-I56A	Accommodation and food services	2 533	4,1
J581-J631	Information and communication services	21 169	34,2
K64B-K66	Financial and insurance activities	213	0,3
L682A	Real estate services	6 012	9,7
M692-M712	Legal, accounting and engineering services	13 336	21,6
N7711-N82	Administrative and support service	6 345	10,3
O84A-O84C	Public administration services	324	0,5
P854-P8554	Education services	1 179	1,9
Q8621201-Q86B	Human health services	112	0,2
R90-R932	Arts, entertainment and recreation activities	349	0,6
S941-S951	Other services	715	1,2
X9901	Swedish consumption abroad	1 318	2,1
Sum		<b>60 674</b>	98,1
Total		<b>61 849</b>	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

**3.16.6 NACE J 63, Information service activities****Output**

The output value is obtained from the Structural Business Statistics (SBS) and is allocated to product groups according to the table below.



**Table 3.16.16 Data on the output value NACE J 63**

<b>Product group</b>		<b>SEK million</b>
J631	Data processing, hosting, related services; web portals	6 022
J62B	IT technical support services	1 592
N774	Licensing services	1 089
J639	Other information services	1 087
J62A	Computer programming services; IT design, development	868
M72EG	R&D produced on own account	394
M7312	Media representation services	206
G4D	Trade margins	164
J582	Software publishing services	151
J62AEG	Software produced on own account	133
M7112	Engineering services and technical consulting services	86
M742	Photographic services	83
L682A	Other real estate letting	75
N78	Employment services	45
M73A	Other advertising and market research services	40
N82	Office administrative services	35
J611	Wired telecommunications services	31
N7710	Car benefits	31
S951	Repair of computers and communication equipment	29
J612	Wireless telecommunications services	17
M701	Services of head offices	16
<b>Total output</b>		<b>12 194</b>

***Intermediate consumption***

Intermediate consumption is obtained from the SBS.

A reduction on the value is made due to over-reported intermediate consumption. The initial value for the over-reported intermediate consumption is calculated with information from a study made by the Swedish Tax Agency in 2006. The over-reported value is updated with the change of the total intermediate consumption according to the SBS.

Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.16.17 1 Data on the intermediate consumption value NACE J 63**

		IC	SHARE IC
		2011	2011
Product group	Description	SEK million	SHARE IC
DIRECT VALUE			
C192000B-C1920012	Fuels	13	0,2
D351-D353	Electricity, gas, steam and air conditioning	30	0,4
F41-43	Construction and construction works	21	0,3
FISIM	FISIM	33	0,5
Sum		97	1,4
DERIVED VALUE			
A011A-A03	Agriculture, forestry and fishing	0	0,0
C1013-C15	Food, beverages and textiles products	19	0,3
C161-C181	Wood, paper and printing services	504	7,5
C2011-C245	Chemical, plastic and rubber products	60	0,9
C254-C331A	Industrial products	376	5,6
E36-E39	Water, sewerage and waste services	19	0,3
G45A-G4B	Wholesale and retail trade services	14	0,2
H491A-H53	Transportation and storage services	173	2,6
I1551-I56A	Accommodation and food services	230	3,4
J581-J631	Information and communication services	1 660	24,8
K64B-K66	Financial and insurance activities	23	0,3
L682A	Real estate services	834	12,5
M692-M712	Legal, accounting and engineering services	966	14,4
N7711-N82	Administrative and support service	1 309	19,6
O84A-O84C	Public adminstration services	39	0,6
P854-P8554	Education services	84	1,3
Q8621201-Q86B	Human health services	9	0,1
R90-R932	Arts, entertainment and recreation activities	132	2,0
S941-S951	Other services	30	0,4
X9901	Swedish consumption abroad	113	1,7
Sum		6 594	98,6
Total		6 691	100

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

### 3.17 NACE K, Financial and insurance activities

Financial and insurance services are pursued mainly by enterprises in the financial corporations sector falling within the following industries:

NACE 64 Financial activities, except insurance and insurance associations and friendly societies

NACE 65 Insurance and pension funding, except compulsory social security

NACE 66 Activities auxiliary to financial and insurance activities.

Output in NACE K is distributed on the following product groups in the NA

**Table 3.17.1 NACE K, output per product group, SEK million 2011**

<b>NACE K64 output</b>		
Product group		SEK million
K64A	FISIM	83440
K64B	Other bank services	45416
J62AEG	Software produced on own account	2734
K6411	The Riksbank	651
M72EG	R&D produced on own account	193
N7710	Car benefits	262
<b>Total</b>		<b>132696</b>

<b>NACE K65 output</b>		
Product group		SEK million
K6512	Non-life insurance	23571
K653	Pension fund services	11995
K6511	Life insurance	7033
K652	Reinsurance	5766
L682A	Other real estate letting	4024
J62AEG	Software produced on own account	1410
M72EG	R&D produced on own account	208
M692	Business consultancy	191
N7710	Car benefits	77
K65OPEA	Public production for own final consumption.	12
<b>Total</b>		<b>54287</b>

<b>NACE K66 output</b>		
Product group		SEK million
K66	Activities auxiliary to financial intermediation	12176
J62AEG	Software produced on own account	407
M72EG	R&D produced on own account	117
N7710	Car benefits	126
<b>Total</b>		<b>12826</b>

Production, intermediate consumption and gross value added are distributed by division according to the following table:

**Table 3.17.2 NACE K, SEK million 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A *21) - %	total GVA - %	GDP - %	GNI - %
K64	Financial service activities, except insurance and pension funding	132 696	44 232	88 464	67.2	2.7	2.4	2.3
K65	Insurance, reinsurance and pension funding, except compulsory social security	54 287	18 515	35 772	27.2	1.1	1.0	0.9
K66	Activities auxiliary to financial services and insurance activities	12 826	5 487	7 339	5.6	0.2	0.2	0.2
<b>K</b>	<b>Financial and insurance activities</b>	<b>199 809</b>	<b>68 234</b>	<b>131 575</b>	<b>100.0</b>	<b>4.1</b>	<b>3.6</b>	<b>3.5</b>

Output, IC and GVA according to sources of origin. The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments:

**Table 3.17.3 NACE K, SEK million 2011**

NACE K			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		95 088	73 450	21 638
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM	83 440		83 440
		Other E&M	15 857	6 005	9 852
		Total Extrap+Models	99 297	6 005	93 292
	Other				
	Total (sources)		194 385	79 455	114 930
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		3 765	-3 765
		Other conceptual	5 069	-15 539	20 608
		Total conceptual	5 069	-11 774	16 843
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	355		355
		N7			
		Total exhaustiveness	355	0	355
	Balancing			553	-553
	Total (adjustments)		5 424	-11 221	16 645
	Final estimate		199 809	68 234	131 575

### 3.17.1 NACE K64, Financial activities, except insurance and insurance associations and friendly societies

The industry comprises the institutional groups: banks, credit market corporations, securities corporations, mutual funds, fund corporations and investment corporations. All except investment corporations are under the supervision of the Swedish Financial Supervisory Authority.

#### *Statistical sources*

Enterprises belonging to NACE 64, which are under the supervision of the Financial Supervisory Authority, respond to an annual survey submitting their profit and loss accounts and balance sheets and specifications based on final accounts statistics. The results are used by Statistics Sweden, the Riksbank and the Financial Supervisory Authority. On a yearly basis Statistics Sweden compiles the profit and loss account and balance sheet data for each institutional group (banks, credit market enterprises, securities corporations, mutual funds, fund corporations and investment corporations). The statistics are published at Statistics Sweden's webpage. Investment corporations are questionnaire-surveyed by Statistics Sweden. The balance sheet data with specifications are collected quarterly.

#### *Output*

The output of credit institutions and investment corporations consists mainly of FISIM, product group K64A, and what is referred to in the profit and loss account as commissions charges, i.e. product group K64B.

### 3.17.1.1 FISIM: Calculation, allocation and impact on GNI

#### *Introduction*

Since 2005 all member states of the European Union are obliged to allocate financial intermediation services indirectly measured (FISIM) by institutional sector. The FISIM calculations are defined in annex A, chapter 14, to Council Regulation (EU) No 549/2013 of 21 May 2013 (ESA 2010). The chapter treats the production and allocation of FISIM as well as the breakdown into intermediate and final consumption. The council decision of 16 March 2010 (2010/196/EU, Euratom) states that FISIM shall be allocated for the establishment of the gross national income for the purposes of the European Union's budget and its own resources. Please note that the numerical examples and tables in this section refers to the year 2012. Statistics Sweden modified the FISIM calculations after the transversal reservation II on FISIM of 2013. The starting year of the modified series is 2012.

In short FISIM relates to the services that financial intermediaries, FI, supply to borrowers and lenders of money. These services are not directly charged as a fee to the customers by these institutions. In order to cover this production in the national accounts system an indirect measure has to be used. It is based on the fact that FIs pay lower rates of interest to those who lend them money and charge higher rates of interest to those who borrow from them. This implicit margin between interest rates on lending and deposits is used to cover FIs expenses and provide an operating surplus.

FISIM is exclusively produced by financial corporations engaged in financial intermediation of loans and deposits for which they control the rate of interest. In Sweden approximately 60 percent of the FISIM- production takes place in banks, which account for a dominant share of loans and deposits.

#### *Sources*

The main sources for the FISIM calculations is the central bank of Sweden, the Riksbank's, compiled by Statistic Sweden, monthly balance data of monetary financial institutions, MFI and the Swedish Financial Supervisory Authority's quarterly balance and profit and loss data for financial enterprises.

Additional data is taken from the Riksbank's Financial Market Statistics (FMR) and the annual summary accounts for municipalities. The data consists of banks' deposit and lending rates, housing credit institution's lending rates, banks and housing credit institutions' lending by collateral (all FMR) and local government sub-sectors municipalities' and county councils' loans in foreign currency. Imports and exports of FISIM are calculated using the Riksbank's Balance of Payment data on assets and liabilities by sector.

#### *FISIM producers*

FISIM producers in Sweden are only found in sub-sector 122 Deposit-taking corporations except the Riksbank. FISIM producers in sub-sector 122 are banks, housing credit institutions and other monetary credit market corporations. The financial institutions of subsector 125 do not act as intermediaries with respect to their stock of loans. They are outside the scope of FISIM producers. Banks and housing credit institutions' stock of loans with dwellings as collateral is used to distinguish households as owners of dwellings. The subsector S125 in the Swedish economy consists, according to the present standard of classification of institutional sectors INSEKT 2014 used by Statistics Sweden, of the following subdivisions:

Financial vehicle corporations engaged in securitisation transactions (FVC)  
Non-monetary security and derivative dealers

Financial corporations engaged in lending  
Investment corporations  
Financial intermediaries n.e.c., except  
Insurance corporations and pension funds

Financial vehicle corporations and non-monetary security and derivative dealers are clearly not producers of FISIM. Investment corporations principally engage in the management of shares and other securities.

Financial intermediaries not elsewhere classified and financial corporations engaged in lending can by definition contain FISIM producers. In the business register of Statistics Sweden there are no potential FISIM producers among the former. There are at present 28 active units in the subdivision financial corporations engaged in lending in the business register of Statistics Sweden. 10 of the 28 have permission from the Swedish Financial Supervisory Authority to engage in lending activities either as lender or the predominant activity as intermediary of consumer credits. With the starting year 2014 all consumer credit institutions report their balance sheet and profit and loss account to the Swedish Financial Supervisory Authority. The balance sheet total of these companies indicates that their effect from FISIM on the Swedish National Accounts will be negligible. Subsector 122 therefore in 2012 contains all FISIM producers in the Swedish economy. The subsector is equal to the register of monetary financial institutions used and published by the Riksbank.

Companies engaged in financial leasing are by law authorized and supervised by the Swedish Financial Supervisory Authority. These companies are, unless they are authorized banks, credit market corporations. All credit market corporations under supervision of the Swedish Financial Supervisory Authority are MFI according to the register of the Riksbank. The register of MFI according to the Riksbank is consistent with subsector 122 in the business register used by Statistics Sweden. All MFI report monthly balance sheet data to the Riksbank and quarterly balance sheet and profit and loss account to the Swedish Financial Supervisory Authority. Statistic Sweden's FISIM calculation uses both these data sources and therefore includes financial leasing companies in the stocks of loans of subsector 122.

**Table 3.17.4 Supply of FISIM 2012**

Sector	Description	MSEK	Per cent
S.122	Other monetary financial institutions (OMFI)	95 613	98
	Banks	59 484	62
	Housing credit institutions	31 227	33
	Other monetary credit market corporations	4 902	5
S.125	Other financial intermediaries, except insurance corporations and pension funds	-	-
S.2	Rest of the world	2 160	2
	<b>Total</b>	<b>97 773</b>	<b>100</b>

## Domestic FISIM

### *Method*

FISIM is calculated using the method as outlined in annex A, chapter 14, to Council Regulation (EU) No 549/2013 of 21 May 2013 (ESA 2010) and thus uses the following three components:

1. Average stocks of loans and deposits for sub-sector 122 by user sectors.
2. Accrued interest for sub-sector 122 by user sectors.
3. Internal reference rate

FISIM is calculated as the sum of each quarter's:

(deposit stocks  $\times$  internal reference rate) - interest payable on deposits +  
interest receivable on loans - (loan stocks  $\times$  internal reference rate)

### *Stock data by sector*

For banks and housing credit institutions the Riksbank's monthly balance data of monetary financial institutions is used for data on stocks of loans and deposits by sector. An average of the opening and closing balance of each month in the quarter is used. For other monetary credit market corporations the Swedish Financial Supervisory Authority's quarterly data is used. This information is also available by sector. An average of opening and closing balance is used.

In the Riksbank's monthly Financial Market Statistics, data on households and non-profit institutions serving households (NPISH) total deposits is divided into NPISH, households as owners of unincorporated enterprises and households. The definition of households as owners of unincorporated enterprises used in the Financial Market Statistics is consistent with the ESA definition. Banks and housing credit institutions' stock of loans with dwellings as collateral is used to distinguish households as owners of dwellings.

### *Interest by sector*

Interest, payable and receivable, is calculated using the Riksbank's deposit and lending rates upon stock data. There are no available data on interest flows per sector. Interest flows are only provided for credit institutions, i.e. MFI and other financial intermediaries, except insurance corporations and pension funds, and the rest of the economy.

There are sector specific average interest rates for households and non-financial corporations. The average interest rates are weighted by the maturity of the loans/deposits. Non-profit institutions serving households are assumed to face the same interest rate as households. Financial corporations and general government are assumed to face lower interest rates on lending and higher interest rates on deposits compared to non-financial corporations. The assumption that financial corporations and general government face lower interest rates on lending and higher interest rates on deposits compared to non-financial corporations is based on data from the MIR interest rate statistics up to the year 2005. Until 2005 Statistics Sweden used interest rate data covering all other sectors than financial corporations, households and non-financial corporations to estimate the accrued interest flows for general government. According to the central bank of Sweden the "all other sectors grouping" consisted mainly of general government. In 2005 the "all other sectors grouping" interest rates on loans were 55 basis points lower than the interest rates for non-financial corporations. On deposits the corresponding difference were 35 basis points. From 2006 and onwards the interest rates for general government are estimated using data for non-financial corporations adjusted for the differences



outlined above. The adjustment is manually adapted to the general interest rate level of the economy. Quarterly data from the Swedish Financial Supervisory Authority on the ratio interest income and expense to stocks of loans and deposits is used for comparison purposes. Final or chosen interest on loans and deposits for each FISIM producing sub-sector is often adjusted to match the information of the separate sources.

Interest payable on household's total stock of loans is calculated using data on average lending rates on all types of loans. For households as owners of unincorporated enterprises (D) the average lending rate for households as a total is used. For households as owners of dwellings (C) the lending rates of housing credit institutions are applied. Interest payable on households stock of loans for consumer purposes (B) is calculated as the residual of total interest payable less interest payable used for intermediate consumption.

**Table 3.17.5 FISIM Households**

	Stocks of loans	Lending rates	Interest payable
Households	$A=B+C+D$	I	$V=A*I$
as consumers	B	$J=X/B$	$X=V-Y-Z$
as owners of dwellings	C	K	$Y=C*K$
as owners of unincorporated enterprises	D	I	$Z=D*I$

#### The internal reference rate

The reference rate is calculated using data from the Swedish Financial Supervisory Authority. Interest receivable and average stocks are used. The internal reference rate which is given by the ratio of interest receivable on loans to the stocks of loans between sub-sectors 122 and 125. As described earlier there are no FISIM producers in subsector 125. However the data on stocks of loans and interest received in the data from the Swedish Financial Supervisory, unlike the data from the Riksbank, are aggregated for subsector 122 and 125. It is not possible to disaggregate the data.

Table 3.17.6 shows the data used for calculating the internal reference rate and domestic FISIM by user sector year 2012. As an example, using the formula described above, FISIM on loans for sector Non-financial corporations is calculated as:  $69\,000 - (1\,837\,000 * 0,0245) = 23\,822$ . FISIM on deposits for sector Non-financial corporations is calculated as:  $(658\,000 * 0,0245) - 9\,000 = 7\,068$ .<sup>3</sup>

<sup>3</sup> Statistics Swedens FISIM model produces quarterly data. The data in table 3.17.5 for stocks and interest payable/recievable is rounded to nearest billion SEK because of the weight effect of the quarters.

**Table 3.17.6 Domestic FISIM 2012**

		<b>2012</b>		
	Interest receivable on loans within and between subsectors S.122 and S.125	21 477 843		
	Stock of loans within and between subsectors S.122 and S.125	875 127 500		
	<b>Internal reference rate</b>	<b>2.45</b>		
<b>Sector</b>		<b>Stock of loans/Deposits</b>	<b>Interest payable/-receivable</b>	<b>FISIM</b>
S.11	Non-financial corporations	1 837 000	69 000	23 822
S.12	Financial corporations	111 000	4 000	1 375
S.13	General government	157 000	5 000	1 293
S.14	Households	2 677 000	109 000	43 229
	as consumers	709 000	31 000	13 391
	as owners of dwellings	1 333 000	52 000	19 725
	as owners of unincorporated enterprises	635 000	26 000	10 113
S.15	Non-profit institutions serving households	14 000	1 000	178
	<b>TOTAL FISIM on loans to residents</b>	<b>4 796 000</b>	<b>188 000</b>	<b>69 897</b>
S.11	Non-financial corporations	658 000	9 000	7 068
S.12	Financial corporations	240 000	4 000	2 014
S.13	General government	112 000	2 000	1 012
S.14	Households	1 189 000	17 000	11 693
	as consumers	971 000	14 000	9 530
	as owners of unincorporated enterprises	218 000	3 000	2 163
S.15	Non-profit institutions serving households	52 000	1 000	556
	<b>TOTAL FISIM on deposits to residents</b>	<b>2 251 000</b>	<b>33 000</b>	<b>22 343</b>

**Imports and exports of FISIM**

## Reference rate

The external reference rate is calculated as defined in paragraph 10 of chapter 14 of ESA 2010. That is as the ratio of interest on loans plus interest on deposits between resident FIs and non-resident FIs, to

the stock of loans plus the stock of deposits between resident FIs and non-resident FIs. The stock of loans between resident MFI and non-resident MFI and deposits between resident MFI and non-resident MFI are used as weights for calculating one external reference rate.

**Table 3.17.7 External reference rate 2012**

Stock of loans between resident MFI and non-resident MFI	A	896 334
Deposits between resident MFI and non-resident MFI	B	821 802
Interest payable	C	5 322
Interest receivable	D	11 173
Weight loans	$E=A/(A+B)$	0,52
Weight deposits	$F=B/(A+B)$	0,48
External reference rate loans	$G=C/A$	0,59
External reference rate deposits	$H=D/B$	1,36
<b>External reference rate</b>	<b><math>I=G*E+H*F</math></b>	<b>0,96</b>

#### *Stock data*

The Riksbank's Balance of Payment data on assets and liabilities by sector is the main source for the calculation of imports of FISIM. In the calculation of FISIM export the Balance of Payment data for monetary financial institutions is replaced with the Riksbank's monetary financial institutions data on stocks of loans between resident MFI and non-resident non-MFI to ensure that FISIM is not calculated for stocks of loans and deposits for resident MFI vis-à-vis non-resident MFI.

#### *Interest data*

Interest payable/receivable is calculated using interest rates on loans and deposits. The balance of payment data on interest is too volatile and is not used in the calculations of imports of FISIM with the exception of the Riksbank interest payable. For exports of FISIM the balance of payment interest data includes interest payable/receivable from/to resident MFI from/to non-resident MFI and is therefore also inappropriate.

The interest rates are calculated using data on the ratio of the internal reference rate to domestic interest rate on loans and deposits for non-financial corporations as outlined in table 3.17.6. The approach uses the assumption that proportional margin used by domestic FISIM producers are the same as non-domestic producers.

**Table 3.17.8 Interest rates on non-domestic loans and deposits 2012**

External reference rate	G	0,96
Internal reference rate	H	2,45
Average interest rate on loans to domestic S.11	I	3,68
Average interest rate on deposits to domestic S.11	J	1,37
Proportional margin loans	$K=I/H$	1,50
Proportional margin deposits	$L=J/H$	0,56
Interest rate non domestic loans	$M=K*G$	1,44
Interest rate non domestic deposits	$N=L*G$	0,54

Table 3.17.6 shows assets and liabilities of loans and deposits, the corresponding interest payable and receivable and FISIM by sector. Other monetary financial institutions are FISIM-producers and therefore exporters of FISIM. All other sectors are importers of FISIM.

As an example, imported FISIM on deposits for sector Non-financial corporations in non-resident financial intermediaries is calculated as:  $47\,000 * 0,096 - 250 = 198$ . Imported FISIM on loans in non-resident financial intermediaries for sector Non-financial corporations is calculated as:  $4\,470 - 0,096 * 302\,000 = 1\,558$ .<sup>4</sup> Exports of FISIM on loans of nonresidents is calculated as  $7\,310 - 0,096 * 494\,000 = 2\,563$ . Exports of FISIM on deposits of non-residents is calculated as  $197\,000 * 0,096 - 1\,080 = 810$ . Total exports of FISIM in 2012 is  $2\,563 + 810 = 3\,373$ .

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<sup>4</sup> Statistics Swedens FISIM model produces quarterly data. The data in table 3.17.9 for stocks are rounded to nearest billion SEK and interest payable/receivable to nearest 10 million SEK because of the weight effect of the quarters.

**Table 3.17.9 Imports and exports of FISIM 2012**

Sector	Assets		Stock of loans/- Deposits	Interest rate	Interest payable/- recievable	FISI M
				M/N	Stock*M/N	
S.11	Non-financial corporations	Deposits	47 000	0,54	250	198
S.122	<b>OMFI</b>	Loans	494 000	1,44	7 310	2 563
S.12	Financial corporations except OMFI	Deposits	29 000	0,54	160	121
S.13	General government	Deposits	22 000	0,54	120	90
	<b>TOTAL import of FISIM on loans i non resident MFI</b>		<b>98 000</b>		<b>530</b>	<b>409</b>
	<b>TOTAL export of FISIM on deposits of nonresident non MFI</b>		<b>494 000</b>		<b>7 310</b>	<b>2 563</b>
	<b>Liabilities</b>					
S.11	Non-financial corporations	Loans	302 000	1,44	4 470	1 558
S.122	<b>OMFI</b>	Deposits	197 000	0,54	1 080	810
S.12	Financial corporations except OMFI <sup>5</sup>	Loans	48 000	1,24	600	129
S.13	General government	Loans	12 000	1,44	210	64
	<b>TOTAL import of FISIM on deposits in non resident MFI</b>		<b>362 000</b>		<b>5 280</b>	<b>1 751</b>
	<b>TOTAL export of FISIM on loans to nonresident non MFI</b>		<b>197 000</b>		<b>1 080</b>	<b>810</b>
P6	Export of FISIM		<b>691 000</b>			<b>3 373</b>
P7	Import of FISIM		<b>460 000</b>			<b>2 160</b>

*Allocating FISIM*

By allocating FISIM to user sectors, GDP is raised by 26 593 million SEK in 2012. This equals the intermediate consumption of general government and nonprofit institutions serving households, household's final consumption expenditure and exports less imports. The effect on GNI is 25 380 million SEK which equals intermediate consumption of general government and nonprofit institutions serving households and household's final consumption

<sup>5</sup> Financial corporations include the Riksbank. The Riksbank faces lower interest rates wich affects the average for financial corporations.

Table 3.17.10 Total use by sector and supply of FISIM 2012

<b>FISIM-output and allocation by sector, MSEK. 2012</b>		
<b>P1</b>	<b>FISIM-output</b>	<b>95 613</b>
	FISIM produced in Sweden allocated to domestic units	92 240
	- Non-financial corporations	30 890
	- Financial corporations excl. insurance and pension	1 617
	- Insurance corporations and pension funds	1 772
	- General government	2 305
	- Households	
	- as consumers	22 921
	- as owners of dwellings	19 725
	- as un-incorporated enterprises	12 276
	- NPISH	734
<b>P6</b>	<b>Export of FISIM</b>	<b>3 373</b>
<b>P7</b>	<b>Import of FISIM allocated to domestic units:</b>	<b>2 160</b>
	- Non-financial corporations	1 756
	- Financial corporations excl. insurance and pension	5
	- Insurance corporations and pension funds	245
	- General government	154
	- Households	-
	- NPSIH	-
	<b>Total use of FISIM</b>	<b>97 773</b>
P2	- Non-financial corporations	32 646
P2	- Financial corporations excl. insurance and pension	1 622
P2	- Insurance corporations and pension funds	2 017
P2	- General government	2 459
	- Households	
P3	- as consumers	22 921
P2	- as owners of dwellings	19 725
P2	- as un-incorporated enterprises	12 276
P2	- NPISH	734

P6	Export of FISIM	3 373
	<b>Total supply of FISIM</b>	<b>97 773</b>
P1	<b>Domestic production</b>	<b>95 613</b>
P7	<b>Import</b>	<b>2 160</b>
	<b>FISIM effect on GDP</b>	<b>26 593</b>
	<b>FISIM effect on GNI</b>	<b>25 380</b>

FISIM is allocated by industry for non-financial corporations, financial corporations and general government in accordance with Commission Regulation (EC) No 1889/2002 of 23 October 2002, using the stocks of loans and deposits on a single letter NACE level. The full breakdown to the 100 industry level in the Swedish national accounts system uses the output of the respective industries as key. Table 9.7 shows the intermediate consumption of FISIM by sector and industry. The data for sector S.11 and S.12 uses stocks of loans and deposits by industry to allocate FISIM. Financial corporations S.12 are assumed to be equal to NACE K. For households except NACE L data on production is used as key for allocation to industry. Households stock of loans with dwellings as collateral are used to calculate homeowners intermediate consumption of FISIM which is allocated to NACE L. Non-profit institutions serving households uses value added as key.

**Table 3.17.11 Intermediate consumption of FISIM by user sector and industry 2012**

Sector	S.11	S.12	S.13	S.14	S.15	2012
<b>P2</b>	32 646	3 639	2 459	32 001	734	71 479
<b>NACE</b>						
<b>A</b>	1 006			2 374		3 380
<b>B</b>	86			12		98
<b>C</b>	3 535			606		4 141
<b>D</b>	861			8		869
<b>E</b>	120			12		132
<b>F</b>	1 232			1 872		3 104
<b>G</b>	2 718			1 062		3 780
<b>H</b>	1 320			1 003		2 323
<b>I</b>	349			679		1 028
<b>J</b>	779			368		1 147
<b>K</b>		3 639				3 639
<b>L</b>	15 869			20 703	19	36 591
<b>M</b>	3 237			1 144	7	4 388
<b>N</b>	722			461		1 183
<b>O</b>			2 459			2 459
<b>P</b>	141			164	122	427
<b>Q</b>	300			435	65	800
<b>R</b>	236			359	163	758
<b>S</b>	135			739	358	1 232
<b>T</b>						

### 3.17.1.2 Other bank services

The product group K64B, “Other bank services.” in the survey consists, on the one hand, of direct commission charges, for example, for the hire of bank safe-custody boxes, overdraft fees, late payment penalties, advice commissions, management charges, currency conversion charges, and, on the other hand, of indirect charges such as fund accumulation charges.

It also includes commission charges for “*financial services in acquiring and disposing of financial assets and liabilities in financial markets*”, as specified in ESA 2010 §3.73.

The commissions are calculated for banks, credit market enterprises, securities corporations, mutual funds, fund corporations and investment corporations. The commissions generated from the central bank and insurance corporations are not included in these calculations.

The corporations of the financial sectors mentioned are charging commissions, depending on the type of service they provide. There are six basic categories of commission charges, remittance charges, lending charges, deposits charges, guarantee charges, financial security charges and other commission



charges. As mentioned in the examples above, these charges have subcategories that include the direct and indirect charges that are specified in ESA 2010.

The calculation is built so that the foreign units of the mentioned financial sectors are excluded in the final result. This means that the commission charges from subunits of the corporations that are economically active outside Sweden are subtracted.

**Table 3.17.12 Financial services for direct payments (commission charges), SEK million, 2011**

	Lending charges	Deposit charges	Guarantee charges	Financial security charges	Other charges	Remittance charges	
Banks	4 983	579	1 010	11 245	5 758	10 181	+33 756
Credit market enterprises	821	95	167	1 853	949	1 678	+5 564
Mutual funds	72	8	15	163	83	147	+488
Fund corporations	828	96	168	1 868	957	1 691	+5 608
Investment corporations	0	0	0	0	0	0	0
Central bank					70		-70
						<b>Total:</b>	<b>45 416</b>
						<b>Central bank (sum of cost):</b>	<b>+651</b>
						<b>Other(car benefits)</b>	<b>+262</b>
						<b>Total</b>	<b>46 329</b>

The rest of the output for NACE K64 consists of production regarding own-account software and R&D. These calculations are described in detail in chapter 5.

Finally a separate product group for the central bank is recorded. The calculation is using the sum of costs method as described in ESA 2010 §14.16. The total production value of the central bank is calculated as the sum of intermediate consumption, compensation of employees, CFC and other taxes less subsidies on production. Data is collected from the profit and loss accounts of the central bank. The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments

**Table 3.17.13 Financial services, except insurance and pension funding, NACE K64**

NACE K64 Financial services, except insurance and pension funding			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>				
	<b>Administrative Records</b>		46 329	54 493	-8 164
	<b>Combined Data</b>				0
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>			0
		<b>Commodity Flow Model</b>			0
		<b>CFC(PIM)</b>			0
		<b>Dwellings - stratification method</b>			0
		<b>FISIM</b>	83 440		83 440
		<b>Other E&amp;M</b>	0		0
		<b>Total Extrap+Models</b>	<b>83 440</b>	<b>0</b>	<b>83 440</b>
	<b>Other</b>				0
	<b>Total (sources)</b>		<b>129 769</b>	<b>54 493</b>	<b>75 276</b>
<b>Adjustments</b>	<b>Data validation</b>				
	<b>Conceptual</b>	<b>Allocation of FISIM</b>		15	-15
		<b>Other conceptual</b>	2 927	-10 592	13 519
		<b>Total conceptual</b>	<b>2 927</b>	<b>-10 577</b>	<b>13 504</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>			
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>			0
		<b>N7</b>			
		<b>Total exhaustiveness</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Balancing</b>			359	-359
	<b>Total (adjustments)</b>		2 927	-10 218	13 145
<b>Final estimate</b>			<b>132 696</b>	<b>44 275</b>	<b>88 421</b>

*Intermediate consumption*

The basis for the calculation of intermediate consumption is the operating costs stated by the corporations themselves. These operating costs include administrative costs, renting costs and other operating costs. Units located outside of Sweden are excluded. These costs are then subsequently corrected for compensation of employees, insurance, R&D, leasing and purchased software in order to arrive at total intermediate consumption in conformity with the national accounts definition.

*Value added*

Value added is obtained residually as the difference between output and intermediate consumption.

### 3.17.2 NACE K 65, Insurance and insurance associations and friendly societies, except compulsory social security

Insurance services consist mainly of life insurance, product group K6511, pension funding K653, for which the employer usually pays the premiums, non-life insurance K6512, and reinsurance, K652. Insurance services are provided by traditional life insurance corporations, unit-linked enterprises, national and local non-life insurance enterprises, and insurance associations and friendly societies. They are all subject to supervision by the Financial Supervisory Authority.

Life insurance enterprises can be divided into traditional life insurance and unit-linked insurance. The traditional life insurance enterprises pay a guaranteed return and provide both private and group insurance solutions. The majority of group insurances, however, are concentrated in the hands of a few large enterprises.

Unit-linked enterprises manage pension insurance arrangements under which the policy-holder himself chooses the direction for the investment of the funds. Consequently the yield is determined by the performance of the individual funds. These consist mostly of individual private pension policies. There are also a number of group pension arrangements. These provide a group pension solution for

employees covered by a collective agreement, which entitles the individual concerned to invest part of the accrued pension rights himself.

Non-life insurance enterprises cover mainly property insurance such as car insurance, traffic insurance, house insurance etc. They also cover sickness and accident insurance, redundancy insurance and occupational injuries cover. Working individuals can also sign for additional cover in the event of sickness and occupational injury through group insurance policies.

Friendly societies provide occupational pension fund services and are benevolent societies.

#### *Statistical sources*

The main statistical source is the profit and loss accounts and balance sheets collected by the Swedish Financial Supervisory Authority. The accounts are set up in accordance with “The annual accounts and consolidated accounts of insurance undertakings” Council directive 91/674/EEC.

Data on imports and exports of insurance services, are gathered and calculated by using International Trade in Service statistics compiled for the Swedish Balance of Payments. This information is also used to calculate reinsurance services, and is covered in chapters 5.14 and 5.15.

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

**Table 3.17.14 Insurance and pension funding, except compulsory social security, NACE K65**

NACE K65, Insurance and pension funding, except compulsory social security			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		48 633	18 957	29 676
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M	4 036	12	4 024
		Total Extrap+Models	4 036	12	4 024
	Other				
	Total (sources)		52 669	18 969	33 700
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		3 750	-3 750
		Other conceptual	1 618	-4 402	6 020
		Total conceptual	1 618	-652	2 270
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6			
		N7			
		Total exhaustiveness	0	0	
	Balancing			198	-198
	Total (adjustments)		1 618	-454	2 072
	Final estimate		54 287	18 515	35 772

#### *Output*

This section only applies to domestic insurance services, i.e. production for export is calculated separately and from the use side. Domestic insurance services produced are separated from total

production by separation of the risks. Domestic output of insurance services is calculated on Swedish risks.

*Life insurance and Insurance association & friendly societies*

Statistics Sweden uses the sum of cost approach when estimating the output, i.e. the service charge of life insurance, as well for the insurance associations & friendly societies. There are two reasons for this approach. The first reason is that Swedish life insurance enterprises are often mutual enterprises. If they are not, the majority are run according to mutual principles. If they are allowed to make profits, the profits come mainly from holding gains. The output or service charge of insurance enterprises that makes no profit equals the operating expenses. Some labour market insurances, which comprise a large proportion of the total services produced in Sweden, are not exposed to competition, i.e. they are not profitable. The enterprises providing these services are mutually owned by the large employer organisations and employee organisations.

The second and most important reason for the sum of costs approach is the difficulty of excluding holding gains/losses from the output in other calculation approaches. Operating expenses are defined as:

Commissions  
Other acquisition costs  
Change in deferred acquisition costs  
Administrative expenses  
Reinsurance commissions and profit participation

It is the cost of acquiring new or renewal of existing policies and administrative expenses that is measured in the source data. Claims management costs and investment management charges are therefore excluded. However, in the sum of costs approach, claims management costs are added to operating expenses. Investment management charges and other technical charges are not included and hence no correction for interest payable is necessary. Operating expenses are not corrected for reinsurance commissions and profit participation in ceded reinsurance in Swedish National Accounts due to the output algorithm used for reinsurance services.

By applying the sum of costs approach there is no problem with excluding holding gains/losses in the change of reserves as long as premium supplements are net of holding gains/losses.

The mark-up (equivalent to premium supplement) for life insurance is calculated as an income return on the total equity of life insurance enterprises. The reasoning for this method is that life insurance enterprises have expectations that their equity amount is going to increase by a given percentage. If the number of insurers is radically decreasing, then they decrease the price of the premium, depending on the expectations for this percentage in the beginning of the year. This is due to the fact that the majority are mutual enterprises, as stated above. This percentage is currently estimated to be *one percent* of the total equity amount in the balance sheet.

From the sum of cost calculations, outputs is derived for each of the product groups mentioned above, and are added to the total output for insurance services as shown in the table below. It is also worth mentioning that life insurance corporations produce some non-life insurance services and reinsurance services. The sum of cost method has been used consistently over time in Swedish national accounts and has not resulted in any irrelevant results (i.e. negative output or negative value added).

**Table 3.17.15 Sum of cost calculation, NACE K65.**

<b>Life insurance reports (sum of costs) , SEK million, 2011</b>				
	Life Insurance (K6511)	Pension funds (K653)	Non-life insurance (K6512)	Reinsurance (K653)
Operating expenses	4078	6401	1154	148
Claims management costs	53	168	208	0
Investment management costs	366	186	34	0
Mark-up	2536	3981	-70	0
<b>Total</b>	<b>7033</b>	<b>10736</b>	<b>1326</b>	<b>148</b>

<b>Pension funds reports (sum of cost), SEK million, 2011</b>				
	Life Insurance	Pension funds (K652)	Non-life insurance (K6512)	Reinsurance (K653)
Operating expenses	0	212	18	0
Claims management costs	0	5	3	0
Investment management costs	0	57	3	0
Mark-up	0	208	12	0
<b>Total</b>	<b>0</b>	<b>482</b>	<b>36</b>	<b>0</b>

*Non-life insurance*

The output, i.e. the service charge, of non-life insurance is measured in accordance to ESA 2010 §3.74. The main components: *Premiums, Premium supplements, Claims and Change in technical provisions* in the source material provided by the Swedish Financial Supervisory Authority are described below.

ESA 2010 §3.74: Output of non-life insurance services = Premiums + premium supplements – claims – change in reserves.

*Premiums*

The starting point is the gross premiums as defined in Council directive 91/674/EEC article 35. Gross premiums written are combined with reinsurance premiums and the change in provisions for unearned premiums and unexpired risks and results in premiums earned. The latter is net of the change of reinsurer's share of unearned premiums. The change in unearned premiums is net of portfolio transfers and exchange rate fluctuations. The change in provisions for unexpired risks are entered into the accounts with a negative sign (if increase).

Provisions for unexpired risks are entered into the balance sheet together with provisions for unearned premiums. In the technical account the opening balance of unearned premiums and unexpired risks are entered with a positive sign. The closing balance of unearned premiums and unexpired risks are displayed separately with negative signs. This explains the deviation from the recommendation of the Task Force on Insurance Measurement Eurostat/B1/CPNB/336 Rev.

Gross premiums are entered net of rebates in the source data. Premiums earned are at present not corrected for the change in provisions for bonuses and rebates as recommended by the Task Force on Insurance Measurement. This corresponds to the change in item C.4 91/674/EEC article 6.

*Premium supplements*

Premium supplements are calculated as the net investment income (net operating surplus) on land and buildings, dividends and net interest income. . Income earned by the investment of own funds are excluded by applying recommendation 2 of the Task Force on Insurance Measurement. The calculation is made by the application of a pro-rata approach (“own funds/(own funds+technical reserves)”)It should be noted that profit or loss in the financial year are included in capital and reserves according to Swedish accounting rules.

*Claims*

Claims paid are calculated in accordance to article 38 of Council directive 91/674/EEC. Claims incurred, net of reinsurance are gross claims paid net of reinsurers share of claims paid minus the change in provisions for claims outstanding, net of reinsurance. Claims management costs and change in provisions for claims management costs are excluded. As for premiums, claims are net of the change in provisions for claims outstanding due to portfolio transfers and exchange rate fluctuations. In motor third-party liability insurances claims paid are often annuities. Annuities are included in claims incurred and therefore change in provisions for annuities, which is a part of provisions for outstanding claims, is withdrawn from claims paid.

Equalisation provisions are included in the output algorithm.. Statistics Sweden follows the recommendations of the Task Force on insurance measurement and adding the change in equalisation provisions to claims incurred.

*Reinsurance*

Output of reinsurance is determined exactly as output of non-life insurance, i.e. Premiums + premium supplements – claims – change in reserves. Note that reinsurance commissions are deducted from reinsurance premiums in the calculation of output of reinsurance companies.

Table 3.17.16 Calculation of non-life insurance

Non-life insurance calculation, SEK million, 2011			Non-life insurance (K6512)
A	+	Premiums earned	51 345
	+	Reinsurance premiums	4 641
		Net of the change of reinsurer's share of unearned premiums	-239
	+	Net of portfolio transfers and exchange rate fluctuations	-578
	+	Change in provisions for unexpired risks	-52
	=	Premiums earned total	<b>55 117</b>
B	+	<b>Premium supplements</b>	<b>4 977</b>
C	-	Claims paid	38 615
	-	Reinsurance share of claims paid	3 234
	-	Claims management costs	-3 599
		Change in provisions for claims management costs	-23
	+	Change in provisions for claims outstanding	308
	+	Equalization provisions	34
	=	<b>Adjusted claims</b>	<b>37 885</b>
<b>Total Output (A+B+C)</b>			<b>22 209</b>

*Intermediate consumption*

The intermediate consumption is based on operating costs from all types of insurance enterprises. To achieve the best estimate for this calculation, the costs data is first separated for life insurance, non-life insurance and insurance associations and friendly societies.

The intermediate consumption is then calculated as a residual with depreciation and labour costs deducted from operating expenses and claims management costs. Investment management charges and other technical charges are also included. Reinsurance commissions and profit participation in ceded reinsurance are not withdrawn from operating expenses.

*Allocation of output by users*

The output of life insurance services, unless exported, is consumed by households as final consumption. For non-life insurance output is calculated for the different insurance categories. The uses, i.e. household final consumption or intermediate consumption, of each product are then identified. The identification of uses is non-complicated for the majority of products. These products have a final consumption to total output ratio of 0 or 100 in the table below. For home and house insurance, motor vehicle insurance, motor third party insurance, marine insurance and animal insurance a split between final and intermediate consumption has to be made.

Household final consumption of total output of non-life insurance, percent

Health and accident insurance	100
Employers no-fault insurance	100
Home and house insurance	40
Company and real estate insurance	0
Motor vehicle insurance	63
Motor third party insurance	63
Marine insurance	30
Aviation insurance	0
Transport insurance	0
Credit insurance	0
Discharge insurance	100
Animal insurance	50

For the governments intermediate consumption a method similar to exports of insurance services is used. The value of government intermediate consumption of non-life insurances is measured as a proportion, 26 percent, of the insurance premiums paid. There is no information on which insurance product local and central government are buying so the approach has to be general.

Regarding “other non-life insurance”, the amounts in insurance groups “Employers no-fault insurance”, “Marine insurance”, “Discharge insurance” and “Animal insurance” are allocated to household final consumption, using the percentages above, and are included in COICOP 1255

*Value added*

Value added is obtained residually as the difference between output and intermediate consumption

**3.17.3 NACE K66 Activities auxiliary to financial services**

Activities auxiliary to financial services are defined as activities, which are closely related to financial service but are not financial intermediation as such.

NACE 66 consists of several large enterprises engaging in the above-mentioned activity. For example Swedish Securities Register Centre, the Stockholm Stock Exchange, the Plusgiro and Forex. It also consists of self-employed insurance brokers, insurance brokers in corporate form, securities corporations, foreign exchange businesses and fund corporations. Other enterprises included are actuarial consulting firms. Some of the enterprises are subject to supervision by the Financial Supervisory Authority.



The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

**Table 3.17.17 Activities auxiliary to financial intermediation, K66**

NACE K66 Activities auxiliary to financial intermediation			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		126		126
	Combined Data				0
	Extrapolation and Models	Benchmark extrapolations			0
		Commodity Flow Model			0
		CFC(PIM)			0
		Dwellings - stratification method			0
		FISIM			0
		Other E&M	11 821	5 993	5 828
		Total Extrap+Models	11 821	5 993	5 828
	Other				0
	Total (sources)		11 947	5 993	5 954
Adjustments	Data validation				
	Conceptual	Allocation of FISIM			0
		Other conceptual	524	-545	1 069
		Total conceptual	524	-545	1 069
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	355		355
		N7			
		Total exhaustiveness	355	0	355
	Balancing			44	-44
	Total (adjustments)		879	-501	1 380
	Final estimate		12 826	5 492	7 334

#### Output

The output calculations for NACE 66 are model-based. The model uses the assumption that the production in NACE 66 closely follows the output of enterprises engaged in financial services as the population mainly consists of brokers and other financial actors. The output of NACE 66 is calculated as the weighted average of the development in NACE 64 (excluding FISIM) and NACE 65. The output value is calculated based on the annual growth rate of the following product groups: K6411 Central Bank, K64B Other bank services, K6511 Life Insurance, K6512 Non-life insurance, K652 Reinsurance, K653 Pension funds.

#### Intermediate consumption

IC is calculated following the same annual growth rate as output, i.e. the input coefficient is held constant.

#### Value added

Value added is obtained residually as the difference between output and intermediate consumption.

### 3.18 NACE L, Real estate activities

#### 3.18.1 Introduction

In the Swedish national accounts NACE L is subdivided into two industries. New estimates are compiled each year for each of the sub-groups.

L68A=Own homes and secondary residences (part of NACE L68.2)

L68B=Other real estate management, which includes apartments in multiple-occupancy buildings and letting of premises (part of NACE L68.2) and buying and selling of own real estate plus real estate intermediation and real estate management on a fee or contract basis (NACE 68.1 and 68.3).

**Table 3.18.1: NACE L Output, IC and GVA , SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA %	GDP %	GNI %
L68A	Own homes and secondary residences	205 209	90 551	114 658	41,6	3,6	3,1	3,0
L68B	Other real estate management	324 860	164 151	160 709	58,4	5,0	4,4	4,3
<b>L68</b>	<b>Real estate activities</b>	<b>530 069</b>	<b>254 702</b>	<b>275 367</b>	<b>100,0</b>	<b>8,5</b>	<b>7,5</b>	<b>7,3</b>

**Table 3.18.2: NACE L Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					Total
			S11	S12	S13	S14	S15	
L68A	Own homes and secondary residences	Output	14 365	0	0	190 844	0	205 209
		IC	6 338	0	0	84 213	0	90 551
		GVA	8 027	0	0	106 631	0	114 658
		%-GVA of L68A	7,0	0,0	0,0	93,0	0,0	100,0
		Output	304637,0	0,0	2161,0	16527,0	1535,0	324 860
L68B	Other real estate management	IC	151389,0	0,0	2355,0	9392,0	1015,0	164 151
		GVA	153248,0	0,0	-194,0	7135,0	520,0	160 709
		%-GVA of	95,4	0,0	-0,1	4,4	0,3	100,0
		Output	319 002	0	2 161	207 371	1 535	530 069
		IC	157 727	0	2 355	93 605	1 015	254 702
<b>L</b>	<b>Real estate activities</b>	GVA	161 275	0	-194	113 766	520	275 367
		%-GVA of L	58,6	0,0	-0,1	41,3	0,2	100,0

**Table 3.18.3: NACE L – Excerpt from Process Tables - Output, IC and GVA distributed by source, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		5 569	1 029	4 540
	<b>Administrative Records</b>		679		679
	<b>Combined Data</b>		188 713		188 713
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>			
		<b>Commodity Flow Model</b>			
		<b>CFC(PIM)</b>	170		170
		<b>Dwellings - stratification method</b>	313 953		313 953
		<b>FISIM</b>			
		<b>Other E&amp;M</b>		206 596	-206 596
		<b>Total Extrap+Models</b>	<b>314 123</b>	<b>206 596</b>	<b>107 527</b>
	<b>Other</b>		18 124		18 124
	<b>Total (sources)</b>		<b>527 208</b>	<b>207 625</b>	<b>319 583</b>
<b>Adjustments</b>	<b>Data validation</b>			27 984	-27 984
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	22	27 597	-27 575
		<b>Other conceptual</b>	230	-8 494	8 724
		<b>Total conceptual</b>	<b>252</b>	<b>19 103</b>	<b>18 851</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>			
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>	2 609	-2 071	4 680
		<b>N7</b>			
		<b>Total exhaustiveness</b>	<b>2 609</b>	<b>-2 071</b>	<b>4 680</b>
	<b>Balancing</b>			2 061	-2 061
	<b>Total (adjustments)</b>		<b>2 861</b>	<b>47 077</b>	<b>-44 216</b>
	<b>Final estimate</b>		<b>530 069</b>	<b>254 702</b>	<b>275 367</b>

*Surveys and censuses* refer to annual accounts of local government and administrative records refer to central government records. Framework and calculation methods of production are described in chapter 3.21.

*Combined data* refer to SBS.

*Extrapolation and models* refer to the special calculations of dwellings.

*Data validation* refers to IC for BRF and part of local government market production

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM. Conceptual adjustments on the intermediate consumption refer to software, bought R&D, financial leasing, insurances, FISIM, a correction of Standardized accounting statements (SRU) concerning reimbursements and capitalized production cost that is deducted from both production and intermediate consumption. Production adjustments are done for production of software and R&D for own final use. See section 3.4 for more information.

*Exhaustiveness* refer to estimates for hidden/mis-reported activities

*Balancing* is the item used in the final consolidation process between production and expenditure approaches.

**Output of L68 is allocated to the following product groups, SEK million 2011**

<b>Product group</b>		<b>SEK million</b>
L68201A	Imputed rentals for owner-occupiers	187 085
L68201B	Imputed rentals for secondary residences	18 124
L68201C	Actual rents paid by tenants (incl BRF)	126 868
L682A	Other real estate letting	165 931
L68C	Real estate activities	18 022
N811	Real estate support activities	10 501
Other miscellaneous		3 538
<b>Total output</b>		<b>530 069</b>

The stratification method is used for all dwellings except for the secondary residences. Regional stratification is used in the calculations, as well as stratification on year of construction and on dwelling size. Strata contain four regions, ten construction periods and six different dwelling sizes. For an example of the numbers of dwellings for Multiple-occupancy buildings, tenant-ownership rights and tenancies in multiple-occupancy buildings see table 3.18.4 below and for Owner occupied dwellings see table 3.18.5 below. Information regarding region, year of construction and dwelling size stratification as well as actual rent is obtain every year and the actual rent is available for all strata. Therefore, no bench mark year is used.

**Table 3.18.4: NACE L Total Dwelling Stock 2011**

	<b>Number of dwellings</b>	<b>Square metres*</b>	<b>Output**</b>	<b>IC**</b>
<b>Owner occupied dwellings</b>	2069481	284796	187085	80874
<b>Multiple-occupancy buildings, tenant-ownership rights</b>	874229	64239	50843	25161
<b>Tenancies in multiple-occupancy buildings</b>	1327883	102480	76025	37632
<b>Secondary residences</b>	519643	NN	18124	9677

\*Thousands

\*\*Million SEK

**Table 3.18.5: NACE L number of dwellings by year of construction and size, owner occupied dwellings, 2011**

<b>Year*</b>	<b>1 rak**</b>	<b>2 rak</b>	<b>3 rak</b>	<b>4 rak</b>	<b>5 rak</b>	<b>&gt;6 rak</b>	<b>Sum</b>
NN***	0	62	303	1 781	1 970	2 087	6 203
-1950	1 710	35 743	110 865	202 552	187 018	229 797	767 686
1951-1970	1 890	7 421	62 131	149 943	138 513	92 505	452 403
1971-1980	0	4 362	21 463	121 609	135 010	144 503	426 947
1981-1990	0	0	12 641	76 785	71 139	51 317	211 882
1991-	0	2 233	25 456	45 468	68 244	62 959	204 360
<b>Totalt</b>	<b>3 600</b>	<b>49 822</b>	<b>232 859</b>	<b>598 138</b>	<b>601 894</b>	<b>583 169</b>	<b>2 069 481</b>

\*Year of construction

\*\*room and kitchen

\*\*\*Year of construction missing

The HiB-category "Accommodation", i.e. rental-free dwellings, student housing, furnished dwellings are excluded from the survey Rents for dwellings (HiB). Therefore, the actual rent for all the dwellings surveyed is the real market prices covering the dwellings service. The cooperative dwellings are normally only charged a membership fee to cover costs. Output is therefore adjusted to market prices by reference to the rents actually paid for similar rented dwellings on the market. The rent includes all required additions such as heating, hot water and so forth. On exception is the electricity used by households for lighting or electric appliances in the dwellings. This expenditure is measured and charged directly from the distributor of the electricity for all types of dwellings. This expense is accounted for as HFCE.

Because the available information relate to rents including heating costs, the rents for heated accommodation is calculated first. Rents for accommodations without heating are obtained residually as heated-accommodations rents less heating expenditures.

The heating expenditures are calculated in a model based on Statistics Sweden's annual inquiry on the supply of electricity, gas and district heating. The heating expenditures are also excluded from intermediate consumption in dwelling service.

**Table 3.18.6: NACE L number of dwellings by year of construction and size, Multiple-occupancy buildings, tenant-ownership rights and tenancies in multiple-occupancy buildings, 2011**

Year*	1 rak**	2 rak	3 rak	4 rak	5 rak	Other***	Sum
-1940	64 425	163 624	125 171	50 475	19 466	19 064	442 226
41-50	22 540	116 812	60 185	9 813	3 479	6 165	218 993
51-60	31 729	140 931	99 409	34 556	8 203	20 523	335 352
61-70	37 958	146 482	174 989	72 692	17 174	25 311	474 605
71-80	20 529	82 905	99 038	28 265	7 103	21 410	259 252
81-85	4 010	31 845	31 755	19 161	5 121	1 241	93 134
86-90	3 693	41 200	38 137	23 480	4 763	1 617	112 891
1991 -	11 335	85 129	95 516	51 550	13 285	8 845	265 660
<b>Total</b>	<b>196 220</b>	<b>808 930</b>	<b>724 200</b>	<b>289 993</b>	<b>78 593</b>	<b>104 177</b>	<b>2 202 112</b>

\*Year of construction

\*\*room and kitchen

\*\*\*Other consist of dwellings with more than 5 rooms, dwellings without kitchen, dwellings with kitchenette and dwellings with dressers

### 3.18.2 Tenancies in multiple-occupancy buildings

The output value covers income from rents in respect of tenancies in multiple-occupancy buildings, excluding heating costs. The value is calculated by the help of the dwelling area according to the national estate taxation register and rent per square metre according to annual information on rents from the survey Rents for dwellings (HiB).

Regional stratification is used in the calculations, as well as stratification on year of construction and on dwelling size. Strata contain four regions, ten construction periods and six different dwelling sizes. Information on dwelling area, construction periods and regional information is taken from the national estate taxation register. Rents and dwelling size are taken from the survey Rents for dwellings (HiB). Heating costs are deducted according to the calculations made in the comprehensive energy balances. A deduction is also made for empty dwellings according to the estimates of an SCB survey. Because the available information on income from rents relates to rents including heating costs, rents for heated accommodations are calculated first. Rents for accommodations without heating are obtained residually as heated-accommodation rents less heating costs. The heating costs are calculated in a model based on Statistics Sweden's annual inquiry on the supply of electricity, gas and district heating. For examples of total rents and average annual rent per square meter for 3 room and kitchen by year of construction and region, see table 3.18.7 and 3.18.8.

**Table 3.18.7: NACE L – Total rents for 3 room and kitchen by year of construction and region, tenancies in multiple-occupancy buildings, SEK million 2011**

Region/Year*	NN**	-1940	41-50	51-60	61-70	71-80	81-85	86-90	91-	Sum
Stockholm	0***	764	677	1 262	2 283	1 506	236	315	885	7 928
Gothenburg	1	623	222	560	1 320	435	141	149	373	3 824
Municipalities > 75000 inh	6	1 435	818	1 185	2 919	1 460	388	385	1 187	9 783
Other municipalities	4	1 372	966	1 286	3 038	1 638	401	1 056	1 688	11 449

\*Year of construction

\*\*Year of construction missing

\*\*\*Rent including heating costs

**Table 3.18.8: NACE L – Average annual rent per square meter for 3 room and kitchen by year of construction and region, tenancies in multiple-occupancy buildings, SEK 2011**

Year*/Region	Stockholm	Gothenburg	Municipalities > 75000 inh	Other municipalities
NN**	979	935	885	827
-1940	1 060	997	911	767
41-50	1 019	988	926	825
51-60	956	947	887	789
61-70	915	860	821	803
71-80	899	877	825	788
81-85	997	1 003	908	832
86-90	1 067	1 039	942	871
91-	1 346	1 135	1 121	963

\*Year of construction

\*\*Year of construction missing

\*\*\*Rent including heating costs

### 3.18.3 Multiple-occupancy buildings, tenant-ownership rights, BRF

A holder of a tenant-ownership entitlement does not own his apartment but owns a share in a tenant-owners' association. The task of the tenant-owners' association is to ensure the day-to-day maintenance of the property etc. For this the tenant-owner pays a monthly charge. This charge is lower than corresponding rents in the case of ordinary tenancies. Hence imputed rentals are calculated for tenant-ownership rights by using actual rents per square metre for ordinary tenancies of a corresponding standard. Otherwise the calculation is carried out on the same principles as for tenancies in multiple-occupancy buildings.

### 3.18.4 Owner occupied dwellings

In accordance with international recommendations, a utility value is to be estimated for the residence of a person in his own home. Thus it is not the expenditures of households living in their own home, which is calculated, but instead an alternative cost indicating how much they would have paid if they had rented the accommodation. In Sweden it is not usual for individual houses to be let, hence there is no basis for estimating the utility value with the aid of actual rents for single-family houses. Instead the level is ascertained with the aid of rents per square metre of multiple-occupancy buildings of a corresponding standard, i.e. similar apartment size, region and age.

The number of individual houses, periods of construction and regional breakdown is based on information from the national estate taxation register. Dwelling size and average area is collected from the source Household finances (HEK) and rents per square metre is collected from the source Rents for dwellings (HiB). The calculation is stratified by region, year of construction and dwelling size. A supplement is also included for access to a garage. The calculation is based on the number of individual houses from the National Estate Taxation Register and data over the cost of parking area and garage from the survey Revenues and expenditure of multi-dwelling buildings (IKU). In recent years, the supplement is extrapolated by volume growth in the number of houses and CPI for garages.

The rents for unheated accommodation are obtained residually as the heated-accommodation rent minus heating cost. Since the utility right is defined as corresponding to the rents for tenanted apartments, the unheated-accommodation rent is calculated by subtracting the heating cost per square metre from the heated-accommodation rent for the rented apartment.

The owner- occupier's expenditure on decoration, maintenance and repair is treated as intermediate consumption. Information is taken from the survey Household finances (HEK)

### 3.18.5 Secondary residences

For secondary residences the utility value is calculated as the sum of costs at current prices for services like refuse collection, water and chimney-sweeping, insurance services, repairs and maintenance, FISIM, real estate tax, consumption of fixed capital and net operating surplus. The net operating surplus is calculated by applying a real rate of return of 2.5% to the value of the capital stock for secondary residences at current prices. The service charges are calculated by extrapolating the household budget data from HBS-92. Insurance expenses on individual and secondary residences are calculated annually based on insurance and taxation data. The share of secondary residences of the total insurance services for owner-occupiers is estimated with the aid of the corresponding tax assessment value for secondary residences. Repairs and maintenance are obtained from calculations taking the housing and rent survey (HiB) as its source. The consumption of fixed capital is calculated in the PIM model, see section 4.12.

For second homes abroad owned by Swedish residents, owner occupation leads to household final consumption expenditure in Sweden by the Swedish household and the import of housing services. For second homes in Sweden, owned by foreign residents, owner occupation leads to the recording of production and operating surplus in Sweden and the export of housing services. Further reading about the treatment of owner-occupied dwellings abroad is available in section 8.3.2.2.

**Table 3.18.9: NACE L – User-cost method for secondary residences, SEK million 2011**

CFC	Insurance services	Repairs and maintenance	FISIM	Real estate tax	Net operating surplus	Services	Output
2 295	271	6 277	885	1 756	4 396	2 244	18 124

As a survey on weekly rents for secondary houses has been running for some ten years now, it would be possible to confront the prevailing model with a rent and region based stratification model. A simple calculation based on total number of secondary homes, average rent per week and occupation time of 7 weeks gives an estimate of  $519\,643 \times 4\,536 \times 7 / 100\,000 = \text{SEK } 16\,500$  million.

### 3.18.6 Other real estate management

Other real estate management consists, on the one hand, of the premises and garage spaces belonging to apartments classed as rented residential accommodation and, on the other hand, of the commercial letting of shop premises, offices and industrial premises.

The main source for the calculation of the other real estate management industry is SBS, but the calculations are also based on revenues and expenditure of multi-dwelling buildings (IKU), annual accounts for municipalities (Survey and censuses) and NPISH calculations (Survey and censuses, administrative records and CFC (PIM)). Administrative records also refer to benefits in kind. The conceptual adjustments refer to own account software and R&D. Exhaustiveness N6 refer to estimates for hidden activities. Further reading about the conceptual adjustment and the exhaustiveness made is available in section 3.4 and 3.6.

**3.18.7 Real estate intermediation, product group L68C**

The output value consists of land use, buying and selling of own real estate, real estate intermediation and management under contract or for a fee. The source is SBS.

**3.18.8 Intermediate consumption Multiple-occupancy buildings, other real estate management and real estate intermediation**

Intermediate consumption is based on the SBS with some alterations with help of confronting sources and is therefore recorded as other E&M. Exceptions are made for multiple-occupancy buildings, tenant-ownership rights, apartments owned directly by the municipalities, the public enterprises buildings and the buildings owned by the NPISH. The intermediate consumption for those exceptions is added as data validation and for NPISH as survey and censuses. For multiple-occupancy buildings, tenant-ownership rights, apartments owned directly by the municipality, the public enterprises buildings the intermediate consumption is based on the ratio from SBS.

However, there is no breakdown of the intermediate consumption as to identify the intermediate consumption for the different parts, i.e. multiple-occupancy buildings, other real estate management and real estate intermediations, on product group level. See table 3.18.10 for an explicit list of the items included in intermediate consumption for NACE 68 B, Other real estate management. Fuel is not included for multiple-occupancy buildings since output is calculated exclusive of fuel. FISIM as well as insurance is treated as intermediate consumption. The main source for the FISIM calculations is the monthly balance data of monetary financial institutes, MFI and the quarterly balance of profit and loss data for financial enterprises and for insurance. Further reading about FISIM and insurance is available in section 3.17.

Conceptual adjustments refer to software, financial leasing, insurance, bought R&D, standardized accounting statement, FISIM and other taxes on production. The exhaustiveness adjustment N6 refers to hidden/miss-reported activities. Further reading about the conceptual adjustment and the exhaustiveness made is available in section 3.4 and 3.6.

Balancing and plausibility assessment are performed in the supply and use tables.



**Table 3.18.10: NACE L –Intermediate consumption for L68B, Other real estate management, Product Groups, 2011**

Product groups	SEK Million	Product groups	SEK Million
A0119 Other non-perennial crops	273	E381A Waste collection services	3830
A01A Spices, planting material and other perennial crops	168	E382 Services treatment and disposal services	3117
B0811 Ornamental and building stone, limestone, gypsum, chalk and slate	15	E3831 Dismantling services of wrecks	115
B0812 Gravel, sand, clays and kaolin	511	E38320A Sorted metal materials recovery services; Secondary raw material of metals	820
B0892 Peat	23	E38320B Sorted non-metal materials recovery services; Secondary raw material of non-metal	256
B0899 Other mining and quarrying products n.e.c.	1	E39 Remediation services and other waste management services	263
C14 Wearing apparel	7	F41_43 Constructions and construction works	4 936
C161 Sawn or planed wood and impregnated wood products and services	624	F41_43 Bygg- anläggningsarb	30 979
C1623A Builders' carpentry and joinery	767	F41_43 Bygg- anläggningsarb	15431
C16291 Wood fuels	291	G45A Maintenance and repair services of motor vehicles incl. motorcycles	1404
C162A Veneer sheets and wood-based panels, assembled parquet flooring	379	H491A Passenger rail transport services	22
C17129 Other paper and paperboard	54	H4932 Taxi operation services	313
C1722 Household and sanitary goods and toilet requisites	40	H493A Other passenger land transport services n.e.c.	37
C1724 Wallpaper	222	H511 Passenger air transport services	190
C172A Other articles of paper or paperboard incl. paper stationery	78	H5221A Other services incidental to land transportation	91
C181 Printing services and services related to printing	590	H53 Other transport support services n.e.c.	937
C192000B Motor gasoline excluding aviation gasoline	401	I551 Hotel and similar accommodation services	75
C192000E Diesel oil	1 446	I562A Event catering services and other food serving services excl. canteen services	34
C192000F Light fuel oil	257	I56A Restaurant and mobile food serving services; canteen services; beverage serving services	1688
C1920013 Propane and butane, liquefied	167	J581 Publishing services of books, periodicals and other publishing services	824
C2014C Other basic organic chemicals	51	J582 Software publishing services	83
C2015 Fertilizers and nitrogen compounds	25	J611 Wired telecommunications services	972
C202 Pesticides and other agrochemical products	1	J612 Wireless telecommunications services	1094
C203 Paints, varnishes and similar coatings, printing ink and mastics	413	J61A Services of satellite and other telecommunications	97
C204 Soap and detergents, cleaning and polishing preparations, perfumes and	634	J62A Computer programming services; IT design and development services	2
C205 Other chemical products	9	J62B IT technical support services; Computer facilities management services; Other information tech	497
C2223 Builders' ware of plastic	26	J631 Data processing, hosting and related services; web portals	80
C222A Other plastic products	458	K64A FISIM	13871
C2314 Glass fibres	97	K64B Financial services, except insurance and pension funding excl. central banking services and F	3 059
C2319 Other processed glass, including technical glassware	9	K6512 Non-life insurance services	819
C234 Other porcelain and ceramic products	8	K66 Services auxiliary to financial services and insurance services	335
C235 Cement, lime and plaster	81	L682A Other real estate letting	4435
C236 Articles of concrete, cement and plaster	443	L68C Buying and selling services of own real estate; Real estate services on a fee or contract basis	9 435
C239 Other non-metallic mineral products	730	M691 Legal services	493
C23A Refractory products, clay building material	100	M692 Accounting, bookkeeping and auditing services; tax consulting services	681
C241 Basic iron and steel and ferroalloys	104	M702 Management consulting services	1969
C242 Tubes, pipes, hollow profiles and related fittings, of steel	11	M7111 Architectural services	74
C243 Other products of first processing of steel	270	M7112 Engineering services and related technical consulting services	841
C251 Structural metal products	200	M712 Technical testing and analysis services	101
C255 Forging, pressing, stamping and roll forming of metal; powder metallurgy	4	M7312 Media representation services	1591
C256 Treatment and coating services of metals; machining	774	M73A Other advertising and market research services	979
C257 Cutlery, tools and general hardware	456	M741 Specialized design services	107
C259 Other fabricated metal products	118	M742 Photographic services	35
C262 Computers and peripheral equipment	16	M74A Translation and interpretation services; Other professional, scientific and technical services n.e	192
C263 Communication equipment	2	N7111 Rental and leasing services of cars and light motor vehicles	49
C264 Consumer electronics	49	N7112 Rental and leasing services of trucks	70
C2651 Measuring, testing and navigating equipment	13	N773 Rental and leasing services of other machinery, equipment and tangible goods	254
C2711 Electric motors, generators and transformers	8	N78 Employment services	580
C2712 Electricity distribution and control apparatus	89	N79A Travel agency services and other reservation services and related services	34
C273 Wiring and wiring devices	81	N80 Security and investigation services	256
C274 Electric lighting equipment	193	N811 Combined facilities support services	17947
C2751A Refrigeration and freezers, washing machines and other white goods	138	N812 Cleaning services	7024
C2751B Electric domestic appliances n.e.c.	165	N813 Landscape services	843
C279 Other electrical equipment	114	N82 Office administrative and support services	317
C281 General-purpose machinery	6	O84A General public administration and foreign affair services	114
C2822 Lifting and handling equipment	2	O84B Administration services of the State and the economic and social policy of the community exc	430
C2823 Office machinery and equipment (except computers and peripheral equi	83	O84C Provision of services to the community as a whole excl. foreign affair services	82
C282A Other general-purpose machinery n.e.c.	4	P854 Higher education services	45
C283 Agricultural and forestry machinery	2	P855A Sports and recreation education services; cultural education services; other education services	8
C2899 Other special-purpose machinery n.e.c.	1	Q8621201 Occupational health services	49
C2892 Machinery for mining, quarrying and construction	42	Q862A General primary medical practice services and specialist medical practice services, not at hos	37
C3099 Other transport equipment n.e.c.	12	Q86B Dental practice and dental hygiene services	35
C31 Furniture	209	R90 Creative, arts and entertainment services	473
C329 Manufactured goods n.e.c.	7	R931 Sporting services	270
C3311 Repair services of fabricated metal products	50	R932 Amusement and recreation services	78
C3313 Repair services of electronic and optical equipment	2	S941 Services furnished by business, employers and professional membership organizations	154
C3314 Repair services of electrical equipment	30	S942 Services furnished by trade unions	31
C331A Repair services of machinery and of other equipment	3	S949A Services furnished by political and other membership organizations	27
D351 Electricity, transmission and distribution services	4251	S951 Repair services of computers and communication equipment	60
D352 Manufactured gas, distribution services of gaseous fuels through mains	47	S952 Repair services of personal and household goods	459
D353 Steam and air conditioning supply services	3471	X9901 Consumption by Swedes abroad*	141
E36_37 Natural water; water treatment and supply services; Sewerage services;	6594	<b>TOTAL</b>	<b>164151</b>

\* Use not distributed by product group

### Intermediate consumption

#### Own homes and secondary residences

Intermediate consumption includes among other things costs for refuse disposal, repairs, insurance, ancillary financial services and public services, see table 3.18.11 for an explicit list of the items included in intermediate consumption. Fuel for heating is not included since the output value is calculated exclusive of fuels.

The intermediate consumption value is based mainly on data from the Household Budget Survey (HBS). The level of the intermediate consumption each year for major product groups such as refuse disposal, water and sewage services as well as for minor product groups are extrapolated with the number of dwellings. To take into account the price effect different price indices are used. The

estimate for the product group repairs is collected from the survey Household finances (HEK). FISIM as well as insurance are also treated as intermediate consumption and further reading about those items is available in section 3.17.

Balancing and plausibility assessment are performed in the supply and use tables.

**Table 3.18.11: NACE L –Intermediate consumption for L68A, Own homes and Secondary residences, Product Groups, 2011**

Product groups, IC for L68A			SEK Million	Product groups			SEK Million
A0119	Other non-perennial crops		42	C259	Other fabricated metal products		75
B0811	Building stone, limestone, gypsum, chalk and slate		12	C2712	Electricity distribution and control apparatus		19
B0812	Gravel, sand, clays and kaolin		223	C273	Wiring and wiring devices		14
C161	Sawn or planed wood products and services		878	C2751A	Refrigeration, freezers, washing machines, etc		149
C1623A	Builders' carpentry and joinery		1 524	C2751B	Electric domestic appliances n.e.c.		275
C16291	Wood fuels		115	C3311	Repair services of fabricated metal products		8
C162A	Veneer sheets, panels, assembled parquet flooring		806	E36_37	Water treatment and supply services, sewerage services		7 153
C1724	Wallpaper		468	E381A	Waste collection services		4 545
C172A	Articles of paper or paperboard incl. paper stationery		3	E382	Services treatment and disposal services		2 938
C2015	Fertilizers and nitrogen compounds		13	E3831	Dismantling services of wrecks		95
C205	Other chemical products		20	E38320A	Metal materials recovery services		492
C2222	Plastic packing goods		34	E38320B	Non-metal materials recovery services		331
C2223	Builders' ware of plastic		34	E39	Remediation services, other waste management		264
C222A	Other plastic products		697	F41_43	Constructions and construction works		45 264
C2314	Glass fibres		70	K64A	FISIM		13 726
C2319	Other processed glass, technical glassware		74	K64B	Financial services, except insurance, pension funding and FISIM		4 302
C234	Other porcelain and ceramic products		13	K6512	Non-life insurance services		1 834
C235	Cement, lime and plaster		131	K66	Services auxiliary to financial and insurance services		137
C236	Articles of concrete, cement and plaster		686	N811	Combined facilities support services		355
C239	Other non-metallic mineral products		1 161	N812	Cleaning services		843
C23A	Refractory products, clay building material		132	N813	Landscape services		114
C242	Tubes, pipes, hollow profiles of steel		20	O84A	General public administration and foreign affair services		40
C243	Other products of first processing of steel		126	O84B	Administration services of the State		38
C251	Structural metal products		132	O84C	Provision of services to the community		33
C257	Cutlery, tools and general hardware		93	<b>TOTAL</b>			<b>90 551</b>

#### *Value added*

Value added for these activities is obtained as the difference between output value and intermediate consumption value.

### **3.19 NACE M, Professional, Scientific and Technical Activities**

In the Swedish national accounts section M is calculated divided into seven sub-industries

NACE M 69 Legal and accounting activities

NACE M 70 Activities of head offices, management consultancy activities

NACE M 71 Architectural and engineering services technical testing and analysis services

NACE M 72 Scientific research and development services

NACE M 73 Advertising and market research services

NACE M 74 Other professional, scientific and technical activities

NACE M 75 Veterinary activities

### GVA and breakdown by institutional sectors

Table 3.19.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section M. The table also includes shares of the division in the gross value added of section M and in the total gross value added, GDP and GNI.

**Table 3.19.1: NACE M, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
M69-70	Legal and accounting activities; activities of head offices; management consultancy activities	129 948	53 284	76 664	34,3	2,4	2,1	2,0
M71	Architectural and engineering services; technical testing and analysis	109 256	47 612	61 644	27,6	1,9	1,7	1,6
M72	Scientific research and development	87 202	34 868	52 334	23,4	1,6	1,4	1,4
M73	Advertising and market research	56 241	38 915	17 326	7,7	0,5	0,5	0,5
M74-75	other professional, scientific and technical activities; veterinary activities	34 653	18 905	15 748	7,0	0,5	0,4	0,4
<b>M</b>	<b>Professional, scientific and technical activities</b>	<b>417 300</b>	<b>193 584</b>	<b>223 716</b>	<b>100,0</b>	<b>6,9</b>	<b>6,1</b>	<b>5,9</b>

Table 3.19.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division M are included as well.

**Table 3.19.2: NACE M –Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
M69-70	Legal and accounting activities; activities of head offices; management consultancy activities	Output	121 310	0	0	8 638	0	129 948
		IC	51 673	0	0	1 611	0	53 284
		GVA	69 637	0	0	7 027	0	76 664
		%-GVA of M69-70	90,8	0,0	0,0	9,2	0,0	100,0
M71	Architectural and engineering services; technical testing and analysis	Output	104 359	0	0	4 897	0	109 256
		IC	45 797	0	0	1 815	0	47 612
		GVA	58 562	0	0	3 082	0	61 644
		%-GVA of M71	95,0	0,0	0,0	5,0	0,0	100,0
M72	Scientific research and development	Output	28 514	0	58 173	169	346	87 202
		IC	21 509	0	13 149	104	106	34 868
		GVA	7 005	0	45 024	65	240	52 334
		%-GVA of M72	13,4	0,0	86,0	0,1	0,5	100,0
M73	Advertising and market research	Output	54 313	0	0	1 928	0	56 241
		IC	38 002	0	0	913	0	38 915
		GVA	16 311	0	0	1 015	0	17 326
		%-GVA of M73	94,1	0,0	0,0	5,9	0,0	100,0
M74-75	other professional, scientific and technical activities; veterinary activities	Output	29 724	0	0	4 929	0	34 653
		IC	17 052	0	0	1 853	0	18 905
		GVA	12 672	0	0	3 076	0	15 748
		%-GVA of M74-75	80,5	0,0	0,0	19,5	0,0	100,0
M	Professional, scientific and technical activities	Output	338 220	0	58 173	20 561	346	417 300
		IC	174 033	0	13 149	6 296	106	193 584
		GVA	164 187	0	45 024	14 265	240	223 716
		%-GVA of M	73,4	0,0	20,1	6,4	0,1	100,0

Table 3.19.3 provides estimates of output, intermediate consumption and gross value added divided in different sources and adjustments.

**Table 3.19.3: NACE M – Excerpt from Process Tables - Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		3 302	1 276	2 026
	Administrative Records		30 823	10 254	20 569
	Combined Data		352 052	191 343	160 709
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	24 708	0	24 708
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	1 990	1 990	0
		Total Extrap+Models	26 698	1 990	24 708
	Other		0	0	0
	Total (sources)		412 875	204 863	208 012
Adjustments	Data validation		0	0	0
	Conceptual	Allocation of FISIM	5	3 758	-3 753
		Other conceptual	3 877	-8 396	12 273
		Total conceptual	3 882	-4 638	8 520
	Exhaustiveness	N1	0	0	0
		N2	0	0	0
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	543	-8 106	8 649
		N7	0	0	0
		Total exhaustiveness	543	-8 106	8 649
	Balancing		0	1 465	-1 465
	Total (adjustments)		4 425	-11 279	15 704
	Final estimate		417 300	193 584	223 716

*Surveys and censuses* refer to annual accounts of local government and NPISH.

*Administrative records* refer to central government records and wages & salaries in kind (see section 3.2).

These, above mentioned sectors general government and NPISH, are non-market units producing non-market output. Their definitions, framework and calculation methods of production are described in chapter 3.21 and 5.8.

*Combined data* refer to SBS.

*Extrapolation and models* refer to consumption of fixed capital (described in 4.12) and value-added tax for general government (described in 3.21).

*Conceptual adjustments* on the intermediate consumption refer to software, bought R&D, financial leasing, insurances, FISIM, a correction of Standardized accounting statements (SRU) concerning reimbursements and capitalized production cost that is deducted from both production and intermediate consumption. Production adjustments are done for production of software and R&D for own final use. See section 3.4 for more information.

*Exhaustiveness* refers to estimates for hidden or misreported activities (section 3.6).

*Balancing* is the item used in the final consolidation process between production and expenditure sides (section 6.1).

### ***Output and intermediate consumption***

All five sub industries are calculated in the same way.

### ***Value added***

Value added is obtained as the difference between output value and intermediate consumption value.

## **3.19.1 NACE M69, Legal and accounting activities**

**Table 3.19.4 Process table of output, IC and GVA, SEK million 2011**

	Total	Adjustments Data validation	Concep- tual	Cut-off	Exhaustive- ness	Balancing	Final estimate
Output	51934		454				52388
IC	18621		-2271			134	16484
GVA							35904

Estimates in the total column are all from the SBS.

*Validation items* refer to an inappropriate registration in the source material.

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

*Exhaustiveness* refers to estimates for hidden activities. Balancing is the item used in the final consolidation process between production and expenditure sides.

### ***Output***

The output value for legal and accountancy activities were, for 2011, distributed as follows:

**Table 3.19.5 NACE M69, Data on the output value**

<b>Product group</b>		<b>SEK million</b>
M692	Accounting, bookkeeping, auditing, tax consulting services	29 954
M691	Legal services	19 488
M702	Management consulting services	1 573
N78	Employment services	418
N7710	Car benefits	358
L682A	Other real estate letting	334
J62AEG	Software produced on own account	96
J62A	Computer consultancy services	77
M701	Services of head offices	30
M72	Scientific research and development services	27
P856	Educational support services	22
G4B	Trade Margins etc.	8
N774	Licence services	3
<b>Total output</b>		<b>52 388</b>

***Intermediate consumption***

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

***Value added***

Value added is obtained as the difference between the output value and intermediate consumption.

**3.19.2 NACE M70, Activities of head offices; management consultancy activities****Table 3.19.6, Process table of Output, IC and GVA, SEK million 2011**

	Total	Adjustments					
		Data validation	Conceptual	Cut-off	Exhaustiveness	Balancing	Final estimate
Output	75496		2064				77560
IC	39741		-3240			299	36800
GVA							40760

Estimates in the total column are all from the SBS.

Validation items refer to an inappropriate registration in the source material.

Conceptual adjustments refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

Exhaustiveness refers to estimates for hidden activities.

Balancing is the item used in the final consolidation process between production and expenditure sides.

***Output***

The output value for activities of head offices and management consultancy activities, for 2011, was distributed as follows:

**Table 3.19.7 NACE M70, Data on the output value**

<b>Product group</b>		<b>SEK million</b>
M702	Management consulting services	66 114
M701	Services of head offices	4 342
J62AEG	Software produced on own account	1 138
J62B	IT technical support services	837
N774	Licence services	808
M692	Accounting, bookkeeping, auditing, tax consulting	739
N7710	Car benefit	728
N78	Employment services	621
L682A	Other real estate letting	510
M7312	Media representation services	414
G4B	Trade Margin etc.	384
M72EG	R&D produced on own account	198
P856	Educational support services	188
J852	Software publishing services	148
M7112	Engineering, related technical consulting services	87
N82	Office administrative and business services	86
P855A	Other education services	71
J62A	Computer consultancy services	65
M691	Legal consultancy	50
L68C	Real estate services	32
<b>Total output</b>		<b>77 560</b>

***Intermediate consumption***

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

Value added is obtained as the difference between the output value and intermediate consumption.

### 3.19.3 NACE M71, Architectural and engineering activities; technical testing and analysis

**Table 3.19.8 Process table of output, IC and GVA, SEK million 2011**

	Total	Adjustments Data validation	Concep- tual	Cut-off	Exhaustive- ness	Balancing	Final estimate
Output	106735		2521				109256
IC	50785		-3560			387	47612
GVA							61644

Estimates in the total column are all from the SBS.

*Validation* items refer to an inappropriate registration in the source material.

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

*Exhaustiveness* refers to estimates for hidden activities. Balancing is the item used in the final consolidation process between production and expenditure sides.

#### ***Output***

The output value for architectural and engineering activities, technical testing and analysis consists of the product groups engineering services and related technical consulting services, architectural services, technical testing and analysis services. Supplements are included for work in progress and for service activity units belonging to industrial enterprises regarding the output of architectural and technical services.



**Table 3.19.9 Data on the output value NACE M71**

M7112	Engineering services and related technical consulting services	82 457
M7111	Architectural services	8 256
M712	Technical testing and analysis services	8 023
F41-43	Construction consultancy	4 433
M72EG	R&D produced on own account	1 383
G4B	Trade Margins	1 182
M701	Services of head offices.	861
J62EG	Software produced on own account	814
N7710	Car benefits	583
L682	Other real estate letting	306
N774	Licensing services for the right to use intellectual property	176
C331A	Repair services metal products, machinery and equipment	167
N78	Employment services	132
M72	Scientific research and development services	108
M702	Management consulting services	108
C282	Other general-purpose machinery	70
C263	Communication equipment	61
N811	Combined facilities support services	45
C245	Casting services of metals	42
N773	Rental and leasing services of other machinery	39
C2712	Electricity distribution and control apparatus	18
C332	Installation services of industrialequipment	6
<b>Total output</b>		<b>109 256</b>

***Intermediate consumption***

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

***Value added***

Value added is obtained as the difference between the output value and intermediate consumption.

**3.19.4 NACE M72, Scientific research and development****Table 3.19.10 Process table of Output, IC and GVA, SEK million, 2011**

	Total	Adjustments					
		Data validation	Conceptual	Cut-off	Exhaustiveness	Balancing	Final estimate
Output	86990		212				87202
IC	37032		-1 868		-472	176	34868
GVA	49958		2 080		472	-176	52334

Estimates in the total column are all from the SBS.

Validation items refer to an inappropriate registration in the source material.

Conceptual adjustments refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

Exhaustiveness refers to estimates for hidden activities. Balancing is the item used in the final consolidation process between production and expenditure sides.

**Output**

The output value is obtained from the Structural Business Statistics. The calculations include, amongst other things, a supplement for work-in-progress and for production of these services by service activity units belonging to industrial enterprises. The table below shows the distribution of the output value for 2011.

**Table 3.19.11 NACE M72, Data on the output value**

<b>Product group</b>		<b>SEK million</b>
M72EG	Scientific research and development services, produced on own account	29 786
M72OPEA	Scientific research and development services. Public production for own final consumption	23 427
M72	Scientific research and development services	19 683
G4A	Merchanting	7 886
M72S	Scientific research and development services (Public sector internal)	1 275
N774	Licensing services	875
G4D	Trade margins	825
J62AEG	Software produced on own account	802
C266	Irradiation, electro medical and electrotherapeutic equipment	605
M701	Services of head offices	460
L682A	Other real estate letting	370
M72HPEA	Scientific research and development services. NPISH production for own final consumption	340
J61A	Telecommunications services	270
G4B	Commissions. Swedish products	173
O84B	Administration services of the state and economic and social policy of the community	131
M711S	Architectural and engineering services (Public sector internal)	82
N7710	Car benefits	73
M712	Technical testing and analysis services	47
N811	Combined facilities support services	41
L682S	Other real estate letting (Public sector internal)	33
Q86B	Other general care without doctors	13
N773	Rental and leasing other machinery	3
N78	Employment services	1
R91S	Library, archive, museum and other cultural services (Public sector internal)	1

**Intermediate consumption**

Intermediate consumption is also obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

**Value added**

Value added is obtained as the difference between the output value and intermediate consumption.

**Specific notes on Research and Development**

To some extent local KAUs are set up for research and development expenditure in major organizations involved in R&D activities. However, Statistic Sweden treats those as ancillary activities included in the main industrial activity. Classification may be changed in the future, as an investigation has started on how to treat them.

The source for R&D produced by specialized commercial research laboratories and institutes is the SBS. Production is therefore valued at market price according to bookkeeping rules.

R&D for use within the same enterprise is valued at total production costs plus a mark-up – except for non-market producer. See section 5.10 for a description over the approach used to measure R&D.

R&D by government units and non-profit research institutes is valued as the sum of costs of production including capital consumption for assets held, but no mark-up is imputed. Otherwise the calculation of the output for non-market producers is carried out with the same principles as for market producers. The Frascati survey on R&D is the source for the calculations. The revenues from sale of R&D by non-market producers of R&D are recorded as revenues from secondary market output. The source for the revenues from sale of R&D by non-market producers of R&D is for the central government the Swedish national financial management authority (ESV) and the annual accounts for county councils. The R&D production calculated with data from the Frascati survey is adjusted with the secondary market output to avoid double counting.

See section 5.10 for numerical evidence that the templates agreed by the Task Force on Capitalisation of Research and Development in National Accounts (DMES 2012/11/08) are used as well as how the own-account production of software is excluded from the estimates of own-account R&D. Statistics Sweden makes use of the compulsory tables that form a bridge between data sources and national accounts. Full consistency exists between the R&D tables and the National Accounts. The Tables are presented in section 5.10.

A geometric depreciation function is used when calculating the consumption of fixed capital for R&D. A single average service life of 10 years is used with a declining balance rate of 1.65, see section 4.12 for further reading.

The R&D service subcontracted by one R&D institutional unit to another R&D institutional is recorded as intermediate consumption by means of a model.

All expenditure by government, including freely available R&D, is recorded as GFCF. The Frascati survey on R&D is the source for the calculations which means that all R&D is included, independent if it is freely available or not.

For market producers an extra item is added in the form of a mark-up reflecting the need to generate enough operating surplus. The net-operating surplus of market producers of own-account R&D is derived with a mark-up including unsuccessful R&D. No adjustment is done to the sum of cost derived from the Frascati survey which entails that the unsuccessful R&D is included in the calculation of the mark-up.

A contribution of capital services from other traditional capital assets such as buildings, machinery etc. is added. The capital services are measured through the value of capital consumption of these assets. However, an extension should be made were the capital consumption of existing R&D assets used to produce new R&D asset is included in the estimates of the R&D output. But as for today this should not be taken into account according to the recommendations in the Task Force on the Capitalisation of R&D in National Accounts (DMES 2012/11/08). Further reading about the R&D calculations is available in section 5.10.

### 3.19.5 NACE M73, Advertising and market research

**Table 3.19.12 Process table of Output, IC and GVA, SEK million 2011**

	Total	Adjustments					
		Data validation	Conceptual	Cut-off	Exhaustiveness	Balancing	Final estimate
Output	55742		499				56241
IC	38730		-131			316	38915
GVA							17326

Estimates in the total column are all from the SBS.

*Validation* items refer to an inappropriate registration in the source material.

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

*Exhaustiveness* refers to estimates for hidden activities. *Balancing* is the item used in the final consolidation process between production and expenditure sides.

### ***Output***

The output value consists mainly of advertising services. Supplements are included for work in progress and for the service activity units of industrial enterprises regarding the output of advertising services. The industry is characterised by a relatively high level of intermediate consumption (high input coefficient). The output value for 2011 was as follows:

**Table 3.19.13 NACE M73, Data on the output value**

<b>Product group</b>		<b>SEK million</b>
M7312	Media representation services	34 177
M73A	Advertising and market research services	20 382
J62AEG	Software produced on own account	311
L682A	Other real estate letting	229
M701	Services of head offices	198
N7710	Car benefit	190
G4D	Trade Margin	139
M691	Legal services	104
J60	Radio broadcasting services	98
J591	Motion picture, video and television programme services	91
J631	Data processing, hosting and related services	91
N78	Employment services	51
J62B	Computer programming, consultancy and related services	46
N811	Combined facilities support services	35
C181	Printing services and services related to printing	34
N82	Office administrative, business support services	29
M72EG	R&D produced on own account	20
N774	Licensing services for the right to use intellectual property	16
<b>Total output</b>		<b>56 241</b>

### ***Intermediate consumption***

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

### ***Value added***

Value added is obtained as the difference between the output value and intermediate consumption.

## **3.19.6 NACE M74 Other professional, scientific and technical activities**

**Table 3.19.14 Process table of Output, IC and GVA, SEK million 2011**

	Total	Adjustments Data validation	Concep- tual	Cut-off	Exhaustive- ness	Balancing	Final estimate
Output	30653		212				30865
IC	18639		-1222			142	17559
GVA							13306

Estimates in the total column are all from the SBS.

*Validation* items refer to an inappropriate registration in the source material.

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

*Exhaustiveness* refers to estimates for hidden activities. *Balancing* is the item used in the final consolidation process between production and expenditure sides.

### **Output**

The output value for Other professional, scientific and technical activities consists mainly of the product groups Translation and interpretation activities, Specialised design services and Photographic services.

Product group		SEK million
M74A	Translation and interpretation activities	16 275
M741	Specialised design services	8 081
M742	Photographic services	3 121
G4D	Trade Margin	943
M73A	Advertising and market research services	488
N78	Employment services	325
N774	Licensing services for the right to use intellectual property	286
M702	Management consulting services	201
J581	Publishing of books, periodicals and other publishing services	166
M701	Services of head offices	141
M7112	Engineering services and related technical consulting services	110
J62EG	Computer systems/software produced on own account	104
N7710	Car benefit	98
M7111	Architectural services	91
C181	Printing services and services related to printing	82
J639	Other information services	81
N812	Cleaning services	81
L682A	Rental and operating services of own or leased real estate	48
N773	Rental and leasing services of other machinery	48
M701	Services of head offices	42
M7312	Media representation services	23
M692	Accounting, bookkeeping, auditing, tax consulting	10
M72EG	Scientific research and development services	10
N82	Office administrative, and other business support services	9
<b>Total output</b>		<b>30 865</b>

### **Intermediate consumption**

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

**Value added**

Value added is obtained as the difference between the output value and intermediate consumption.

**3.19.7 NACE M75, Veterinary activities****Table 3.19.14 Process table of Output, IC and GVA, SEK million 2011**

	Total	Adjustments Data validation	Concep- tual	Cut-off	Exhaustive- ness	Balancing	Final estimate
Output	3237		8		543		3788
IC	1314		-21			53	1346
GVA							2442

Estimates in the total column are all from the SBS.

*Validation* items refer to an inappropriate registration in the source material.

*Conceptual adjustments* refer to benefits in kind, PC, software, financial leasing, insurance and FISIM.

*Exhaustiveness* refers to estimates for hidden activities. *Balancing* is the item used in the final consolidation process between production and expenditure sides.

**Output**

The output value Veterinary activities were, for 2011, distributed as follows:

Product group	Description	2011 SEK million	Percentage weighting
P855A	Other education	1	0.0
G4D	Trade margins	9	0.2
N7710	Car benefit	9	0.2
M75	Veterinary activities	3769	99.5
Total		3788	100.0

**Intermediate consumption**

Intermediate consumption is obtained from the Structural Business Statistics. Balancing and plausibility assessments are performed in the supply and use tables.

**Value added**

Value added is obtained as the difference between the output value and intermediate consumption.

### 3.20 NACE N, Administrative and support service activities

In the Swedish national accounts NACE rev.2 section N consists of four sub-industries

NACE 77 Rental and leasing activities

NACE 78 Employment activities

NACE 79 Travel agency, tour operator and other reservation service and related activities

NACE 80-82 Security and investigation services, services to buildings and landscape; office administrative, office support and other business support services

#### GVA compilation and breakdown by institutional sectors

Table 3.20.1 provides estimates for output, intermediate consumption and value added by NACE division (A\*64) within section N. The table also includes shares of the division in the gross value added of section N and in the total gross value added, GDP and GNI.

**Table 3.20.1 NACE N, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
N77	Rental and leasing activities	36 926	15 539	21 387	19,4	0,7	0,6	0,6
N78	Employment activities	39 522	10 166	29 356	26,7	0,9	0,8	0,8
N79	Travel agency, tour operator and other reservation services and related activities	37 450	31 578	5 872	5,3	0,2	0,2	0,2
N80-82	Security activities; services to buildings and landscape; office administrative, office support and other business support	88 584	35 158	53 426	48,6	1,7	1,5	1,4
<b>N</b>	<b>Administrative and support service activities</b>	<b>202 482</b>	<b>92 441</b>	<b>110 041</b>	<b>100,0</b>	<b>3,4</b>	<b>3,0</b>	<b>2,9</b>

Table 3.20.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division N are included as well.

**Table 3.20.2 NACE N, Output, IC and GVA by institutional sectors SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
N77	Rental and leasing activities	Output	35 767	0	0	1 159	0	36 926
		IC	15 165	0	0	374	0	15 539
		GVA	20 602	0	0	785	0	21 387
		%-GVA of N77	96,3	0,0	0,0	3,7	0,0	100,0
N78	Employment activities	Output	39 041	0	0	481	0	39 522
		IC	9 973	0	0	193	0	10 166
		GVA	29 068	0	0	288	0	29 356
		%-GVA of N78	99,0	0,0	0,0	1,0	0,0	100,0
N79	Travel agency, tour operator and other reservation services and related activities	Output	36 219	0	734	497	0	37 450
		IC	30 669	0	495	414	0	31 578
		GVA	5 550	0	239	83	0	5 872
		%-GVA of N79	94,5	0,0	4,1	1,4	0,0	100,0
N80-82	Security and investigation activities; services to buildings and landscape activities; office administrative, office support and other business support activities	Output	82 110	0	0	6 474	0	88 584
		IC	33 212	0	0	1 946	0	35 158
		GVA	48 898	0	0	4 528	0	53 426
		%-GVA of N80-82	91,5	0,0	0,0	8,5	0,0	100,0
N	Administrative and support service activities	Output	193 137	0	734	8 611	0	202 482
		IC	89 019	0	495	2 927	0	92 441
		GVA	104 118	0	239	5 684	0	110 041
		%-GVA of N	94,6	0,0	0,2	5,2	0,0	100,0

***Output and intermediate consumption***

All four sub industries are calculated in the same way. The output of travel agencies is measured net, the cost of mediated trips and accommodation is deducted from the agencies' revenue. The output of tour operators is measured gross though. The revenues from operational leasing is identified as a service in the SBS and hence in the national accounts. The expenditure of operational leasing is treated as intermediate consumption as operational leasing for private use is very unusual in Sweden since calculations have shown it more profitable to borrow money to finance the product.

Table 3.20.3 provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.



**Table 3.20.3: NACE N – Excerpt from Process Tables - Output, IC and GVA, SEK million 2011.**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		658	419	239
	<b>Administrative Records</b>		418	7	411
	<b>Combined Data</b>		203 479	104 657	98 822
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	0	0	0
		<b>Commodity Flow Model</b>	0	0	0
		<b>CFC(PIM)</b>	0	0	0
		<b>Dwellings - stratification method</b>	0	0	0
		<b>FISIM</b>	0	0	0
		<b>Other E&amp;M</b>	69	69	0
		<b>Total Extrap+Models</b>	69	69	0
	<b>Other</b>		0	0	0
	<b>Total (sources)</b>		204 624	105 152	99 472
<b>Adjustments</b>	<b>Data validation</b>		-6 773	-6 473	-300
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	0	1 058	-1 058
		<b>Other conceptual</b>	1 199	-5 109	6 308
		<b>Total conceptual</b>	1 199	-4 051	5 250
	<b>Exhaustiveness</b>	<b>N1</b>	0	0	0
		<b>N2</b>	0	0	0
		<b>N3</b>	0	0	0
		<b>N4</b>	0	0	0
		<b>N5</b>	0	0	0
		<b>N6</b>	3 432	-2 934	6 366
		<b>N7</b>	0	0	0
		<b>Total exhaustiveness</b>	3 432	-2 934	6 366
	<b>Balancing</b>		0	747	-747
	<b>Total (adjustments)</b>		-2 142	-12 711	10 569
<b>Final estimate</b>			<b>202 482</b>	<b>92 441</b>	<b>110 041</b>

*Surveys and censuses* refer to annual accounts of local government and administrative records refer to central government records. Framework and calculation methods of production are described in chapter 3.21.

*Administrative records* also hold wages & salaries in kind (see section 3.2).

*Combined data* refer to SBS.

*Extrapolation and models* refer to value-added tax for general government (described in 3.21).

The *Data validation* adjustment is due to classification problems that were discovered in the changeover to NACE Rev. 2.

*Conceptual adjustments* on the intermediate consumption refer to software, bought R&D, financial leasing, insurances, FISIM, a correction of Standardized accounting statements (SRU) concerning reimbursements and capitalized production cost that is deducted from both production and intermediate consumption. Production adjustments are done for production of software and R&D for own final use. See section 3.4 for more information.

*Exhaustiveness* refers to estimates for hidden/misreported activities (section 3.6).

*Balancing* is the item used in the final consolidation process between production and expenditure sides (section 6.1).

### **Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

**NACE N, Data on output value, SEK million 2011**

<b>Product group</b>		<b>SEK million</b>
N78	Employment services	39 430
N7912	Tour operator services	32 025
N812	Cleaning services	30 283
N82	Office administrative services	21 597
N773	Rental and leasing services of other machinery	19 778
N80	Security and investigation services	14 948
N811	Combined facilities support services	9 733
N7711	Rental and leasing, cars and light motor vehicles	4 707
N79A	Travel agency services	4 411
N7712	Rental and leasing services of trucks	4 141
N813	Landscape services	2 923
N774	Licensing services	2 672
N772	Rental and leasing, personal and household goods	2 614
F41_43	Construction works	2 500
M701	Services of head offices	1 696
J62AEG	Software produced on own account	1 222
L682A	Other real estate letting	1 105
M702	Management consulting services	1 087
L68C	Real estate services	977
C332	Products from manufacturing industry	809
I56A	Restaurant services	802
G4D	Trade margins	523
N7710	Car benefits	411
M7112	Engineering services	372
J62B	IT technical support services	329
G4B	Commissions, Swedish products	202
M73A	Other advertising and market research services	151
M74A	Translation and interpretation services	127
M72EG	R&D produced on own account	116
I551	Accommodation services	111
Other miscellaneous		680
<b>Total output</b>		<b>202 482</b>

### 3.21 NACE O84, Public administration and defence, compulsory social security

In the Swedish national accounts NACE O consists of one sub-industry; NACE O 84 Public administration and defence.

#### GVA compilation and breakdown by institutional sectors

Table 3.21.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section O. The table also includes shares of the division in the gross value added of section O and in the total gross value added, GDP and GNI.

**Table 3.21.1: NACE O84 Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
O84	Public administration and defence; compulsory social security	270 754	117 271	153 483	100,0	4,8	4,2	4,1
O	Public administration and defence; compulsory social security	270 754	117 271	153 483	100,0	4,8	4,2	4,1

Table 3.21.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division O are included as well.

**Table 3.21.2: NACE O, Output, IC and GVA by institutional sector, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					Total
			S11	S12	S13	S14	S15	
O84	Public administration and defence; compulsory social security	Output	0	0	270 754	0	0	270 754
		IC	0	0	117 271	0	0	117 271
		GVA	0	0	153 483	0	0	153 483
		%-GVA of O84	0,0	0,0	100,0	0,0	0,0	100,0
O	Public administration and defence; compulsory social security	Output	0	0	270 754	0	0	270 754
		IC	0	0	117 271	0	0	117 271
		GVA	0	0	153 483	0	0	153 483
		%-GVA of O	0,0	0,0	100,0	0,0	0,0	100,0

**Table 3.21.3: NACE O84, Excerpt from Process Tables, Output, IC and GVA SEK million 2011.**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		85 282	47 433	37 849
	<b>Administrative Records</b>		133 088	55 517	77 571
	<b>Combined Data</b>		0	0	0
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	0	0	0
		<b>Commodity Flow Model</b>	0	0	0
		<b>CFC(PIM)</b>	37 343	0	37 343
		<b>Dwellings - stratification method</b>	0	0	0
		<b>FISIM</b>	0	0	0
		<b>Other E&amp;M</b>	19 337	18 617	720
		<b>Total Extrap+Models</b>	<b>56 680</b>	<b>18 617</b>	<b>38 063</b>
	<b>Other</b>				
	<b>Total (sources)</b>		<b>275 050</b>	<b>121 567</b>	<b>153 483</b>
<b>Adjustments</b>	<b>Data validation</b>				
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	2 099	2 099	0
		<b>Other conceptual</b>	-6 395	-6 395	0
		<b>Total conceptual</b>	<b>-4 296</b>	<b>-4 296</b>	<b>0</b>
	<b>Exhaustiveness</b>	<b>N1</b>			
		<b>N2</b>			
		<b>N3</b>			
		<b>N4</b>			
		<b>N5</b>			
		<b>N6</b>			
		<b>N7</b>			
		<b>Total exhaustiveness</b>			
	<b>Balancing</b>				
	<b>Total (adjustments)</b>		<b>-4 296</b>	<b>-4 296</b>	<b>0</b>
<b>Final estimate</b>			<b>270 754</b>	<b>117 271</b>	<b>153 483</b>

*Surveys and censuses* refer to annual accounts of local government.

*Administrative records* refer to central government records.

*Extrapolation and models* refer to consumption of fixed capital (section 4.12) and value-added tax for general government (section 3.21.1.1) and also calculation for the non-profit institutions belonging to the local government sector.

*Conceptual adjustments* refer to FISIM (section 3.4), PC, software, R&D (section 3.4), financial leasing (section 3.4) and insurances (section 3.4).

In addition to the above mentioned production in NACE O, the subsectors included in general government are producers of non-market production of other outputs in different NACE sections. In table 2 all production from general government is divided into NACE. The uniform methodologies for all these non-market outputs are described in section 3.21 below.

**Table 3.21.4. Total non-market Output, IC and GVA from general government, allocated by NACE, SEK million 2011**

NACE	Reference	Output	Intermediate consumption	Gross value added
O84	3.21	270 754	117 271	153 483
P85	3.22	200 013	60 811	139 202
Q86	3.23	190 935	61 421	129 514
Q88	3.23	86 192	24 437	61 755
Q87	3.23	78 556	12 581	65 975
H52A	3.14	64 081	31 332	32 749
M72	3.19	58 173	13 149	45 024
R90_92	3.24	17 034	7 454	9 580
R93	3.24	12 500	7 894	4 606
N79	3.20	734	495	239
K65	3.17	203	78	125
S94	3.25	35	10	25

**3.21.0 General government – introduction, definitions**

The output value of public services is calculated as the sum of their production costs which comprise, intermediate consumption of purchased goods and services valued at purchasers' prices and compensation of employees, consumption of fixed assets and other taxes on production less other subsidies.

A description and a definition of the general government and its subsectors are made in section 5.9.

**3.21.1 Valuation**

Output for general government is calculated as the sum of the costs needed for producing the goods and, mainly, services. These consist of:

- + Intermediate consumption
- + Wages and salaries
- + Social contributions and other taxes on production
- + Other taxes on production
- Other subsidies on production
- + Consumption of fixed assets
- = Output (Production) of general government

The sources and methods for calculating these components are described in the following sections.

**3.21.1.1 Treatment of VAT in the government sector.**

After Sweden became a member of the European Union in 1995, Sweden had to abolish the right of local governments to deduct VAT in activities exempt from VAT. Within the union deductions are only allowed within VAT-duty activities. As this affected neutrality of competition between services

provided on own account by government units and services bought from private entrepreneurs, a neutralisation system was introduced, i.e. the government VAT system.

If a private entrepreneur is hired by a local government unit to produce an activity which is exempt from VAT, he cannot include VAT in his invoice to the local government. However, the private entrepreneur has to pay VAT on goods and services needed to provide his output. But as the output is exempt from VAT, he will not be refunded for the VAT that he has paid on his intermediate consumption. Therefore there is some hidden VAT in his offer, and in order to compensate for this his offer is bound to be more expensive compared to in-house government production. This is the problem that the government VAT system is aimed at neutralising by repaying the government unit for this hidden VAT.

Hence, the government VAT system contains compensation to local governments and social security fund units of VAT refunds regarding expenditures within VAT-free activities. The activities in question are e.g. education, health care, social assistance and dental care services.

Local governments and social security funds provide figures in the Annual accounts which do not include VAT for the activities in question. Therefore the NA adds VAT-estimates on gross fixed capital formation, intermediate consumption and social transfers in kind for products which are not exempted for VAT. The VAT-rates are for different items 6, 12 or 25 percent respectively. In the NA system, GFCF, IC and social transfers in kind are divided into products groups according to CPA and also functions of government, COFOG.

Some activities of government are liable to pay VAT, e.g. government owned enterprises providing water, sewage, culture and leisure activities. VAT-treatment for these activities is handled in the same way as for private enterprises in the normal VAT system.

As the preliminary calculations within the NA system are theoretical estimates, they are confronted with the actual VAT payments of the government VAT system. The Swedish National Financial Management Authority (ESV) provides NA with information from the Swedish Tax Agency on VAT repayments to government units. These amounts correspond to the non-deductible VAT for the government sector. The actual total amount from ESV of non-deductible VAT replaces the preliminary calculations in the NA-system. The amount by item is distributed according to the preliminary relation between the VAT rates of the product groups for intermediate consumption, gross fixed capital formation and social transfers in kind (which is not a part of the output, but the consumption expenditure).

Hence, in the Swedish NA, the total amounts of VAT repayments to government according to the Swedish National Tax Agency are available and included in the NA, divided by unit, transaction, product and function.

### **3.21.2 Description of the calculation methods for the output value**

#### *3.21.2.1 Intermediate consumption*

Intermediate consumption covers goods and services, which are used in the production process. Examples are food, paper, telephone charges, carriage, rents and repair costs. Various benefits such as tax-free subsistence allowances, car allowances and other tax-free cost offsets and other staff costs are assigned to intermediate consumption.

##### *3.21.2.1.1 Intermediate consumption of central government*

The data are obtained from the Financial Management Authority's source the basis for the central government net lending. The intermediate consumption calculations are broken down by the following cost types.

- \* Expenditures on rents
- \* Purchased repairs to buildings and structures
- \* Other intermediate consumption.

*Expenditures on rents* consist of external rents (rent paid to any person other than a central government authority) and internal rents (rents paid to another central government authority). Amounts for both internal and external rents are recorded in the basis for the central government net lending.

*Building repairs.* This item consists of purchased repairs and is derived from the basis for the central government net lending. It is simply calculated as an estimated percentage share of total intermediate consumption.

*Other intermediate consumption.* Internal central government items, i.e. purchases and sales between departments and agencies of central government, are included in both intermediate consumption and sales. Consumption in accordance with the basis for the central government net lending is reduced in the national accounts by the motor vehicle tax arising. Motor vehicle tax is classified as other tax on production in the NA system. In the national accounts a calculation is performed to determine the scale of software purchases by the various industries. The amount for central government is entered as investment and intermediate consumption is reduced by a corresponding amount, since it is not recorded separately in the basis for the central government net lending but is entered as a cost. According to the ESA, intermediate consumption should only be recorded in respect of the share of insurance premiums relating to administration. In the national accounts the size of this share is calculated and the remaining amount is entered as transfer expenditure.

*Purchased software and Purchased R&D* is deducted from intermediate consumption. Purchased software and R&D are counted as investments and this is described in more detail in section 5.10

#### 3.21.2.1.2 Intermediate consumption of the primary municipalities

A central activity unit in the municipality often handles both the management of the municipality's own premises and negotiations and contracts with external real estate managers. The unit is recorded under general administration. In the annual accounts (räkenskapsammandraget, RS), an internal rent is charged to other activities and an internal income item is entered for public administration. This is done in order to show a correct picture of the expenditure of the various activities. Internal rents for premises are assigned to intermediate consumption and sales with the same value. This is the case for both county councils and primary municipalities. Apart from premises, this can also arise for common activities such as central telephone exchanges etc.

The annual accounts (RS) are used as a source for most data in the calculation of the intermediate consumption of the primary municipalities. It starts with purchases of external goods, services and rents specified by area of activity in the RS operating accounts. Items of expenditure which in accordance with the ESA are not classified as intermediate consumption or which involve the intermediate consumption of producers for their own final use is deducted from purchases. These are:

*Intermediate consumption for construction for own account*, which appears in the operating accounts. The cost of this intermediate consumption, as also other costs for construction for own account, arises in units, which are producers for their own final use. These units are included in industry F41\_43 as construction units.

*Machinery with an economic life of 1-2 years.* Purchases of machinery and equipment are recorded in both operating and investment accounts. Machinery with an economic life of at least three years is

recorded in the latter. Based on a survey on intermediate consumption eighty per cent of the machinery in the operating accounts is classified as machinery with an economic life of 1-2 years.

*Financial leasing charges.* The capital item leased is recorded in accordance with the ESA as gross fixed capital formation in the leasing activity. See section 5.10. The leasing charges are consequently entered in the national accounts with a breakdown as to interest and amortisation costs.

*Levies and restitutions for regional bodies* are classified as transfers. All primary municipalities pay a membership fee to the Swedish Association of Local Authorities and Regions. In addition several local authorities finance municipal associations by means of levies.

*Purchases and sales between primary municipalities.* The primary municipalities purchase and sell services from and to one another. As all primary municipalities are assigned to the same sector, the amounts are recorded as net items. Purchases from other municipalities and municipal associations are recorded together in one column of the specification in the annual accounts. Sales incomes from municipalities are recorded in the accounts of the municipal associations. Purchases from other municipalities are thus obtained as a residual amount.

*Motor vehicle tax.* Local authorities pay tax on their vehicles. The tax is classified as other taxes on production.

*Social transfers in kind.* Social transfers in kind are generated by a market producer in the form of a good or service, which is supplied directly to households. The local authority pays for the good or service but is not involved in any further processing of it. The item is described in more detail in the section on social benefits in kind, section 5.9.7.3

*Purchased software and Purchased R&D* are counted as investment and this is described in more detail in section 5.10

*Purchases from NPISHs.* The primary municipalities pay for child-care in parents' cooperatives (classified as non-profit institutions serving households, NPISH). These purchases from NPISHs are classified as transfers. The way the item is calculated is described in more detail in the section on social benefits in kind.

*Insurance charges.* Premiums paid by the local authorities to insurance companies are reclassified partly as transfers and partly as purchased services. A survey stated that 74 per cent of the total insurance amount should be treated as a transfer which means that the intermediate consumption is reduced with the corresponding amount. The insurance charge is specified in the external expenditure section of the annual accounts.

*Purchases from private individuals.* The purchases a local authority makes from private individuals are treated by definition as transfers. They may involve restitution for the care of family members in the home. Purchases from individuals are broken down by activity in the annual accounts.

*Goods in commercial activity.* Goods, which the commercial activity area purchases for resale, are deducted both from intermediate consumption and the output value.

The above calculation is carried out for each individual activity area, about 65 areas which all have bridges to COFOG, and results in an estimate figure for intermediate consumption per purpose for other non-market output and intermediate consumption per industry for market output.

### 3.21.2.1.3 Intermediate consumption of the county councils

The annual accounts (RS) are used as a source for most data in the calculation of the intermediate consumption of the county councils. The starting point is purchases of external goods, services and rents specified by activity area in the RS operating accounts. Expenditure items, which are not classified as intermediate consumption according to the ESA, are deducted from purchases. They are:



*Social transfers in kind.* Social transfers in kind are generated by a market producer in the form of a good or service, which is supplied directly to households. The local authority pays for the good or service but is not involved in any further processing of it. The item is described in more detail in the section on social benefits in kind, section 5.9.7.8.

*Purchased software and purchased R&D* are counted as investments and this is described in more detail in section 5.10.

In the final calculations intermediate consumption is calculated by splitting it up into the following subgroups:

- Medicines
- External accommodation rents
- Internal accommodation rents
- Building repairs
- FISIM
- Administrative costs
- Other goods

#### *3.21.2.1.4 Intermediate consumption of other types of local authorities*

Data on intermediate consumption for other types of local authorities are obtained from the annual accounts (RS) for municipal associations, the annual reports, the theatre and dance statistics issued by the National Council for Cultural Affairs and statistics on the contributions paid to non-profit institutions belonging to local authorities. There are two main sources used for the calculation of the intermediate consumption for the four hospitals: Structural business statistics (SBS) and the annual reports. The data used from the SBS to calculate the intermediate consumption are the operating costs and other external costs.

#### *3.21.2.1.5 Intermediate consumption of social security funds*

The major part of the production costs for social security funds subsector refer to intermediate consumption which contain pure administration costs, cost for provisions and costs relating to performance of investments for the national pensions funds (AP-funds) SEK 1 037 million year 2011), administration costs at the Swedish Pension Agency (410), FISIM (210) and the rest referring to value added tax (307). In total SEK 1964 million in 2011.

#### *3.21.2.2 Wages and salaries*

Compensation of employees is collected from the same comprehensive source as other data for government compilations. Compensation of employees is defined as the total remuneration, in cash or in kind, which is paid by an employer to an employee for work done by the latter. This definition coincides with the definition in the sources, which are used for the calculation of the different sectors, and wage and salary totals broken down by different activity areas are obtained directly from the relevant source. The totals for wages and salaries are shown broken down by non-market output and market output.

Expenditure for military catering in accordance with a separate calculation carried out in the national accounts is added to the wages and salaries total for central government in accordance with the basis for the central government net lending. Corresponding amounts (which are very small) are shown as part of sales income.

### 3.21.2.3 Social contributions

Employers' social contributions are charges that the employer pays in the form of a percentage deducted by law or under a contractual requirement from an employee's pay. In the national accounts employers' charges are grouped into two categories. One is termed social contributions and covers that part which benefits the employee in some way under a social security scheme. This payment should be aimed to benefit the employers in that specific social security scheme. In Sweden this principle is, at present, restricted to future pension provisions. The other category is recorded as other taxes on production and is described in 3.21.1.2.4.

The social contribution is the total sum of social fees obtained from ESV for central government and RS for local government minus calculated other taxes on production (described in 3.21.1.2.4).

### 3.21.2.4 Other taxes on production

The other category of employers' charges is recorded as other taxes on production and consists of social contributions, which do not benefit the employee directly but are in reality a tax on labour, for example the general employment tax (allmänna löneavgiften), health insurance and unemployment insurance.

The charges are calculated as a percentage of wages. The percentage rates are obtained from the employers' organisations, specifically for central and local government.

In addition to the employment tax, motor vehicle tax is included in other taxes on production. Another category covers special employment taxes, which the employer pays on the earnings of employees aged 65 and over and on pension costs. It is calculated at current prices with the aid of a fixed percentage of pensions paid. Data on pensions are available in the sources.

Compulsory military service pay is excluded from the wages and salaries total in this percentages calculation, since it does not generate social contributions.

The percentages used to calculate "other taxes on production" applicable to general government in 2011, which are used in the calculation of social contributions and other taxes on production, are given below.

#### **Other taxes on production**

General employment tax	9.23
Supplementary pension contribution	1.08
Health insurance contribution	5.02
Parental insurance contribution	2.20
Surviving pension contribution	1.17
Labour market contribution	2.91
Industrial injury contribution	0.68
<b>Total</b>	<b>22.29</b>

### 3.21.2.5 Other subsidies on production

Subsidies of central government on production are recorded in the ESV material. They refer to the National Labour Market Board, for example work concerning European social fund, and also different County Administrative Boards, for example regarding European regional development fund. Subsidies of local government on production are obtained from central government and consist of the wage support contributions the local authorities receive from the National Labour Market Board. The sources for these data are the central government accounts.

### 3.21.2.6 Consumption of fixed assets

Consumption of fixed assets consists of the reduction in value, which a fixed asset undergoes because its economic life is limited. For general government objects the same method is used as for other assets in the rest of the NA system. The method is based on the fact that capital stocks are created with the aid of investment series in accordance with the so-called perpetual inventory (PI) method. The capital stocks are subsequently written down in accordance with economic life assumptions and the consumption of fixed capital is obtained. See section 4.12.

## 3.22 NACE P85, Education

In the Swedish national accounts NACE Section P consists of one sub-industry; NACE P85 Education.

### GVA compilation and breakdown by institutional sectors

Table 3.21.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section P. The table also includes shares of the division in the gross value added of section P and in the total gross value added, GDP and GNI.

**Table 3.22.1: NACE P85, Output, IC and GVA, SEK million and percentages 2011**

					Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
<b>NACE Rev 2</b>		<b>Output</b>	<b>IC</b>	<b>GVA</b>				
P85	Education	257 820	81 178	176 642	100,0	5,5	4,8	4,7
<b>P</b>	<b>Education</b>	<b>257 820</b>	<b>81 178</b>	<b>176 642</b>	<b>100,0</b>	<b>5,5</b>	<b>4,8</b>	<b>4,7</b>

Table 3.22.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division P are included as well.

**Table 3.22.2: NACE P85, Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
P85	Education	Output	46 160	0	200 013	3 169	8 478	257 820
		IC	17 387	0	60 811	1 010	1 970	81 178
		GVA	28 773	0	139 202	2 159	6 508	176 642
		%-GVA of P85	16,3	0,0	78,8	1,2	3,7	100,0
P	Education	Output	46 160	0	200 013	3 169	8 478	257 820
		IC	17 387	0	60 811	1 010	1 970	81 178
		GVA	28 773	0	139 202	2 159	6 508	176 642
		%-GVA of P	16,3	0,0	78,8	1,2	3,7	100,0

**Table 3.22.3: NACE P – Excerpt from Process Tables, Output, IC and GVA, SEK million 2011.**

The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		155 881	45 980	109 901
	Administrative Records		38 339	13 020	25 319
	Combined Data		47 886	20 211	27 675
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)	10 581	0	10 581
		Dwellings - stratification method			
		FISIM			
		Other E&M	7 006	7 006	0
		Total Extrap+Models	17 587	7 006	10 581
	Other				
	Total (sources)		259 693	86 217	173 476
Adjustments	Data validation				
	Conceptual	Allocation of FISIM	124	404	-280
		Other conceptual	-3 271	-4 496	1 225
		Total conceptual	-3 147	-4 092	945
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	1 274	-1 097	2 371
		N7			
		Total exhaustiveness	1 274	-1 097	2 371
	Balancing		0	150	-150
	Total (adjustments)		-1 873	-5 039	3 166
Final estimate			257 820	81 178	176 642

Surveys and censuses refer to annual accounts of local government and NPISH. Local governments are mostly producing in the *preschool* (P851), *primary education* (P851) and *secondary education* (P852). Households are paying custom fees for financing the preschool, but this is classified as non-market production. The NPISH sector is producing education classified as *Other education* (P855A).

Administrative records refer to central government records. Central government mostly produces *higher education* (P854), *employment training* (P8559A) but also *Other education* (P855A). Also car benefits (described in 3.2) is based on administrative records and labour cost for NPISH.

These, above mentioned sectors general government and NPISH, are non-market units producing non-market output. Their definitions, framework and calculation methods of production are described in chapter 3.21 and 5.8.

Combined data refer to SBS, which is the market output in this industry.

Extrapolation and models refer to consumption of fixed capital (described in 4.12) and value-added tax for general government (described in 3.21).

Conceptual adjustments refer to software, R&D, financial leasing, insurances, FISIM and a correction of Standardized accounting statements (SRU) concerning reimbursements. These corrections are described in section 3.4.

Exhaustiveness (N6) refers to estimates for hidden/misreported activities (section 3.6).

Balancing is the item used in the final consolidation process between production and expenditure sides (section 6.1).

### *Output*

Output includes all educational activities, by government units as well as market producers which are pursued by corporate bodies or by individual entrepreneurs. The output value is mainly allocated to the product groups: primary education, secondary education, higher education and adult and other education.

**Table 3.22.4 NACE P85, Data on the output value**

<b>Product group</b>		<b>SEK million</b>
P85	Education services	196 755
P855A	Other education	12 435
P851	Preschool	11 689
P853	Secondary education	9 906
P852	Primary education	9 277
P8559A	Employment training	3 589
P854	Higher education	2 470
P8553	Driving school services	1 861
M72	R&D services services	1 474
P856	Education support services	1 095
J62AEG	Software produced on own account	1 003
O84B	Administration services of the State	876
L682A	Other real estate letting	803
M702	PR and organizational consultants	620
I56A	Restaurant and mobile food services	608
I562A	Event catering services	505
M701	Head office services	377
R931	Sporting services	304
J581	Publishing services of books	263
Q8891	Child day-care activities	231
N78	Employment services	185
C181	Printing services	164
I551	Hotels and similar services	157
N82	Office administrative services	146
G4D	Trade margins	125
R932	Amusement and recreation services	95
R90	Creative, arts and entertainment	94
N7710	Car benefits	91
I55A	Other accommodation services	80
H493A	Other passenger land transport	63
	Other miscellaneous	479
<b>Total output</b>		<b>257 820</b>

*Intermediate consumption*

Intermediate consumption is obtained from the SBS, Central and local government records and NPISH surveys respectively. Balancing and plausibility assessment are performed in the supply and use tables.

*Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

**3.23 NACE Q, Human health and social work**

In the Swedish national accounts NACE Section Q consists of

NACE Q 86, Human health activities NACE

Q 87 Residential care services

NACE Q 88, Social work activities without accommodation

### GVA compilation and breakdown by institutional sectors

Table 3.23.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section Q. The table also includes shares of the division in the gross value added of section Q and in the total gross value added, GDP and GNI.

**Table 3.23.1: NACE Q, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
Q86	Human health activities	255 570	85 641	169 929	50,1	5,3	4,6	4,5
Q87-88	Social work activities	216 071	46 798	169 273	49,9	5,3	4,6	4,5
<b>Q</b>	<b>Human health and social work activities</b>	<b>471 641</b>	<b>132 439</b>	<b>339 202</b>	<b>100,0</b>	<b>10,5</b>	<b>9,3</b>	<b>9,0</b>

Table 3.23.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual division Q are included as well.

**Table 3.23.2: NACE Q –Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
Q86	Human health activities	Output	58 698	0	190 935	5 672	265	255 570
		IC	22 711	0	61 421	1 470	39	85 641
		GVA	35 987	0	129 514	4 202	226	169 929
		%-GVA of Q86	21,2	0,0	76,2	2,5	0,1	100,0
		Output	45 000	0	164 748	1 531	4 792	216 071
Q87-88	Social work activities	IC	8 547	0	37 018	396	837	46 798
		GVA	36 453	0	127 730	1 135	3 955	169 273
		%-GVA of Q87-88	21,5	0,0	75,5	0,7	2,3	100,0
		Output	103 698	0	355 683	7 203	5 057	471 641
		IC	31 258	0	98 439	1 866	876	132 439
<b>Q</b>	<b>Human health and social work activities</b>	GVA	72 440	0	257 244	5 337	4 181	339 202
		%-GVA of Q	21,4	0,0	75,8	1,6	1,2	100,0

**Table 3.23.3: NACE Q – Excerpt from Process Tables, Output, IC and GVA, SEK million 2011.**  
The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		325 935	86 504	239 431
	<b>Administrative Records</b>		11 490	2 521	8 969
	<b>Combined Data</b>		107 017	33 220	73 797
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	0	0	0
		<b>Commodity Flow Model</b>	0	0	0
		<b>CFC(PIM)</b>	13 343	0	13 343
		<b>Dwellings - stratification method</b>	0	0	0
		<b>FISIM</b>	0	0	0
		<b>Other E&amp;M</b>	11 307	11 307	0
		<b>Total Extrap+Models</b>	<b>24 650</b>	<b>11 307</b>	<b>13 343</b>
	<b>Other</b>		0	0	0
	<b>Total (sources)</b>		<b>469 092</b>	<b>133 552</b>	<b>335 540</b>
<b>Adjustments</b>	<b>Data validation</b>		0	0	0
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	75	710	-635
		<b>Other conceptual</b>	-1 028	-2 096	1 068
		<b>Total conceptual</b>	<b>-953</b>	<b>-1 386</b>	<b>433</b>
	<b>Exhaustiveness</b>	<b>N1</b>	0	0	0
		<b>N2</b>	0	0	0
		<b>N3</b>	0	0	0
		<b>N4</b>	0	0	0
		<b>N5</b>	0	0	0
		<b>N6</b>	3 502	0	3 502
		<b>N7</b>	0	0	0
		<b>Total exhaustiveness</b>	<b>3 502</b>	<b>0</b>	<b>3 502</b>
	<b>Balancing</b>		0	273	-273
	<b>Total (adjustments)</b>		<b>2 549</b>	<b>-1 113</b>	<b>3 662</b>
	<b>Final estimate</b>		<b>471 641</b>	<b>132 439</b>	<b>339 202</b>

Surveys and censuses refer to summary accounts of local government, NPISH survey and SBS for four hospitals which are included in local government.

Administrative records refer to central government records.

These, above mentioned sectors in general government are non-market units producing non-market output. Their definitions, framework and calculation methods of production are described in chapter 3.21 and 5.9.

Combined data refer to SBS, which is the market output in this industry.

Extrapolation and models refer to consumption of fixed capital (described in 4.12) and value-added tax for general government (described in 3.21).

Conceptual adjustments refer to software, R&D, financial leasing, insurances, FISIM, a correction of Standardized accounting statements (SRU) concerning reimbursements and capitalized production cost that is deducted from both production and intermediate consumption. See section 3.4 for more information.

Exhaustiveness (N6) refers to estimates for hidden/mis-reported activities (section 3.6).

Balancing is the item used in the final consolidation process between production and expenditure sides (section 6.1).

### **Output**

The industry includes all health and medical care etc. provided by non-market units and by corporate entities or by private entrepreneurs. A considerable proportion of the value of the industry represents social transfers in kind from the public sector, i.e. the purchases of care services by departments and agencies of general government.



### 3.23.1 NACE Q86, Human health activities

#### Output

Output in human health activities includes all revenue accruing to the industry. In other words both the patients' fees, which the patient himself pays for a consultation, and production by government units and purchases by government agencies of health and medical care form part of the output value.

The output value is obtained from the SBS, central and local government records and NPISH surveys respectively and is allocated to the following product groups:

**Table 3.23.4 NACE Q86, Data on the output value**

Product group		SEK million
Q86OPEA	Healthcare, public production own final consumption	177 517
Q862A	General primary medical practice services	25 194
Q86A	Dental practice and hygiene services	19 077
Q86B	Other general care without doctors	10 468
Q86221	Specialist medical practice services	5 946
Q861	Hospital services	5 117
Q8621201	Occupational health services	2 869
Q86901	Medical laboratory services etc.	1 368
M72EG	R&D produced on own account	822
C32501	Medical and dental instruments and supplies	804
Q87A	Residential nursing care services	686
L682A	Other real estate letting	597
O84B	Administration services of the State	561
Q86902	Ambulance services	533
C211	Basic pharmaceutical products	385
M692	Accounting, bookkeeping, tax consulting	381
J62AEG	Software produced on own account	380
M72	Scientific research and development services	352
I56A	Restaurant and other food services	327
J581	Publishing services of books	278
N7710	Car benefits	255
Q87B	Residential care services for disabled	220
M701	Services of head offices	197
I551	Hotel and similar accommodation services	193
Q88102	Social work services without accommodation for the disabled	155
S9601	Washing and (dry-)cleaning services	146
G4D	Trade margins	143
N772	Rental and leasing services of personal good	120
	Other miscellaneous	479
<b>Total output</b>		<b>255 570</b>

**Intermediate consumption**

Intermediate consumption is obtained from the SBS and government records. Balancing and plausibility assessment are performed in the supply and use tables.

**Value added**

Value added is obtained as the difference between output value and intermediate consumption value.

### 3.23.2 NACE Q87\_Q88, Residential care and Social work activities without accommodation

**Table 3.23.5 NACE Q 87\_Q88, Data on the output value**

Product group		SEK million
Q88OPEA	Social work services Public production	70 827
Q87OPEA	Care with accommodation Public production	69 626
Q88102	Social work services without accommodation for the disabled	26 738
Q87A	Residential nursing care services elderly	16 126
Q88101	Social work services elderly	6 010
Q87B	Residential care services for disabled	5 864
Q8891	Child day-care services	3 743
Q87C	Residential care services for children and young people	3 302
Q86221	Specialist medical practice services, at hospitals	2 648
Q8899A	Social work for adults and services pf refugee camps	1 811
Q87D	Residential care services for adults	1 384
I56A	Restaurant and other food services	1 026
R932	Amusement and recreation services	1 016
I562A	Event catering services	1 013
L682A	Other real estate letting	875
Q861	Hospital services	660
Q88991	Guidance, counselling related to children and young people	558
N79A	Travel agency services	492
Q862A	General primary and specialist medical practice services	384
P852	Primary education	325
M72EG	R&D produced on own account	301
O84B	R&D produced on own account	243
P851	Preschool	211
M692	Accounting, bookkeeping, auditing, tax consulting services	179
R91	Library, archive, museum and other cultural service	164
M701	Services of head offices	137
P854	Higher education	82
J62AEG	Software produced on own account	71
N7710	Car benefits	63
	Other miscellaneous	192
<b>Total output</b>		<b>216 071</b>

***Output***

Output in this industry includes residential nursing care activities and care in special forms of accommodation for elderly, disabled and other persons with special needs and operation of refugee camps. Services are provided by non-market units and by corporate entities or by private entrepreneurs. A considerable proportion of the value of the industry represents social transfers in kind from the public sector, i.e. the purchases of care services by departments and agencies of general government.

***Intermediate consumption***

Intermediate consumption is obtained from the SBS, government records and NPISH survey. Balancing and plausibility assessment are performed in the supply and use tables.

***Value added***

Value added is obtained as the difference between output value and intermediate consumption value.

**3.24 NACE R, Arts, entertainment and recreation**

In the Swedish national accounts industries NACE R is divided into four sub-industries:

NACE R 90 Creative, arts and entertainment activities. Division R 90 contains production of artistic, cultural and entertainment activities. This includes also support activities to performing arts artistic creation and operation of arts facilities e.g. theatres and concert halls, etc.

NACE R 91 Libraries, archives, museums and other cultural activities. Within NACE 91 is included production of libraries, museums and archives activities Included are also caretaking of historical monuments and buildings and running of botanical and zoological gardens and nature reserves activities

NACE R 92 Gambling and betting activities. The output value for gambling and betting activities include operation of the installations designed for games such as casinos, bingo halls and terminals for video games as well as the provision of gaming services such as lotteries and gambling off the track. The output value for gambling activities is calculated net of winnings paid out by deducting winnings paid out. A supplement is included for hidden and illegal gambling output.

NACE R 93 Sports activities and amusement and recreation activities. This industry comprises the provision of recreational, leisure and sports activities. This includes Operation of sports facilities for indoor or outdoor activities for professionals or amateurs of organizations with private facilities such as golf courses, horse racing and horse racing tracks, gymnasiums, sports fields and other sports facilities. Also included are activities of sports clubs and sports associations, business and leisure and entertainment activities involving the operation of various attractions such as carousel, car, train and water slides, games, shows, thematic exhibits and picnic areas

Table 3.24.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section R. The table also includes shares of the division in the gross value added of section R and in the total gross value added, GDP and GNI.

**Table 3.24.1 NACE R, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
R90_92	Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities	48 561	25 449	23 112	55,6	0,7	0,6	0,6
R93	Sports activities and amusement and recreation activities	42 012	23 557	18 455	44,4	0,6	0,5	0,5
<b>R</b>	<b>Arts, entertainment and recreation activities</b>	<b>90 573</b>	<b>49 006</b>	<b>41 567</b>	<b>100,0</b>	<b>1,3</b>	<b>1,1</b>	<b>1,1</b>

Table 3.24.2 gives the breakdown of output, intermediate consumption and value added by NACE division (A\*64) and institutional sectors. The shares of the individual sectors in the total value added of the individual divisions are included as well.

**Table 3.24.2: NACE R, Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					Total
			S11	S12	S13	S14	S15	
R90_92	Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities	Output	25 817	0	17 034	4 357	1 353	48 561
		IC	16 392	0	7 454	1 161	442	25 449
		GVA	9 425	0	9 580	3 196	911	23 112
		%-GVA of R90_92	40,8	0,0	41,5	13,8	3,9	100,0
R93	Sports activities and amusement and recreation activities	Output	17 798	0	12 500	2 549	9 165	42 012
		IC	10 395	0	7 894	1 373	3 895	23 557
		GVA	7 403	0	4 606	1 176	5 270	18 455
		%-GVA of R93	40,1	0,0	25,0	6,4	28,6	100,0
<b>R</b>	<b>Arts, entertainment and recreation activities</b>	<b>Output</b>	<b>43 615</b>	<b>0</b>	<b>29 534</b>	<b>6 906</b>	<b>10 518</b>	<b>90 573</b>
		<b>IC</b>	<b>26 787</b>	<b>0</b>	<b>15 348</b>	<b>2 534</b>	<b>4 337</b>	<b>49 006</b>
		<b>GVA</b>	<b>16 828</b>	<b>0</b>	<b>14 186</b>	<b>4 372</b>	<b>6 181</b>	<b>41 567</b>
		<b>%-GVA of R</b>	<b>40,5</b>	<b>0,0</b>	<b>34,1</b>	<b>10,5</b>	<b>14,9</b>	<b>100,0</b>

**Table 3.24.3 NACE R, Excerpt from the Process Tables, Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			R90-93		
			Output	IC	GVA
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		24 291	15 232	9 059
	<b>Administrative Records</b>		13 747	3 396	10 351
	<b>Combined Data</b>		71 264	51 205	20 059
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	0	0	0
		<b>Commodity Flow Model</b>	0	0	0
		<b>CFC(PIM)</b>	1 955	0	1 955
		<b>Dwellings - stratification method</b>	0	0	0
		<b>FISIM</b>	0	0	0
		<b>Other E&amp;M</b>	2 108	2 021	87
		<b>Total Extrap+Models</b>	<b>4 063</b>	<b>2 021</b>	<b>2 042</b>
	<b>Other</b>		0	0	0
	<b>Total (sources)</b>		<b>113 365</b>	<b>71 854</b>	<b>41 511</b>
<b>Adjustments</b>	<b>Data validation</b>		-6 400	0	-6 400
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	153	687	-534
		<b>Other conceptual</b>	-20 302	-23 775	3 473
		<b>Total conceptual</b>	<b>-20 149</b>	<b>-23 088</b>	<b>2 939</b>
	<b>Exhaustiveness</b>	<b>N1</b>	0	0	0
		<b>N2</b>	1 029	0	1 029
		<b>N3</b>	0	0	0
		<b>N4</b>	0	0	0
		<b>N5</b>	0	0	0
		<b>N6</b>	2 728	0	2 728
		<b>N7</b>	0	0	0
		<b>Total exhaustiveness</b>	<b>3 757</b>	<b>0</b>	<b>3 757</b>
	<b>Balancing</b>		0	240	-240
	<b>Total (adjustments)</b>		<b>-22 792</b>	<b>-22 848</b>	<b>56</b>
<b>Final estimate</b>			<b>90 573</b>	<b>49 006</b>	<b>41 567</b>

*Surveys and censuses* refer to the annual accounts of local government and NPISH. This is classified as non-market production (section 3.21.1.)

*Administrative records* relate to information on central government activities. From The Swedish Gambling Authority information on a post code lottery is collected. Information on car benefits is collected from the Swedish Tax Agency.

*Combined data* refer to market output collected in the SBS.

*Extrapolation and models* refer to consumption of fixed capital (section 4.12) and value-added tax for general government (section 3.21.1.), valuables and NPISH.

*Data validation* refers to product taxes on lotteries which were wrongly included in the output value.

*Conceptual adjustments* on the intermediate consumption refer to Software, R&D, financial leasing, insurances, FISIM, a correction of Standardized accounting statements (SRU) concerning reimbursements and capitalized production cost that is deducted from both production and intermediate consumption. Winnings paid out are deducted in the gaming industry R92, as it should not be included in the estimates.

*Exhaustiveness adjustments* refer to estimates for hidden activities like illegal output (N2) and misreporting by the producer (N6) (described in section 3.6).

*Balancing* is the item used in the final consolidation process between production and expenditure sides (described in section 6.1).

### 3.24.1 NACE R90\_92, Culture, library and games

#### *Output*

NACE R90\_92 comprises of a range of highly varied activities, such as artistic, cultural and gaming film and video activities, etc.

**Table 3.24.4 NACE R 90\_92 Data on the output value**

Product group		SEK million
R90	Creative, arts and entertainment services	31 950
R92	Gambling and betting services	11 982
R91	Library, archive, museum and other cultural	2 150
L682	Other real estate letting	524
N774	Licence services	454
I56A	Restaurant and bar services	285
P853	Secondary education services	256
J639	Other information services	200
N82	Office administrative, office support and other	165
J581	Publishing services	120
J62AEG	Software produced on own account	115
G4B	Commissions, Swedish products	102
N78	Employment services	68
O84B	Public administration and defence services	51
N7710	Car benefits	40
I55A	Accommodation services	24
M72EG	R&D produced on own account	20
R931	Sporting services	19
C32A	Jewellery and related articles	17
I551	Hotel and similar accommodation services	12
M701	Activities of head offices	5
M702	Management consulting services	2
<b>Total output</b>		<b>48 561</b>

#### *Intermediate consumption*

Intermediate consumption is obtained from the business statistics and the records of government and NPISH.

#### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

### 3.24.2 NACE R93, Sports activities and amusement and recreation activities

#### *Output*

This industry comprises the provision of recreational, leisure and sports activities. This includes Operation of sports facilities for indoor or outdoor activities for professionals or amateurs of organizations with private facilities such as golf courses, horse racing and horse racing tracks, gymnasiums, sports fields and other sports facilities. Also included are activities of sports clubs and sports associations, business and leisure and entertainment activities involving the operation of various attractions such as carousel, car, train and water slides, games, shows, thematic exhibits and picnic areas. The production value is allocated to the following product groups.

**Table 3.24.5 NACE R93, Data on the output value**

Product group		SEK million
R931	Sporting services	14 923
R93	Sporting services and amusement and recreatic	15 324
R932	Amusement and recreation services	4 712
I56A	Restaurant and bar services	1 235
H493A	Other passenger land transport services	1 212
P855A	Other education services	1 124
R90	Creative, arts and entertainment services	860
L682A	Other real estate letting	610
R92	Gambling and betting services	405
I551	Hotel and similar accommodation services	380
N82	Office administrative, office support and other bu	284
N772	Rental and leasing services of personal and hou	256
M7312	Media representation services	201
G4B	Trade Margin etc.	103
I55A	Accommodation services	99
J62AEG	Software produced on own account	20
G4D	Trade Margin etc.	88
N774	Licence services	68
M701	Activities of head offices	59
N7710	Car benefits	36
J581	Publishing services	13
<b>Total output</b>		<b>42 012</b>

#### *Intermediate consumption*

Intermediate consumption is obtained from the business statistics and the records of government and NPISH.

#### *Value added*

Value added is obtained as the difference between output value and intermediate consumption value.

### 3.25 NACE S, Other service activities

#### 3.25.1 Introduction

In the Swedish National Accounts NACE section S consists of three NACE divisions (A\*64):

NACE S94 Activities of membership organisations

NACE S95 Repair of computers and personal and household goods

NACE S96 Other personal service activities

#### 3.25.2 GVA compilation and breakdown by institutional sector

Table 3.25.1 contains values for output, intermediate consumption and gross value added by NACE division. The table also shows the GVA of each division as the share of the GVA of section S. Finally, both the GVA of each division and the GVA of section S is shown as the share of the total GVA, GDP and GNI.

GVA of section S represents only 1.6 per cent of total GVA, 1.4 per cent of GDP and 1.4 per cent of GNI. S95 is much smaller than S94 and S96 in terms of output, intermediate consumption and gross value added. In fact, S95 is one of the smallest of the 64 NACE divisions.

**Table 3.25.1: NACE S, Output, IC and GVA, SEK million and percentages 2011**

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A*21) - %	total GVA - %	GDP - %	GNI - %
S94	Activities of membership organisations	47 766	18 708	29 058	55,8	0,9	0,8	0,8
S95	Repair of computers and personal and household goods	5 262	2 625	2 637	5,1	0,1	0,1	0,1
S96	Other personal service activities	30 797	10 445	20 352	39,1	0,6	0,6	0,5
S	Other services	83 825	31 778	52 047	100,0	1,6	1,4	1,4

Table 3.25.2 shows the breakdown of output, intermediate consumption and GVA by NACE divisions and institutional sectors. The table also contains the share of each institutional sector of both total GVA for each division and total GVA for section S as a whole.

**Table 3.25.2: NACE S, Output IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2		Institutional sectors					
		S11	S12	S13	S14	S15	Total
S94	Activities of membership organisations	Output	9 189	0	35	16	38 526
		IC	6 348	0	10	15	12 335
		GVA	2 841	0	25	1	26 191
		%-GVA of S94	9,8	0,0	0,1	0,0	90,1
S95	Repair of computers and personal and household goods	Output	4 069	0	0	1 193	0
		IC	2 094	0	0	531	0
		GVA	1 975	0	0	662	0
		%-GVA of S95	74,9	0,0	0,0	25,1	0,0
S96	Other personal service activities	Output	17 654	0	0	13 143	0
		IC	6 675	0	0	3 770	0
		GVA	10 979	0	0	9 373	0
		%-GVA of S96	53,9	0,0	0,0	46,1	0,0
S	Other services	Output	30 912	0	35	14 352	38 526
		IC	15 117	0	10	4 316	12 335
		GVA	15 795	0	25	10 036	26 191
		%-GVA of S	30,3	0,0	0,0	19,3	50,3



Table 3.25.3 shows the process table for NACE section S. Later in this chapter process tables for the individual NACE divisions S94, S95 and S96 are shown and explained in detail.

**Table 3.25.3: NACE S - Excerpt from Process Tables, Output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

NACE S, 2011			Millions of SEK, current prices		
Basis for NA Figures			Output	IC	GVA
			12 230	12 220	10
	Surveys & Censuses				
	Administrative Records		24 422	0	24 422
	Combined Data		36 587	19 729	16 858
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	1 922	0	1 922
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	1	1	0
		Total Extrap+Models	1 923	1	1 922
	Other		0	0	0
	Total (sources)		75 162	31 950	43 212
Adjustments	Data validation		-17	0	-17
	Conceptual	Allocation of FISIM	369	870	-501
		Other conceptual	-161	-1 199	1 038
		Total conceptual	208	-329	537
	Exhaustiveness	N1	0	0	0
		N2	572	0	572
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	7 900	0	7 900
		N7	0	0	0
		Total exhaustiveness	8 472	0	8 472
	Balancing		0	157	-157
	Total (adjustments)		8 683	-172	8 835
	Final estimate		83 825	31 778	52 047

### 3.25.3 Output, intermediate consumption, GVA, process tables by NACE divisions

#### 3.25.3.1 NACE S 94, Activities of membership organisations

##### Output

S94 contains both market production and non-market production. The non-market production is performed both by the government and by non-profit institutions serving households (NPISH). The statistical sources and calculation methods differ between the market production and the non-market production and, within the latter, between the government and NPISH.

The main statistical source of output from market production is the SBS. The SBS provides an estimate on total output value from market production, but also detailed information on the allocation of output to different product groups.

To obtain the correct total output value of market production a few adjustments of the SBS's output value have to be made. The output value of capitalized work is subtracted, while the output values of car benefits, software produced on own account and scientific research and development produced on own account are all added to the output value of the SBS to arrive at the total output value of market production in industry NACE 94.

The statistical sources of output from non-market production by the government and the methods for calculating the different components of this output are described in section 3.21.

Output value from non-market production by the government is calculated as the sum of the costs necessary to produce the goods and services in question. The main cost components of output from non-market production by the government are normally intermediate consumption and wages and salaries.

The calculation methods and statistical sources of output from non-market production by NPISH are described in section 3.25.3.2 below and in section 5.8.

The main products in terms of output value are shown in the table below.

Product group	Description	Output (SEK million)	Share of total output in S94 (per cent)
S94HPEA	Services furnished by membership organisations (NPISH production for own final use)	35 966	75.3
S941	Organisations for businesses, employers and professionals	6 239	13.3
S942	Labour organisations	1 238	2.6

Total output value of industry S94 is SEK 47 766 million.

#### *Intermediate consumption*

An estimate on the total value of the intermediate consumption of market production in industry S94 is obtained from the SBS. Several adjustments are made directly on this SBS estimate, e.g. adjustments for FISIM, capitalized work, insurance, financial leasing, other taxes on production, purchased scientific research and development and correction on reimbursements.

The statistical sources of intermediate consumption in non-market production by the government and the methods for calculating the different components of this intermediate consumption are described in section 3.21.

The calculation methods and statistical sources of intermediate consumption in non-market production by NPISH are described in section 3.25.3.2 below and in section 5.8.

Balancing and plausibility assessments are then carried out in the framework of the supply and use tables.

Total intermediate consumption of industry S94 is SEK 18 708 million.

#### *Value added*

Value added is calculated as the difference between output value and intermediate consumption value.

Total value added of industry S94 is SEK 29 058 million.

#### *Process table*

*Surveys and censuses* refer to data from the annual accounts of local government (RS) (section 10.3), to Non-profit institutions serving households, a Swedish survey (section 10.3) and to accounting data for the Church of Sweden (section 10.3).

*Administrative records* refer to car benefits (described in section 3.4), to data from central government records (ESV) (section 10.3) and to Gross pay based on income of statements (LSUM) (section 10.2).

*Combined data* refer to data from the SBS (first in chapter 10 and section 3.4).

*Extrapolations and models* refer to consumption of fixed capital CFC (Output) and calculated value added tax (Output and IC).

*Data validation* refers to an error in the NA calculations.

*Conceptual adjustments* refer to FISIM (Output and IC), capitalized work (Output and IC), software produced on own account (Output), scientific research and development produced on own account (Output), insurance (IC), financial leasing (IC), other taxes on production (IC), purchased scientific research and development (Output and IC) and correction on reimbursements (IC) (all described in section 3.4).

*Balancing (adjustment)* is the item used in the final consolidation (balancing) process between the production side and the expenditure side (described in section 6.1).

**Table 3.25.4: NACES 94,- Excerpt from Process Tables –Output, IC and GVA, SEK million 2011**

S94 Activities of membership organisations, 2011			Millions of SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		12 230	12 220	10
	Administrative Records		24 365	0	24 365
	Combined Data		9 105	6 723	2 382
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	1 922	0	1 922
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	1	1	0
		Total Extrap+Models	1 923	1	1 922
	Other		0	0	0
	Total (sources)		47 623	18 944	28 679
Adjustments	Data validation		-17	0	-17
	Conceptual	Allocation of FISIM	369	414	-45
		Other conceptual	-209	-701	492
		Total conceptual	160	-287	447
	Exhaustiveness	N1	0	0	0
		N2	0	0	0
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	0	0	0
		N7	0	0	0
		Total exhaustiveness	0	0	0
	Balancing		0	51	-51
	Total (adjustments)		143	-236	379
	Final estimate		47 766	18 708	29 058

### 3.25.3.2 NPISH

Non-profit institutions serving households (NPISHs) consist of non-profit institutions which are separate legal entities, which serve households and which are private non-market producers. Their principal resources are voluntary contributions in cash or in kind from households in their capacity as consumers, from payments made by general government and from property income. They are not predominantly financed and controlled by government and they provide goods or services to households free or at prices that are not economically significant.

They include trade unions, political parties, social, cultural and recreational clubs, amateur sports clubs, charities and religious organisations. The Church of Sweden is included in NACE S 94.

Compilations are based on data from LSUM regarding wages and salaries and administrative data on employers' social contributions as well as other taxes and subsidies on production. Moreover information is collected in an annual survey of NPISH organisations. The Church of Sweden is covered in another annual comprehensive survey. This collection was built up already when the Church of Sweden belonged to the government up to 1 January 2000. It covers information from all parishes, dioceses and asset funds.

Output data are divided into nine categories of activities according to NACE. The distribution is shown in the table below. Gross Value Added of the NPISH sector covers 1.2 percent of GDP.

According to ESA 3.49 the total output of a non-market producer is valued at the total costs of production, i.e. the sum of:

+Wages and salaries  
 +Employers' social contributions  
 +Other taxes on production  
 - Other subsidies on production  
 + Consumption of fixed capital  
 = VALUE ADDED  
 +Intermediate consumption  
 = OUTPUT

**Table 3.25.5 NPISH output by NACE activity**

NACE		Production value	
		SEK, million	%
L68	Real estate activities	1 535	2.4
M72	Professional, scientific and technical activities	346	0.5
P85	Education	8 478	13.2
Q86	Human health activities	265	0.4
Q87	Residential care activities	1 866	2.9
Q88	Social work activities without accommodation	2 926	4.5
R90_92	Arts, cultural and gambling activities	1 353	2.1
R93	Sports, amusement and recreation activities	9 165	14.2
S94	Other service activities	38 526	59.8
<b>Total</b>		<b>64 460</b>	<b>100</b>

In the process tables, below, all intermediate consumption is derived from surveys while wages and social contributions, other taxes/subsidies are derived from administrative records. Extrapolation and models relate to consumption of fixed capital and conceptual adjustments to FISM and R&D and Software produced for own final use.

Non-profit Organisations Serving Households, NPISH			SEK million 2011		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		20 288	19 891	397
	Administrative Records		41 041		41 041
	Combined Data				
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)	2 780		2 780
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrap+Models			
	Other				
	Total (sources)		64 109	19 891	44 218
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		748	-748
		Other conceptual	351		351
		Total conceptual	351	748	-397
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6			
		N7			
		Total exhaustiveness			
	Balancing				
	Total (adjustments)				
Final estimate			64 460	20 639	43 821

Further reading with more details is available in the section on consumption, chapter 5.8.

### 3.25.3.3 NACE S 95, Repair of computers and personal and household goods

#### Output

The main statistical source of output is the SBS. The SBS provides an estimate on total output value, but also detailed information on the allocation of output to different product groups.

To obtain the correct total output value a few adjustments of the SBS's output have to be made. The output values of car benefits, software produced on own account and hidden activities are all added to the output value of the SBS to arrive at the total output value of industry S95. The main products in terms of output value are shown in the table below.

Product group	Description	Output (SEK million)	Share of total output in S95 (per cent)
S952	Repair services of personal and household goods	3 127	59.4
S951	Repair services of computers and communication equipment	1 667	31.7
C331A	Repair of machinery and other equipment	227	4.3

Total output value of industry S95 is SEK 5 262 million.

#### *Intermediate consumption*

An estimate on the total value of the intermediate consumption of industry S95 is obtained from the SBS. Several adjustments are made directly on this SBS estimate adjustments for FISIM, insurance, purchased software, financial leasing, other taxes on production, purchased scientific research and development and correction on reimbursements.

Balancing and plausibility assessments are then carried out in the framework of the supply and use tables.

Total intermediate consumption of industry S95 is SEK 2 625 million.

#### *Value added*

Value added is calculated as the difference between output value and intermediate consumption value.

Total value added of industry S95 is SEK 2 637 million.

#### *Process table*

*Administrative records* refer to car benefits (described in section 3.4).

*Combined data* refer to data from the SBS (section 10.1 and section 3.4).

*Conceptual adjustments* refer to FISIM (IC), software produced on own account (Output), insurance (IC), purchased software (IC), financial leasing (IC), other taxes on production (IC), purchased scientific research and development (IC) and correction on reimbursements (IC) (all described in section 3.4).

*Exhaustiveness adjustments N6* refer to hidden activities (see section 7.1).

*Balancing (adjustment)* is the item used in the final consolidation (balancing) process between the production side and the expenditure side (described in section 6.1).

**Table 3.25.5: NACE S 95 - Excerpt from Process Tables –Output, IC and GVA, SEK million 2011**

S95 Repair of computers and personal and household goods, 2011			Millions of SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		14		14
	Combined Data		4 821	2 642	2 179
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrapol+Models	0	0	0
	Other				
	Total (sources)		4 835	2 642	2 193
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		52	-52
		Other conceptual	40	-91	131
		Total conceptual	40	-39	79
	Exhaustiveness	N1			
		N2			
		N3			
		N4			
		N5			
		N6	387		387
		N7			
		Total exhaustiveness	387	0	387
	Balancing			22	-22
	Total (adjustments)		427	-17	444
	Final estimate		5 262	2 625	2 637

#### 3.25.3.4 NACE S 96 Other personal service activities

##### Output

The main statistical source of output is the SBS. The SBS provides an estimate on total output value, but also detailed information on the allocation of output to different product groups.

To obtain the correct total output value a few adjustments of the SBS's output have to be made. The output value of capitalized work is subtracted, while the output values of car benefits, software produced on own account, hidden activities and illegal activities are all added to the output value of the SBS to arrive at the total output value of industry S96.

The main products in terms of output value are shown in the table below.

Product group	Description	Output (SEK million)	Share of total output in S96 (per cent)
S9602	Hairdressing and other beauty treatment services (including hidden activities)	12 641	41.0
S9604	Physical well-being services (including hidden activities)	8 006	26.0
S9601	Washing and (dry-) cleaning services of textile and fur products (including hidden activities)	4 577	14.9

Total output value of industry S96 is 30 797 SEK million.

### *Intermediate consumption*

An estimate on the total value of the intermediate consumption of industry S96 is obtained from the SBS. Several adjustments are made directly on this SBS estimate (see Process table for details) - adjustments for FISIM, capitalized work, insurance, financial leasing, other taxes on production, purchased scientific research and development and correction on reimbursements.

Balancing and plausibility assessments are then carried out in the framework of the supply and use tables.

Total intermediate consumption of industry S96 is SEK 10 445 million.

### *Value added*

Value added is calculated as the difference between output value and intermediate consumption value.

Total value added of industry S96 is SEK 20 352 million.

### *Process table*

*Administrative records* refer to car benefits (described in section 3.4).

*Combined data* refer to data from the SBS (section 10.3 and section 3.4).

*Conceptual adjustments* refer to FISIM (IC), capitalized work (Output and IC), software produced on own account (Output), insurance (IC), financial leasing (IC), other taxes on production (IC), purchased scientific research and development (IC) and correction on reimbursements (IC) (all described in section 3.4).

*Exhaustiveness adjustments*, N2 refer to illegal activities and N6 refer to hidden activities (see section 7.1).

*Balancing (adjustment)* is the item used in the final consolidation (balancing) process between the production side and the expenditure side (described in section 6.1).

**Table 3.25.6: NACE S 96 Excerpt from Process Tables –Output, IC and GVA, SEK million 2011**

S96 Other personal service activities, 2011			Millions of SEK, current prices		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses				
	Administrative Records		43		43
	Combined Data		22 661	10 364	12 297
	Extrapolation and Models	Benchmark extrapolations			
		Commodity Flow Model			
		CFC(PIM)			
		Dwellings - stratification method			
		FISIM			
		Other E&M			
		Total Extrapolation Models	0	0	0
	Other				
	Total (sources)		22 704	10 364	12 340
Adjustments	Data validation				
	Conceptual	Allocation of FISIM		404	-404
		Other conceptual	8	-407	415
		Total conceptual	8	-3	11
	Exhaustiveness	N1			
		N2	572		572
		N3			
		N4			
		N5			
		N6	7 513		7 513
		N7			
		Total exhaustiveness	8 085	0	8 085
	Balancing			84	-84
	Total (adjustments)		8 093	81	8 012
	Final estimate		30 797	10 445	20 352



### 3.26 NACE T97-98, Activities of households as employers

#### Output

The output value of NACE T97-98, Activities of households as employers consists of remuneration paid by private households to persons in the form of wages or benefits. This includes all fringe benefits such as food and accommodation. An addition is also made for unrecorded activities.

The industry is defined in such a way that only persons who are in an employment relationship with the household are included. Occasional payments by the household to cleaners, window-cleaners etc. are not recorded under this heading but constitute purchases of services from traders falling within other industries.

The services produced in the industry consist mainly of assistance to disabled persons. The forms of assistance are laid down in a special legislation, the Act concerning Support and Service for Persons with Certain Functional Impairments (LASS). Disabled persons can choose assistance provided in various ways, either through local authority services or from non-profit organizations or the disabled person himself or herself may employ a person. It is this latter form of employment, which constitutes the main output value of the industry Households with persons employed. The disabled person then receives compensation in the form of a transfer in order to finance the employment.

Information is provided via ESV records on total amounts and on hours worked and hourly pay from. The Swedish Social Insurance Agency, who administers the social insurance. The source material is provided split on the different provider categories

The rest of the output is based on a model calculation for primarily au pair or other child care activities. The model takes into consideration the number of persons in the highest income group and an assumption that 5 percent of them employ a person for child care services. An hourly wage in accordance with payments to black labour is multiplied with an assessed number of hours worked.

No *intermediate consumption* is recorded in this industry, hence output value is also equal to *value added*.

**Table 3.26.1 provides values for output, intermediate consumption and value added by NACE division (A\*64) within section T.** The table also includes shares of the division in the gross value added of section T and in the total gross value added, GDP and GNI.

NACE Rev 2		Output	IC	GVA	Share of GVA in			
					total GVA of NACE section (A *21) - %	total GVA - %	GDP - %	GNI - %
T97_98	Activities of households as employers of domestic personnel; undifferentiated goods- and services-producing activities of households for own use	1 150	0	1 150	100,0	0,0	0,0	0,0
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	1 150	0	1 150	100,0	0,0	0,0	0,0

Table 3.26.2 gives the breakdown of output, IC and GVA and institutional sectors.

**Table 3.26.2: NACE T –Output, IC and GVA by institutional sectors, SEK million and percentages 2011**

NACE Rev 2			Institutional sectors					
			S11	S12	S13	S14	S15	Total
T97_98	Activities of households as employers of domestic personnel; undifferentiated goods- and services-producing activities of households for own use	Output	0	0	0	1 150	0	1 150
		IC	0	0	0	0	0	0
		GVA	0	0	0	1 150	0	1 150
		%-GVA of T97_98	0,0	0,0	0,0	100,0	0,0	100,0
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Output	0	0	0	1 150	0	1 150
		IC	0	0	0	0	0	0
		GVA	0	0	0	1 150	0	1 150
		%-GVA of T	0,0	0,0	0,0	100,0	0,0	100,0

**Table 3.26.3 NACE T, Excerpt from the Process Tables of output, IC and GVA, SEK million 2011.** The table provides values of output, intermediate consumption and gross value added distributed by different sources and adjustments.

			T97_98		
			Output	IC	GVA
Basis for NA Figures	Surveys & Censuses		0	0	0
	Administrative Records		742	0	742
	Combined Data		0	0	0
	Extrapolation and Models	Benchmark extrapolations	0	0	0
		Commodity Flow Model	0	0	0
		CFC(PIM)	0	0	0
		Dwellings - stratification method	0	0	0
		FISIM	0	0	0
		Other E&M	0	0	0
		Total Extrap+Models	0	0	0
	Other				
	Total (sources)		742	0	742
Adjustments	Data validation		0	0	0
	Conceptual	Allocation of FISIM	0	0	0
		Other conceptual	0	0	0
		Total conceptual	0	0	0
	Exhaustiveness	N1	0	0	0
		N2	0	0	0
		N3	0	0	0
		N4	0	0	0
		N5	0	0	0
		N6	408	0	408
		N7	0	0	0
		Total exhaustiveness	408	0	408
	Balancing		0	0	0
	Total (adjustments)		408	0	408
	Final estimate		1150	0	1150

*Administrative records* relate to LASS (Act on the assistance allowance of assistance reimbursement)

*Exhaustiveness adjustments* refer to estimates of hidden activities like black production (N6)

Further reading with more details is available in the section on consumption, chapter 5.8.

### 3.28 Taxes on products, including VAT

Taxes on products are taxes that are payable per unit of a given good or service produced or transacted. The tax may be a specific amount of money per unit of quantity of a good or service, or it may be calculated as a specified percentage of the price per unit or value of the goods and services produced or transacted.

Taxes on products can be broken down into:

- a) Value added type taxes (VAT)
- b) Taxes and duties on imports, excluding VAT
- c) Taxes on products excluding VAT and import duties

(a) A value added tax is a tax on goods and services, which is successively recovered by enterprises and is ultimately charged in full to the final purchaser. The producer is only required to pay the difference between the VAT on his sales and the VAT on purchases for his own intermediate consumption of goods and services or for gross capital formation.

VAT is recorded net in the sense that

- I) Output of goods and services and imports are valued exclusive of VAT on outgoing invoices;
- II) Purchase of goods and services are recorded inclusive of non-deductible VAT.

VAT is recorded as a charge on the purchaser, not the vendor, and only on those purchasers who cannot deduct it. The bulk of VAT is thus recorded in the system as paid on final consumption, mainly on the consumption of households. Part of VAT, however, may be paid by enterprises, particularly those whose output is VAT-exempt. In the economy as a whole, VAT is equal to the difference between all invoiced VAT and all deductible inward VAT.

The Swedish National Financial Management Authority (ESV) records VAT under central government revenue heading 1411. Taxable persons whose assessment base exceeds a certain amount per fiscal year must, with some exceptions, report and remit the tax in the month after the close of the accounting period. Other taxable persons must record the tax in a special VAT declaration once a year. In order to obtain the accrued VAT, various period reallocations are undertaken depending on when the VAT is entered under the revenue heading. Close to 92 percent of the total revenues is reallocated with a time shift of one month. The longest reallocations refer to September year  $t+1$ .

Depending on possible time lag the tax is recorded either pure cash or time adjusted cash in the data source referring to taxes on products. At the same time a reported corresponding amount is recorded in the tax declaration to the Swedish Tax Agency (accrual, referring to the correct period). After the outcome from the annual Tax Assessment is available, total amounts for each type of tax can be observed in the overall tax system and be recorded in national accounts on an accrual basis.

Small corporations/self-employed settles the tax only once a year in the final tax settlement. Therefore VAT, for example, is not finalized until final outcome from the assessment and declarations is finalized.

Until final outcome is available a forecast is used. The final outcome for VAT for all units is available in October year  $t+1$  referring to year  $t$ . The following deadlines for tax payers to pay and present the tax declaration to the Swedish Tax Agency are:

- (i) Large corporations and government report VAT: month  $t+1$ ;  
Small and medium corporations report VAT: month  $t+3$  up to  $t+7$ ;  
Self-employed report VAT: October year  $t+1$
- (ii) Final data are finalized: October year  $t+1$

VAT is recorded based on information from the Tax Agency; monthly, quarterly or annual depending on size of the enterprise or organisation. Depending on size of the enterprise (the turnover), a taxpayer

has to assess the VAT every month, quarterly or on an annual basis. For example small corporations with an annual turnover less than 40 million SEK and self-employed report VAT annually in September year  $t+1$  referring to year  $t$  at the latest. Therefore final data for VAT year  $t$  is finalized in October year  $t+1$ .

In the output and use side calculations of GDP, theoretical VAT is used. This is calculated in the supply and use tables on approximately 400 product groups, split by industry or purpose respectively, for the different uses. Theoretical VAT is estimated as the actual VAT-rate for different products for the users that cannot deduct the VAT according to Swedish VAT legislation. The difference between VAT receipts and the theoretical VAT is an unallocated net operating surplus.

Due to the change in ESA 2010, VAT recorded as central government revenue include VAT-based third EU own resource.

(b) Taxes and duties on imports excluding VAT comprise compulsory payments, which are levied by general government or by institutions of the European Union on imported goods, excluding VAT, before they can be freely traded within the economic territory, and on services provided to resident units by non-resident units. For goods imported from third countries, duties are levied in accordance with the customs tariff. Importers that not have credit granted at the Swedish Customs, the duties are charges directly. Duty is payable on private imports of alcoholic beverages and tobacco goods. Agricultural duties apply to agricultural products imported from third countries. Taxes and duties on imports are included in the central government revenue heading 1500.

(c) Taxes on products excluding VAT and import duties consist of taxes which are payable in conjunction with the production, export, sale, transfer, leasing or delivery of goods and services, or in conjunction with their use for own consumption or own fixed capital formation.

Taxes on products are recorded when the taxable activities, transactions or other events take place – when they become due. Only amounts that are supported by assessments, declarations or other instruments are recorded. In calculations of GDP on the output side, output is valued at basic prices. This means that taxes and subsidies on products must be added or subtracted, respectively, in order to obtain GDP at market prices. Taxes and subsidies on products function, here as a separately recorded component of the output of market products, and must therefore also be calculated at constant prices.

The Swedish calculations for taxes on products are based mainly on the recording by ESV of the income of central government departments and authorities under revenue headings, which are updated on a monthly basis. As regards taxes on products, as well as entries under revenue headings ESV also records income from a fund, which exists outside the budget – the Nuclear waste fund (in Swedish: *Kärnavfallsfonden*).

Due to cash-based recording for payments entered under the revenue headings, period reallocations must be undertaken in order to obtain the accrued value. In practice the income is shifted back in time, for example income for February to January. The most common time shift is of one month.

A major part of the taxes within D.214 are finalized already at month  $t+1$  (about 92 percent). Exceptions are tax on waste, nuclear waste fund and fees to battery fund which have a time lag of two months, and taxes like profits of fiscal monopolies which are based on Annual statements in May year  $t+1$  referring to year  $t$ . Stamp duty and chemicals Inspectorate levy are recorded cash which are approximately accrual in these cases.

The distinction between a tax and sales of service is based on information about compulsory payments to government without any link between the value of the fee and the cost of administration or performed service. Sales of goods and service consist of payments for non-market or market output. Borderline cases between taxes and sales of goods and service are fees for issuing passports, driving licenses etc. where only the government has the right to offer these kinds of services. But, the relation between the actual cost for administration (or similar, e.g. government act based on a regulatory

function) and the fee, is legitimate so the fee is recorded as sales of service. On the other hand, if the payment is out of proportion of the cost of providing the service it is recorded as a tax. Please see several of taxes recorded within transaction code D.214 below. Another border line case is the radio and TV-fee. Consumers of public broadcasting services in Sweden are obligated to pay a license fee, so called *radio- och tv-avgift* (in Swedish), if they have a television receiver. The definition of a television receiver is that the receiver should be technical equipment designed for receiving television or radio programs, regardless of other use of the equipment. The borderline between television equipment and computers and smartphones have been a subject recently in Sweden by judicial review and the outcome become that no fee can be charged based only on having ordinary computers or smartphones (except computers with an installed TV-card). The fee is therefore compulsory *given preconditions* and not compulsory for all households, organizations or corporations, and not recorded as a tax.

The table below presents the taxes on products on a more aggregated level. But in national accounts, as well as in the National Tax List, taxes on products could be split on a more detailed level, which also is included in the ESA Transmission Program.

The figures given in the table below do not represent the values under the various revenue headings below, but are the values entered in the Swedish national accounts.

<b>Taxes on products (D.21)</b>	<b>Total amount year 2011</b>
<b>SEK million</b>	
<b><i>Value added type taxes (D.211)</i></b>	<b>330 770</b>
Central government part	329 205
VAT referring to VAT-based third EU own resource	1 565
<b><i>Taxes and duties on imports excluding VAT (D.212)</i></b>	<b>5 620</b>
Import duties	5 399
Taxes on imports, excl. VAT and import duties	221
<b><i>Taxes on products, except VAT and import taxes (D.214)</i></b>	<b>108 973</b>
Excise duties and consumption taxes	90 783
Taxes on financial and capital transactions	7 989
Taxes on lotteries, gambling and betting	1 394
Taxes on insurance premiums	2 907
Other taxes on specific services	389
Profits of fiscal monopolies	5 168
Other taxes on products n.e.c.	343
<b>Total</b>	<b>445 363</b>

The following revenue headings and fund income are classified as taxes on products, except VAT and import taxes. The description below follows the same disposition as ESA Transmission Program and the National Tax List. Within brackets signs the headings from the central government budget are presented (refer to budget 2011).

#### ***D.214A Excise duties and consumption taxes***

##### ***Energy tax (1430)***

The revenue heading consists of four parts: tax on electric power, petrol, other oil products and other energy taxes (gas, coal etc.). The heading contain taxes on certain fuels, such as coal products, petroleum coke, petrol, paraffin oil, diesel oil, heating oil, natural gas, methane and LPG, and electric

power. The tax on electric power is levied based on a specific amount per kilowatt-hour and type of users. The tax on petrol and unmarked oils is differentiated with respect to their environmental properties and litre or cubic meter. Other energy taxes are levied based on different quantity measures. For all four parts, payments and reporting to the Swedish Tax Agency take place in the month after the accounting period, i.e. tax year  $t$  refers to the period February year  $t$  to January year  $t+1$ .

#### *Tobacco duty (1421)*

Tobacco duty is collected on cigarettes, cigars, cigarillos, pipe tobacco, chewing tobacco and snuff. The duty is levied at a specified amount per item or per kilo. For cigarettes, the duty also comprises a specified percentage of the retail price. Payment and reporting to the Swedish Tax Agency take place in the month following the accounting period.

#### *Duty on alcohol (1422-1426)*

The duty on alcohol consists of three parts; duty on spirits, duty on wine and duty on beer. The duty on ethyl alcohol (spirits) is charged at a specified amount per liter pure ethyl alcohol. The duty on wine and other fermented beverages is charged at a specified amount per liter, depending on percentage of alcohol by volume. The duty on beer is charged at a specified amount per liter, depending on percentage of alcohol by volume. Payments and reporting to the Swedish Tax Agency take place in the month following the accounting period.

#### *Carbon dioxide tax (1440)*

Carbon dioxide tax is levied on petrol, coal products, petroleum coke, paraffin oil, diesel oil, heating oils, natural gas, methane and LPG. The tax is charged at specified amounts per liter, tone or cubic meter.

#### *Other environmental taxes (1450 part)*

Sulphur tax is payable on the sulphur content of coal products, peat fuel, petroleum coke, diesel oil and heating oil. For solid fuels, the tax is collected at a certain amount per kilogram of sulphur in the fuel. For oils, the tax is levied at a certain amount per cubic meter of oil for every 10th of one per cent of sulphur.

#### *Other taxes on goods and services (1458)*

The tax on natural gravel is payable for broken natural gravel if extraction is carried out for any purpose other than the landowner's housing needs. The tax is levied at a specified amount per tone. Also other minor excise duties are included into this heading.

#### *Nuclear waste fund (1642)*

Every reactor operator must pay a fee determined in relation to the energy supplied. The objective is to create a fund for future responsibilities concerning nuclear waste and terminate present nuclear power plants. The fee is levied on a certain amount per kilowatt-hour produced and distributed from the nuclear power plant. The government decides the amount annually.

<b>Excise duties and consumption taxes (D.214A)</b>	<b>Total amount year 2011</b>
<b>SEK million</b>	
Taxes on fuel	45 783
Taxes on electrical power	21 268
Taxes on alcoholic beverage	12 211
Taxes on tobacco	11 262
Tax on gravel	163
Tax on sulphur	28
Other excise duties	68
<b>Total</b>	<b>90 783</b>

### ***D.214C Taxes on financial and capital transactions***

#### ***Stamp duty (1361)***

Stamp duty comprises tax payable on the inheritance of real estate and site leasehold rights and on the granting of mortgages. In the case of an inheritance, the tax rate is a certain percentage of the value of the property. In the case of a mortgage, the tax rate is a certain percentage of the mortgage amount for real estate, leasehold rights, aircraft, businesses or ships.

### ***D.214F Taxes on lotteries, gambling and betting***

#### ***Lottery tax (1484 part)***

The revenue heading consists of two parts, of which one is classed as a tax on products and one as current taxes on income. The part, lottery tax, which is classed as a tax on products consists of the tax payable by Swedish lotteries in which the prize consists of cash. Tax is levied at a certain percentage rate on the balance, which remains after total prizes have been deducted from total stakes. Payment and reporting to the Swedish Tax Agency take place in the month after the accounting period.

### ***D.214G Taxes on insurance premiums***

#### ***Tax on vehicle insurance premiums (1474)***

The tax is levied on vehicle insurance premiums, i.e. third-party liabilities insurance and vehicle insurance fees. The annual levy is based on a percent of earned premiums and fees. Payments and reporting to the Swedish Tax Agency take place, in general, in the month after the accounting period.

### ***D.214H Other taxes on specific services***

#### ***Tax on advertising and publicity (1486)***

The tax is levied on advertisements intended for publication within the country and on publicity intended to be disseminated within the country in a form other than advertisements. The tax is charged at a percentage of the taxable value. A certain portion of the tax paid by periodicals is repaid. In general, payment must be recorded in the month after the close of the accounting period.

### ***D.214J Profits of fiscal monopolies***

#### ***Surplus supplied by Systembolaget AB (1481)***

The income comprises the annual profit of the Swedish alcohol retailing monopoly corporation Systembolaget AB after depreciation, consolidation and distribution to shareholders. Payments are entered in the revenue heading in the year following the revenue year.

#### ***Surplus supplied by Svenska Spel AB (1482)***

Receipts from State sponsored pools. The income comprises surpluses arising in the operation of different kind of pools schemes. The amount payable consists of what remains of the government corporation's annual profit after consolidation, appropriation to adjustment funds, distribution to shareholders and any advanced payments made.

#### ***D.214L Other taxes on products n.e.c.***

##### ***Other environmental taxes (1450 part)***

One part is tax on waste and is paid based on a specified amount per tone, which is brought to a waste disposal installation, where a waste to a quantity of more than 50 tons is deposited, or kept for more than three years. Levy on pesticides is a specified amount for every whole kilogram of active ingredient in the pesticide and some minor other environmental levies and taxes on chemicals are also included in this heading. Payments and reporting to the Swedish Tax Agency take place, in general, in the month after the accounting period.

In addition, the Chemicals Inspectorate levy is payable annually by any person who commercially manufactures or imports a total of more than one tone of chemical products. The levy is in two parts, half based on number of products and half on quantities. Preliminary payment is due in one year and the final adjustment takes place in the following year.

##### ***Fees to battery fund (1644)***

The fee is collected from those who produce or import nickel-cadmium batteries on a professional basis. The fee is a certain amount per kilo. Payment and reporting to the Swedish Environmental Protection Agency take place quarterly.

#### ***Tax amounts unlikely to be collected***

Assessed amounts are neither adjusted by a coefficient nor recorded as a capital transfers corresponding to taxes unlikely to be collected. The tax calculations are based on taxes actually collected. Both individuals and companies have a tax account. All assessed taxes and payments are recorded on this account. If there is a deficit and the deficit is not settled in time the claim is handed over to the Swedish Enforcement Authority for collecting the claim. A part of these amounts are in fact collected by the Enforcement Authority and transferred to the tax authorities. This net amount (always a loss, of course) is recorded as taxes not to be collected. This means that amounts of taxes not collected can be referred to several years.

Since the tax account system does not allow specification of which taxes paid or not paid, but only the total, it is not possible to know exactly if the taxes concern the present year or a previous year.

However, since the handing of deficits to the Enforcement Authority is made every month, the main part of amounts not paid should concern prepayments of income taxes, social contributions and VAT for the current year. Maybe there will be a minor underestimation of losses for the former year, due to the fact that the decision on final tax for corporations is made once a year and thus will be an extra claim apart from the monthly payments. Since the total loss does not differ very much from one year to another, this effect, however, will be levelled out over time. Randomly, technical effects can occur, depending on the exact time for handing over a claim to the Enforcement Authority. These effects can occasionally lead to misleading information for a separate year, which also will be levelled out over time.



### 3.29 Subsidies on products

Subsidies on products are current contributions from departments or authorities of general government or the European Union to producers. Subsidies on products are paid as a fixed or variable contribution per quantity or unit of value on the manufacture, sale or intermediate consumption of a certain product.

In calculations of GDP from the output side, output is valued at basic prices. Therefore taxes on products and subsidies must be added or subtracted, respectively, in order to obtain GDP at market prices. Taxes on products and subsidies function, here as a separately recorded component of the output of market products, and must therefore also be calculated at constant prices. Product subsidies arise mainly in the transport sector and cover transport involving local bus services and railway transport. Subsidies paid by EU are also recorded but in much smaller amounts (see section 8.3).

The major part of the Swedish calculation for subsidies on products is based on a data source at the Swedish National Financial Management Authority (ESV). ESV records transfer expenditures of departments and agencies of government as well as subsidies from EU. The transfers are recorded according to recipient sector. An additional data source is used concerning agriculture subsidies to farmers. From the Swedish Board of Agriculture supplementary information about agriculture subsidies are collected which enable a correct split between government and EU subsidies, a split between subsidies on products and other subsidies on production as well as assure an accrual based recording. Hence, we can observe both cash recording and accrual recording at the data source at ESV for the major part of the data set. In national accounts we use accrual recording. In case of only cash collected amounts for a certain item we use information from national accounts, as for example value added for the activity of interest, to time adjust the amounts to be accrual. This refers mainly to adjustments of quarterly reallocation within the year, i.e. annual amounts are already accrual. For local government, the data source are on an accrual basis.

The information in the data source from ESV are quite detailed which make it possible to distinguish subsidies from social transfers, investment grants, other miscellaneous transfers etc. Within the framework of public finance statistics and Excessive Deficit Procedure the distinction between general payments from government, as subsidies, versus other government transfers, as intervention e.g. capital injections into public corporations, has improved and can now be distinguished. The data sources regarding payments from government, as well as from the EU, are enough detailed to be able to divided the amounts by type of item/transfer, counterpart, split by appropriation, related to quantities of products and merchandises (D.31) or referring to production (D.39), social transfers etc.

For local government the main data source is Annual accounts for municipalities and county councils (accrual data sources). Local government subsidies on products refer only to transport activities and mainly to bus and railway transports.

The following expenditure is recorded as subsidies on products for general government (ESA transaction code D.31):

<b>Subsidies on products (D.31)</b>	<b>Total amount year 2011</b>
<b>SEK million</b>	
<b><i>From central government</i></b>	<b>1 048</b>
Transport activities	771
Agriculture activities	277
<b><i>From local government (only transport activities)</i></b>	<b>16 774</b>
Of which from municipalities	5 456
Of which from county councils	11 318
<b>Total</b>	<b>17 822</b>

The Swedish car scrap scheme has been replaced by a higher responsibility/ undertaking for the car scrap at the manufacturers and importers. The scheme expired in 2007. The car scrap scheme was conditional in Sweden and it was recorded as a tax on products in the Swedish national accounts (D.21) and not as subsidies on products (D.31), as stated in GNIC/232, rec. 3. According to the Commission's reservation IV for car scrap schemes, this was properly addressed by Sweden.

## Chapter 4 GDP according to the income approach

Table 4.1 GDP according to the income approach by NACE sections and component, SEK million, year 2011.

GDP according to the income approach by NACE sections and component, SEK million, year 2011					
	GROSS VALUE ADDED B.1G	COMPENSATION OF EMPLOYEES D.1	OTHER TAXES ON PRODUCTION AND IMPORTS D.29	OTHER SUBSIDIES ON PRODUCTION D.39	GROSS OPERATING SURPLUS AND MIXED INCOME B.2G+B.3G
A Agriculture, forestry and fishing	52 549	17 064	5 102	-9 584	39 967
B Mining and quarrying	27 938	4 502	862	-41	22 615
C Manufacturing	588 552	268 485	50 106	-5 582	275 543
D Electricity, gas, steam and air conditioning supply	87 314	15 635	11 253	-408	60 834
E Water supply; sewerage, waste management and remediation activities	20 516	8 909	1 809	0	9 798
F Construction	185 821	116 827	22 457	-1 537	48 074
G Wholesale and retail trade; repair of motor vehicles and motorcycles	350 006	207 859	37 709	-1 597	106 035
H Transportation and storage	179 695	94 415	18 527	-3 120	69 873
I Accommodation and food service activities	49 517	35 112	6 337	-345	8 413
J Information and communication	176 233	91 811	16 457	-5 554	73 519
K Financial and insurance activities	131 575	53 886	12 437	-38	65 290
L Real estate activities	275 367	25 781	26 363	-207	223 430
...L of which Imputed rents of owner-occupied dwellings	114 658	0	15 064	-2	99 596
M Professional, scientific and technical activities	223 716	129 681	24 449	-7 340	76 926
N Administrative and support service activities	110 041	74 432	13 569	-4 972	27 012
O Public administration and defence; compulsory social security	153 483	98 685	20 444	-2 989	37 343
P Education	176 642	130 817	27 834	-1 397	19 388
Q Human health and social work activities	339 202	260 224	54 243	-1 914	26 649
R Arts, entertainment and recreation	41 567	24 323	5 310	-4 592	16 526
S Other service activities	52 047	33 328	6 813	-1 241	13 147
T Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use	1 150	1 033	117	0	0
TOTAL VALUES BY INDUSTRY	3 222 931	1 692 809	362 198	-52 458	1 220 382
D21 TAXES ON PRODUCTS, Calculated - D21 TAXES ON PRODUCTS, Actually collected					6 647
TOTAL VALUES BY INDUSTRY + DIFFERENCE BETWEEN CALCULATED AND ACTUALLY COLLECTED TAXES ON PRODUCTS					1 227 029
D21 TAXES ON PRODUCTS (Calculated)	452 010				
D31 SUBSIDIES ON PRODUCTS	-18 364				
GROSS DOMESTIC PRODUCT	3 656 577				

**Table 4.2 GDP according to the income approach by institutional sector and component, SEK million, year 2011.**

	GROSS VALUE ADDED B.1G	COMPENSATI ON OF EMPLOYEES D.1	OTHER TAXES ON PRODUCTION AND IMPORTS D.29	OTHER SUBSIDIES ON PRODUCTION D.39	GROSS OPERATING SURPLUS AND MIXED INCOME B.2G+B.3G
<b>S11 Non-financial corporations</b>	2 155 015	1 140 729	225 316	-38 429	827 390
<b>S12 Financial corporations</b>	131 169	53 761	12 433	-38	65 022
<b>S13 General government</b>	648 997	441 946	95 142	-3 119	115 028
<b>S14 Households</b>	243 929	20 090	21 577	-7 900	210 162
<b>S15 Non-profit institutions serving households</b>	43 821	36 283	7 730	-2 972	2 780
<b>TOTAL VALUES BY INSTITUTIONAL SECTOR</b>	<b>3 222 931</b>	<b>1 692 809</b>	<b>362 198</b>	<b>-52 458</b>	<b>1 220 382</b>
D21 TAXES ON PRODUCTS, Calculated - D21 TAXES ON PRODUCTS, Actually collected					6 647
TOTAL VALUES BY INDUSTRY + DIFFERENCE BETWEEN CALCULATED AND ACTUALLY COLLECTED TAXES ON PRODUCTS					1 227 029
<b>D21 TAXES ON PRODUCTS</b>	<b>452 010</b>				
<b>D31 SUBSIDIES ON PRODUCTS</b>	<b>-18 364</b>				
<b>GROSS DOMESTIC PRODUCT</b>	<b>3 656 577</b>				

## 4.1 The reference framework

### 4.1.1 The main sources

The main sources used for each institutional sector concerning GDP from the income side are as follows:

S11 Non-financial corporations: Structural business statistics (SBS) which combines surveys and administrative data.

S12 Financial corporations: Yearly income statement

S13 General Government: Yearly surveys for all units and subsectors within the general government

S14 Households: SBS and Income statements from taxation

S15 Non-profit institutions serving households: Yearly survey for the organisations within the sector.

The Swedish Tax Agency provides Statistics Sweden with detailed information on income from employment on a micro basis. Then it is possible to combine data from the taxation with information from the business register and group the compensation of employees by activity and by institutional sector.

### 4.1.2 Quality of the Statistical sources

Annual data is collected every year from the different industries and institutional sectors and categories of transactions which enable a calculation of each component of GDP from the income side, which consists of the following items, compensation of employees, D1, taxes on production, D29, subsidies on production, D39, gross operating surplus, B2G, and mixed income, B3G. The data is collected from surveys as well as from taxations. The income statements for the nearly 400,000 companies and 600,000 own account workers are used to calculate production and intermediate consumption. In this stage adjustments are made to fit into ESA 2010, this work is done to a large extent much in the estimate of production and intermediate consumption which also affects the operating surplus in a later stage when the coherent source is used in several steps. Much effort is also spent on estimating the total value of Compensation of employees which is detailed described in section 4.7.

Surveys are combined with administrative data to ensure that the whole economy is covered which means that data from all companies are collected regardless of the size of the companies. Supplements are made for hidden and illegal activities.

The calculations use surveys as well as administrative data. In the final calculation each year  $t+21$  month all of the sources are used. The earlier estimates are preliminary.

## 4.2 Borderline cases

### 4.2.1 Wages and salaries versus intermediate consumption

Benefits are all forms of remuneration for work as that employee can get in other than cash. A benefit arises in principle as soon as the employer pays for private living costs for an employee. Expenditure by the employee for their job such as for example protective work wear and travel expenses and that employer shall replace does not counts as a benefit but is a part of the company's intermediate consumption costs. A more detailed review of compensation of employees is made in section 4.7. Benefits are reported in the yearly taxation by the employer.

### 4.2.2 Intermediate consumption versus gross operating surplus and mixed income

Intellectual Property Products are treated as gross fixed capital formation and thus do not affect the estimation of gross operating surplus or mixed income. A more detailed description of gross fixed capital formation is made in chapter 5.10 and of intermediate consumption in chapter 3 for each industry.

### 4.2.3 Taxes on production and imports and subsidies

In the sections 4.8 and 4.9 the description of taxes on production and imports and subsidies are implemented.

## 4.3 Valuation

In section 4.7 and further detailed explanations on sources and calculations of the different types of transactions and the valuations of the components of GDP from the income approach are made.

In chapter 4.7 the more detailed description is made concerning wages and salaries in kind. The combined value of taxable benefits other than cash wages and salaries is covered here, for example the benefit of a free or partially free car, food, housing, holiday accommodation, telephone, free newspapers, sports facilities, transportation or interest concessions. Taxable benefits are collected in the gross pay by income statement but a supplement is added to car benefits. The benefits are valued at the market rate with deductions for amounts the employee may have paid for the benefit out of his net pay. The taxable value of the benefit is included in its entirety in the wages and salaries calculation. Furthermore the total value of car benefits is added to the production side of the economy.

### 4.3.1 Accrual principle for wages and salaries, taxes on production and import and subsidies

For wages and salaries or other forms of compensations paid, a cash principle applies as wages and salaries are paid during the period in which the work is done. More details are to be found in section 4.7.

In principle, no taxes in Sweden are recorded either pure cash or time-adjusted cash (TAC) in national accounts. In Sweden, individuals and corporations/organisations have their own unique tax account. When a tax obligation occur the tax payer pay the tax into the tax account and make a tax declaration to the Swedish Tax Agency (Skatteverket). As a result of the structure of the tax system with a single tax account for all taxes, it is not possible to see each tax at the tax account (=cash or TAC). The paid tax has to be confirmed by a corresponding tax declaration. In national accounts, taxes are recorded based on the tax declaration, which approximately is the same as paid tax. Depending on possible time lag the tax is recorded pure cash or TAC but based on reported amounts in the tax declaration to the

Swedish Tax Agency. After the outcome from the annual Tax Assessment is available, total amounts for each type of tax can be observed in the overall tax system and be recorded in national accounts. Therefore, time of recording for all taxes and social contributions are based on Assessment and declarations.

Sources and methods of the subsidies are described in detail in sections 3.29 and 4.9. In section 3.29 subsidies on products are described: The information in the data source from ESV is quite detailed which make it possible to distinguish subsidies from social transfers, investment grants, other miscellaneous transfers etc. Within the framework of public finance statistics and Excessive Deficit Procedure the distinction between general payments from government, as subsidies, versus other government transfers, as intervention e.g. capital injections into public corporations, has improved and can now be distinguished. The data sources regarding payments from government, as well as from the EU, are enough detailed to be able to divide the amounts by type of item/transfer, counterpart, split by appropriation, related to quantities of products and merchandises (D.31) or referring to production (D.39), social transfers etc. For local government the main data source is Annual accounts for municipalities and county councils (accrual data sources). Local government subsidies on products refer only to transport activities and mainly to bus and railway transports.

In section 4.9 subsidies on production are described in more details. Other subsidies on production consist of subsidies, apart from subsidies on products, which resident producers may receive as a consequence of involvement in production. For other non-market output, other non-market producers may receive other subsidies on production only in those cases in which such payments from general government are justified by general provisions applicable to both market and non-market producers. Subsidies are recorded when the transaction or event giving rise to the subsidy takes place.

## **4.4 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts**

### **4.4.1 Private and public accounting versus national accounts concepts**

GDP from the income side is dependent on the adjustments made in the calculations of both GDP calculations from the production approach as well as from the GDP calculations from the expenditure approach. Each adjustment of production and each adjustment of intermediate consumption is adjusted by other components in the system. These adjustments are described in the respective part of Chapter 3 concerning GDP from the production approach and in Chapter 5 concerning GDP from the expenditure approach, and in the following sections in this chapter concerning compensation of employees, taxes on production, subsidies on production, gross operating surplus and mixed income.

### **4.4.2 Durable goods of small value**

Purchases with an economic life shorter than one year are classified as intermediate consumption and excluded from GFCF. An obstacle is that Swedish corporate legislation has a limit of 3 years for a purchase to be classified as fixed investment or fixed capital while national accounts and ESA 2010 have a time limit of one year. To fill the gap between corporate legislation and national accounts a specific question has been included in the SBS asking for an economic life longer than one year but shorter than three years.

Every year the supply of products (production + imports – exports) for tools on the finest level, KN-level, is analysed to separate smaller tools from larger tools and thereby GFCF from intermediate consumption. See also a description of measures taken to ensure satisfactory transition from private accounting to ESA 2010 concepts regarding durable goods of small value in Section 5.2.2.2

**4.4.3 Major repairs and renovations;**

Improvements to existing fixed assets such as renovation, reconstruction and enlargements are asked for in the SBS as GFCF. See also a description of measures taken to ensure satisfactory transition from private accounting to ESA 2010 concepts regarding major repairs and renovations in Section 5.2.2.2.

**4.4.4 Valuation of inventories;**

In section 5.11.2 the detailed descriptions of details of valuation of inventories are found.

**4.4.5 Software and entertainment, literary and artistic originals;**

See section 5.10 for detailed description of sources and methods concerning Software and entertainment, literary and artistic originals.

**4.4.6 Research and development;**

In section 5.10 detailed descriptions on sources and methods of gross fixed capital formation in research and development are given.

**4.4.7 Insurance service charge;**

All insurance premiums are excluded from the costs of the companies to reach the correct intermediate consumption, gross value added and gross operating surplus in the National Accounts system. This expenditure is recorded as a transfer in the secondary distribution of income account. The production of insurance service charge is calculated in the insurance industry K65 and is then together with the imports of the product divided between consumption for the consumers, intermediate consumption for the producers and exports.

**4.4.8 Production and allocation of FISIM;**

FISIM is allocated by industries for non-financial corporations, financial corporations and general government in accordance with Commission Regulation (EC) No 1889/2002 of 23 October 2002, using the stocks of loans and deposits on a single letter NACE level. The full breakdown to the 100 industry level in the Swedish national accounts system uses the output of the respective industries as a key. The data for sector S.11 and S.12 uses stocks of loans and deposits by industry to allocate FISIM. Financial corporations S.12 are assumed to be equal to NACE K. For households except NACE L data on production is used as key for allocation by industry. Households stock of loans with dwellings as collateral are used to calculate homeowners intermediate consumption of FISIM which is allocated to NACE L. Non-profit institutions serving households uses value added as key. FISIM is also described in section 3.17 in the Inventory.

**4.4.9 Leasing;**

The treatment of leasing is described in Chapter 5.10.

**4.4.10 The treatment of provisioning between private/public accounting and national accounts; especially in reference to decommissioning of large capital assets.**

Stocks of fixed capital are built up of calculations regarding gross fixed capital formation, consumption of fixed capital and other changes in assets.

Below is the conceptual adjustments shown for gross operating surplus and mixed income where the biggest impact comes from a reduction of the intermediate consumption which results in higher value added as well as higher gross operating surplus and mixed income. Adjustments concerning allocation

of FISIM have a bigger impact than other conceptual adjustments for the group of self-employed which is reflected in the accounts for the mixed income.

**Table 4.4.1 Conceptual adjustments for gross operating surplus and mixed income**

	Conceptual adjustments		
	Allocation of FISIM	Other conceptual	Total conceptual
<b>Gross operating surplus</b>	<b>-45 882</b>	<b>230 139</b>	<b>184 257</b>
Non-Financial Corporations	-28 391	209 531	181 140
Financial Corporations	-3 765	20 608	16 843
General Government	0		0
Households	-13 726		-13 726
NPISH	0		0
<b>Mixed income</b>	<b>-10 405</b>	<b>4 276</b>	<b>-6 129</b>
<b>Total</b>	<b>-56 287</b>	<b>234 415</b>	<b>178 128</b>



## 4.5 The roles of direct and indirect estimation methods and of benchmarks and extrapolations

### 4.5.1 Estimation methods

Direct estimation methods are methods based on sources that give a direct value for the variable to be estimated. Indirect estimation methods are used in the absence of such a direct value and may comprise models, use of ratios, etc. The different methods used in the calculations are described in chapter 3 concerning GDP according to the production approach and in the following sections in chapter 4.7 for compensation of employees. Since gross operating surplus and mixed income are partly derived from production, and intermediate consumption the methods used in those calculations also reflect gross operating surplus as well as mixed income.

In the tables below the different types of methods is shown for each category, compensation of employees, gross operation surplus and mixed income.

**Table 4.5.1 Estimation method for Compensation of Employees, SEK million 2011.**

			Compensation of employees
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		1 018 137
	<b>Administrative Records</b>		393 734
	<b>Combined Data</b>		0
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	
		<b>Commodity Flow Model</b>	
		<b>CFC(PIM)</b>	
		<b>Dwellings - stratification method</b>	
		<b>FISIM</b>	
		<b>Other E&amp;M</b>	216 980
		<b>Total Extrap+Models</b>	216 980
	<b>Other</b>		
	<b>Total (sources)</b>		<b>1 628 851</b>
<b>Adjustments</b>	<b>Data validation</b>		22 075
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	
		<b>Other conceptual</b>	
		<b>Total conceptual</b>	
	<b>Exhaustiveness</b>	<b>N1</b>	
		<b>N2</b>	
		<b>N3</b>	
		<b>N4</b>	
		<b>N5</b>	
		<b>N6</b>	39 669
		<b>N7</b>	2 214
		<b>Total exhaustiveness</b>	41 883
	<b>Balancing</b>		
	<b>Total (adjustments)</b>		<b>63 958</b>
<b>Final estimate</b>			<b>1 692 809</b>

The fact that the gross operating surplus and gross mixed income are derived from production, intermediate consumption, compensation of employees and net of taxes on production and subsidies on production, it means that the adjustments made in each category also has an impact on gross operating surplus as well as in the calculation of mixed income. The total common effects per category are shown in the tables below.

**Table 4.5.2 Estimation method for Gross operating surplus, SEK million 2011.**

			Gross operating surplus
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		1 136 140
	<b>Administrative Records</b>		-541 631
	<b>Combined Data</b>		-369 246
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	269 305
		<b>Commodity Flow Model</b>	212 365
		<b>CFC(PIM)</b>	115 333
		<b>Dwellings - stratification method</b>	306 681
		<b>FISIM</b>	83 440
		<b>Other E&amp;M</b>	-560 193
		<b>Total Extrap+Models</b>	426 931
	<b>Other</b>		288 072
	<b>Total (sources)</b>		<b>940 266</b>
<b>Adjustments</b>	<b>Data validation</b>		-8 629
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	-45 882
		<b>Other conceptual</b>	230 139
		<b>Total conceptual</b>	<b>184 257</b>
	<b>Exhaustiveness</b>	<b>N1</b>	0
		<b>N2</b>	0
		<b>N3</b>	-1 442
		<b>N4</b>	0
		<b>N5</b>	0
		<b>N6</b>	22 863
		<b>N7</b>	-2 214
		<b>Total exhaustiveness</b>	19 207
	<b>Balancing</b>		-23 469
	<b>Total (adjustments)</b>		<b>171 366</b>
<b>Final estimate</b>			<b>1 111 632</b>

**Table 4.5.3 Estimation method for mixed income, SEK million 2011.**

			Mixed income, gross
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		90 572
	<b>Administrative Records</b>		-9 709
	<b>Combined Data</b>		-16 153
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	
		<b>Commodity Flow Model</b>	
		<b>CFC(PIM)</b>	
		<b>Dwellings - stratification method</b>	7 272
		<b>FISIM</b>	
		<b>Other E&amp;M</b>	-14 140
		<b>Total Extrap+Models</b>	-6 868
	<b>Other</b>		25 752
	<b>Total (sources)</b>		<b>83 594</b>
<b>Adjustments</b>	<b>Data validation</b>		
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	-10 405
		<b>Other conceptual</b>	4 276
		<b>Total conceptual</b>	<b>-6 129</b>
	<b>Exhaustiveness</b>	<b>N1</b>	
		<b>N2</b>	4 590
		<b>N3</b>	
		<b>N4</b>	
		<b>N5</b>	
		<b>N6</b>	34 891
		<b>N7</b>	
		<b>Total exhaustiveness</b>	39 481
	<b>Balancing</b>		-1 549
	<b>Total (adjustments)</b>		<b>31 803</b>
<b>Final estimate</b>			<b>115 397</b>

More details on methods concerning compensation of employees are to be found in section 4.7 and methods concerning production and intermediate consumption in chapter 3.

## 4.6 The main approaches taken with respect to exhaustiveness

Descriptions of methods used to ensure exhaustiveness are given in chapter 7 and in the following part of this chapter. An overview of the different types of exhaustiveness by Compensation of employees, Gross operating surplus and Mixed income is shown in the table below.

**Table 4.6.1 Breakdown of income components and types of exhaustiveness (N1-N7)**

Type	Compensation of employees	Gross operating surplus	Mixed income	Total
N1	0	0	0	0
N2	0	0	4 590	4 590
N3	0	-1 442	0	-1 442
N4	0	0	0	0
N5	0	0	0	0
N6	39 669	22 863	34 891	97 423
N7	2 214	-2 214	0	0
<b>Total</b>	<b>41 883</b>	<b>19 207</b>	<b>39 481</b>	<b>100 571</b>

## 4.7 Compensation of employees

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during an accounting period. This compensation is divided into two parts, wages and salaries and social contributions.

**Table 4.7.1 Compensation of employees**

2011	SEK million
<b>Compensation of employees</b>	<b>1 692 809</b>
Wages and salaries in cash	1 403 818
Wages and salaries in kind	19 482
Social contributions	269 509

### 4.7.1 Wages and salaries in cash and in kind

The prime source of information, about 96 percent, in the calculation of the total wages and salaries is LSUM (kontrolluppgiftsbaserad lönesummestatistik). LSUM is Statistics Sweden's adaptation of the gross pay by income statements (KU) from employers to the tax authorities. The data from the tax authorities are transferred to Statistics Sweden in its entirety and a KU register is then composed from where data can be retrieved. See more information about the data source in chapter 10. This gives information about wages and salaries both in cash and in kind. In order to get the total wages and salaries in cash, certain supplements and deductions are made to and from this administrative data source to take account of boundaries, reclassifications and under-coverage. When it comes to wages and salaries in kind a supplement is done in regard to car benefits, but excluding that, the data used is from gross pay by income statements. The components will be discussed in more detailed below.

**Table 4.7.2 Means used to complement the income statements**

2011	SEK million
Gross pay based on income statements (LSUM)	1 371 261
Supplement	53 869
Deductions	1 830
Total volume of wages and salaries in Swedish output	1 423 300

***Wages and salaries, components****Gross cash wages and salaries*

Gross pay by income statements are the annual statements of gross wages and salaries in cash and other taxable forms of compensation, which resident employers render to the income recipients and tax authorities prior to assessment. They include gross wages and salaries in cash and other taxable forms of compensation. An income statement must be supplied to anyone who has received wages, salaries, fees, emoluments or other forms of compensation or benefits, which constitute taxable income for work performed. Even if there is no direct employer-employee relationship, an income statement must be supplied by a person who issues payment for work performed where there is a community of interest between the person issuing the payment and the employer. An income statement (KU) must be supplied if the total value of remuneration and benefits to a person is SEK 1000 or more for the whole year. No adjustments are made to take account of the people falling below this threshold since it is deemed to be of insignificant importance to the overall level of compensation.

For wages and salaries or other forms of compensations (benefits) paid, a cash principle applies and wages and salaries are paid during the period in which the work is done. Sick-pay which is paid by the employer is counted as cash remuneration on the income statement and the classification of sick-pay is accepted in the national accounts. The gross pay data based on income statements include basic wages and salaries; enhanced payments; allowances; bonuses; holiday pay; savings schemes; and exceptional payment when leaving companies. The data does not include expenditures necessary for the production process; social insurance benefit; taxes or payment to outworkers. No extra adjustments are made to cover tips and gratuities not included in the gross pay by income statements data.

*Taxable benefits*

The combined value of taxable benefits other than cash wages and salaries is covered here, for example the benefit of a free or partially free car, food, housing, holiday accommodation, telephone, free newspapers, sports facilities, transportation or interest concessions. Taxable benefits are collected in the gross pay by income statement but a supplement is added to car benefits. The benefits are valued at the market rate with deductions for amounts the employee may have paid for the benefit out of his net pay. The taxable value of the benefit is included in its entirety in the wages and salaries calculation. Furthermore the total value of car benefits is added to the production side of the economy. Regarding car benefits, the taxable value as laid down in the tax reform of 1991 corresponds to the utility value.

For access to a free car, including fuel, a supplement to output (car hire) and income corresponding to the utility value of the car benefit was introduced in the national accounts. Up to the end of income year 1996, the fiscal value of the benefit was deemed to correspond to the utility value. The value of the car benefit broken down by sector and industry is obtained from the gross pay by income statement statistics (LSUM). The calculation of the fiscal value of the car benefit, however, was changed by political decisions several times during the 1990s. The latest change was introduced with effect from 1997. The benefit value for a completely free car was reduced in 1997 theoretically by 32-35 per cent

relative to 1996. The variation is based on the assumed price of the new car. Earlier changes had a marginal effect on the value of the benefit and hence did not lead to any change in the assessment of the correspondence between the benefit value and the utility value. The change introduced in 1997, on the other hand, was more radical, hence the benefit value was recalculated in order to provide a better match with the utility value.

This readjustment of the benefit value was taken into account in the calculation of the output value, so that the value of the actual benefit would not be underestimated. The readjustment factor of 1.25 (+25%) is calculated on the basis of the change in the fiscal assessment of the benefit value between 1996 and 1997, which means that it can be applied directly to the benefit value shown in the income statement data as of 1997. In the calculation of the readjustment factor, account was also taken of other changes between 1996 and 1997 which affect the total benefit level, for example the number of benefit recipients, new car prices and the average replacement value of the car constituting the benefit. The added value for 2011 due to this adjustment is SEK 2 214 million and the total value for the car benefit in 2011 was SEK 12 548 million.

#### *Other taxable remuneration*

This includes remuneration, which does not form part of the basis for social charges or special employer's contributions. It covers, inter alia, annuities, and dividends from profit-sharing schemes and in certain cases compensation to competitors in sporting events. The latter case applies to non-profit associations which are tax-exempt, whose main purpose is to promote sporting activity and in which compensation does not exceed half the basic amount per recipient per year. If the compensation is greater, it is recorded as cash remuneration and benefit. The wages and salaries calculations include that part of the category Other taxable compensation, which is paid to competitors in sports events. In 2011 this amounted to SEK 571 million. The information is gathered in the KU income statement, but is not included in the gross wages that is received from this source.

#### *“Black” or undeclared wages*

The national accounts have to reflect all economic activities in the country, which means that income in the informal economy, or earnings from “working black”, must be included. In the calculations, information from a study made by the National Swedish Tax Agency in 2006 has been used. The reconciliation possibilities inherent in the national accounts system have also been analysed.

These are based on the common identity, which must exist between income and expenditure. In order to assess the structure of labour in the informal economy with respect to industry etc., the above mentioned study has been used. In this study a combination of methods have been used to shed light on labour in the black economy. For estimation, data from audits in respect of income tax have been used. The results of audits covering eight years from 1995 to 2003, is the basis for this process. The material was stratified into eight various types/sectors, 3 size groups and 25 activities. The material included 770 000 active companies including public sector and non-profit organisations with a total income of almost SEK 1 000 billion.

The results show that there was a strong concentration of underreported income from small companies. Self-employed and companies with total reported salaries of less than one million SEK represented 9 percent of reported income and as much as 85 percent of the calculated underreporting. Medium-sized limited companies defined as having salaries between one and five million SEK, represented ten percent of reported income from employment and eleven percent of the calculated underreporting. Limited companies with more than SEK 5 million in salaries and the other sectors represented 81 percent of reported income and only four percent of the compiled underreporting. As the relation between large and small companies varies among different activities the underreported amounts varies with the structure. Figures on the relative hidden income in relation to reported amounts were also compiled by activity. The results confirm to a large extent the general view of which lines of business are predominant in this respect. On the top were fishing, agriculture, forestry,

restaurants, hairdressers, taxis, car services, construction, building maintenance and other personal services. Very small amounts were found in industrial manufacturing, mining, credit institutes waste management and electricity production.

Apart from the audit investigation other studies were also undertaken to verify the results. It was stated that established self-employed business owners compared with employees in the same sector had considerably lower declared incomes. Other living standard indicators were checked. It included e.g. home size and car and boat ownerships. It came out that entrepreneurs had a standard of living that was connected with a higher income than officially declared. Food-stuff consumption was used as an estimate of true income for an entrepreneur household and a wage earner household respectively. It came out that there was an under-declaration among business owners that supported the auditing method. Interview surveys have also been performed both to people buying black and to people selling black. The results of these however, only reveal a small part of black work. The individuals questioned may not always be aware of what is black or not. From the number of people who admitted that they had worked black, an estimate has been made on how widespread this phenomenon is. A comparison has also been made with a study from 1997 by the Swedish National Audit Office. From the results there seem to be a slight increase during the period. In the recent study an estimate of 13 percent is compiled. In the previous study this relation was calculated to 11 percent. The relation of black work varies a lot between different groups of the population. It is much more common among students and trade workers and those on a low income. The purchasers are predominantly found among people with higher income and owners of owner-occupied dwellings. The estimate based on the survey results is on the same level as the previous estimate in the national accounts, about 14 billion SEK. During the 2007 major revision a new estimate has been included in the NA. It is broken down by activity in accordance with the results found in the audit study. Based mainly on these results the value of undeclared wages in 2011 amounted to SEK 39.7 billion, which has been included as a supplement in the wages and salaries calculations.

#### *Airline adjustment*

The wages and salaries amounts recorded for a large airline company in the income statements do not necessarily correspond to the three sevenths, which should be recorded in the Swedish national accounts in accordance with the distribution of ownership and the agreement between the three countries affected, Sweden, Norway and Denmark. Discrepancies between the income statements and three sevenths of the company's total wages and salaries bill are entered as an adjustment item. The item may in principle be either positive or negative.

#### *Partnerships (handelsbolag, HB)*

In line with ESA, institutional units, which keep a full set of accounts, enjoy independence in decision-making and are autonomous legal units and market producers should be assigned to the corporate sector. This applies to the Swedish partnerships and incorporated partnerships, which are classified in the business register as quasi corporations in the non-financial corporations sector. In accordance with SNA 7.30 (c), the income from work of owners of quasi-corporations is recorded as wages and salaries. The same approach is reflected in the Swedish tax rules, according to which broadly speaking only the shares of part-owners in gains from real estate transactions or tenant-ownership rights are to be taxed under the property income heading. Other income is taxed as mixed income. The income of part-owners from partnerships is therefore classified in the national accounts in its entirety as wages and salaries. The value for 2011 amounted to SEK 6 745 million and the source of this data is the gross income statements (KU).

#### *Wages paid abroad and not shown in income statements*

In the gross income statements consumption of employees paid to non-resident employees of a resident unit is included, but studies have been made in the area which discovered that it did not cover

all wages. The new estimates, introduced in the national accounts in September 2014, have been elaborated in cooperation with the Trade of Service statistics, Balance of payment statistics and the statistics on gross income statements (LSUM). These new estimates are based on detailed information from income statements for individuals. For some years Statistics Sweden, Statistics Norway and Statistics Denmark have been working together to produce statistics on Cross-border commuting<sup>6</sup>. By using tax data, income statements for individuals, combined with population registers, micro data on cross-border commuting as well as the flows of wages and salaries earned by non-residents have been produced. For other EU-countries than Denmark data from the Eurostat database on cross-border payments has been used. For non-EU countries a supplement has been made of 5 per cent to the estimate for the total on EU-countries (including Denmark) and Norway. The value added for this in 2011 is SEK 3 820 million. This is a supplement on top of the previous level including all seasonal and other short term and cross-border employees, already included in the gross income of salary statements.

*Military service pay and military catering.*

Persons performing their military service are treated in the national accounts as employees of the Armed Forces. Their compensation (pay) does not appear in the income statement data, however. Instead a supplement is included for military service pay based on central government records according to the Swedish Financial Management Authority (ESV). In 2011 the value amounted to SEK 308 million. The value of military catering is treated, in line with military service pay, as a benefit in kind to military service personnel. The source is the ESV, and the value in 2011 was SEK 90 million.

*Wage guarantee*

Payments made under the government wage guarantee scheme in the event of company liquidation in accordance with the “Wage Guarantee Act” (1992:497) are included in the income statement data as wage and salary payments from departments and agencies of government. As the guarantee is financed by a social charge laid down by law, these payments are regarded in the national accounts as transfers to households in the form of social benefits. This value is therefore deducted from the wage and salary total shown in the income statement data. The value in 2011 was SEK 1830 million.

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<sup>6</sup> <https://www.h2.scb.se/grs/Default.aspx>



**Table 4.7.3**

Wages and salaries 2011	SEK million
KU Gross cash pay	1 353 422
Taxable benefits	19 482
Other taxable compensations	571
Supplements Undeclared wages	39 666
Adjustment for airline	1 026
Partnerships	6 745
Wages paid abroad	3 820
Military service pay	308
Military catering	90
Deduction Wage guarantee	1 830
Total amount of wages and salaries in Swedish output	1 423 300

#### 4.7.2 Employers' social contributions

The definition of employers' social contributions are that they are payable by employers to social security schemes or other employment related social insurance schemes to secure social benefits for their employees. In the Swedish national accounts a tougher interpretation about what to include in social contributions was implemented at the same time as ESA 2010, wherein only payments made by employers for a specific target and for a specific person was considered social contributions. Charges not linked to a specific individual benefit, are recorded as other taxes on production. More information about this can be found in section 4.8. By introducing this stricter definition the only transactions still categorised as social contributions in the Swedish national accounts are pension related transactions. A division between employers' actual social contributions and employers imputed social contributions is therefore not done in the Swedish accounts.

Employers' social contributions correspond to the flow of employers' actual social contributions (D611) and in the Swedish national accounts the data source for the total social contribution is set by the sum of inflow of these variables since we have a better data for these transactions. Employers' social contributions can be either compulsory or contributions regulated by agreement between employers and trade union organisations.

##### *Compulsory social contributions of employers*

The sum of total compulsory social contributions of employers' are set by data from the Swedish national financial management authority (ESV), the Financial Supervisory Authority and Pensions Registration Institute (PRI). In 2011 the compulsory social contributions to retirement pension was set to 9.13 percent of the total salary. These charges are legally binding. By the 10th of each month employers must pay preliminary income tax for their employees and employers' social contributions to the Swedish Tax Agency (SFS 1994:1978).

The value of employers' compulsory social contributions amounted to SEK 211 844 million in 2011. More information about this can be found in chapter three, section 3.21.

##### *Social contributions of employers regulated by agreement*

Social contributions regulated by agreement comprise of security benefits from the same type as those provided under the Social Insurance system. The benefits are financed by contributions to pension funds or by transfers to accounts within enterprises. The most common form is insurance. A transfer to an account has the advantage that the pension funds can constitute working capital in the enterprise.

The total sum of social contributions regulated by agreement is reported by the Swedish national financial management authority and local government annual accounts. The value of employers' social contributions regulated by agreement amounted to SEK 57 665 million in 2011.

**Table 4.7.4 The value of social contributions in 2011**

Social contributions 2011	SEK million
Compulsory by law	211 844
Regulated by agreement	57 665
<b>Total social contributions</b>	<b>269 509</b>

### 4.7.3 Institutional sectors

The description above outlines the calibration of the total levels of compensation of employees. Additional information is used for the sector calculations. For the general government sector, information about the calculations and the sources used, see section 3.21. For the financial sector, household sector and NPISH sector, data from the gross payment from income statement is used to calculate the wages and salaries. The percentage for compulsory and imputed social contributions is used to calculate the social contributions for the financial sector, the household sector and for NPISH. The social contribution for non-financial sector is calculated as a residual from the total.

	SEK million
2011	
<b>Compensation of employees</b>	<b>1 692 809</b>
Non-Financial	114 0729
Financial	53 761
General Government	441 946
Households	20 090
NPISH	36 283

## 4.8 Other taxes on production

Other taxes on production consist of all taxes for which the enterprise is liable as a consequence of its production activities, irrespective of the quantity or value of the goods and services produced or sold. They may be paid on land, fixed assets or labour in the production process or on certain activities or transactions. The time at which other taxes on production are to be recorded is when the taxable activities, transactions or other events occur – when their values have accrued or fallen due.

The Swedish calculations for other taxes on production are based for the most part on the records kept by the Swedish National Financial Management Authority (ESV) of the income of departments and agencies of central government by revenue headings, which are entered each month. As regards other taxes on production, in addition to revenue headings, ESV also records income items from a fund outside the budget – the Deposit Guarantee Scheme. The following taxes on production are recorded in national accounts.

The following expenditures are recorded as other taxes on production:

<b>Other taxes on production (D.29)</b>	<b>Total amount year 2011</b>
<b>SEK million</b>	
<b>Central government</b>	<b>347 770</b>
Real estate tax	12 724
Vehicle tax	3 146
Special tax on nuclear power stations	3 852
Total wage bill and payroll taxes	323 072
<i>Of which General payroll tax</i>	<i>119 110</i>
<i>Of which Sick insurance contribution</i>	<i>63 319</i>
<i>Of which Labour market, employment, contributions</i>	<i>36 752</i>
<i>Of which Special payroll tax</i>	<i>36 217</i>
<i>Of which Parental insurance contributions</i>	<i>27 730</i>
<i>Of which Survivors pension, contribution</i>	<i>14 771</i>
<i>Of which Part of pension fee to state budget</i>	<i>14 167</i>
<i>Of which Other wage bill and payroll taxes</i>	<i>11 006</i>
Business and professional licences	1 027
Taxes on pollution	480
Other taxes on production	3 469
<b>Local government</b>	<b>14 428</b>
Real estate tax	14 428
<b>Total</b>	<b>362 198</b>

In principle, no taxes in Sweden are recorded either pure cash or time-adjusted cash (TAC) in national accounts. In Sweden, individuals and corporations/organisations have their own *unique* tax account. When a tax obligation occur the tax payer pay the tax into the tax account and make a tax declaration to the Swedish Tax Agency (Skatteverket). As a result of the structure of the tax system with a single tax account for all taxes, it is not possible to see each tax at the tax account (=cash or TAC). The paid tax has to be confirmed by a corresponding tax declaration. In national accounts, taxes are recorded based on the tax declaration, which approximately is the same as paid tax. Depending on possible time lag the tax is recorded pure cash or TAC but based on reported amounts in the tax declaration to the Swedish Tax Agency. After the outcome from the annual Tax Assessment is available, total amounts for each type of tax can be observed in the overall tax system and be recorded in national accounts. Therefore, time of recording for all taxes and social contributions are based on Assessment and declarations.

The description below follows the same disposition as national tax list. Within brackets signs the headings from the state budget are presented (refer to state budget 2011).

#### **D29A1 Real estate tax (1350)**

Depending on the type of real estate, the tax is levied on a specified percentage of the tax base. The tax is collected in conjunction with the collection of income tax from natural persons and legal persons. Total real estate tax is split between central government real estate tax and local government real estate fee. The major part of the former central government real estate tax paid by households for their own small dwelling houses was redesigned to a local government real estate fee in 2008. Both real estate tax and real estate fee are based on outcome from the annual Tax Assessment. The tax rates depend on type of property and the real estate assessed value. However, for households paying real

estate fee, it exist a maximum amount for each house/apartment. Tax rates and the maximum amount for households are settled once a year.

#### ***D29B1 Vehicle tax (1471)***

Vehicle tax is levied on motorcycles, cars, goods vehicles, busses, tractors, heavy off-road vehicles, motor-driven appliances and trailers if they are, or should be, entered in the vehicle register and are not immobilized (taxable vehicle). The vehicle tax is calculated according to the vehicle's taxable weight, category of vehicle and fuel etc. and is payable in principle in advance for the fiscal year or fiscal period. Only the part which is paid by legal persons is included in other taxes on production, the remaining part of vehicle tax paid by households is recorded as income tax. For cars from year 2006 or later the tax is levied based on an annual base amount (2011 it was 360 Swedish kronor) together with an additional amount depending on carbon dioxide emission. For cars driving on diesel fuel additional costs are added. This item also includes special vehicle tax referring to vehicles during the sales period, i.e. can be used for non-registered vehicles during test drives, demo etc.

#### ***D29B2 Special tax on nuclear power stations (1455)***

The tax is charged with a specified monthly amount based on conceivable and highest allowed megawatt electricity production in the particular nuclear power plant.

#### ***D29C Total wage bill and payroll tax***

The major part of total taxes on production, about 90 percent, refers to wage bill and payroll tax. At the time of implementing ESA 2010 a major reclassification was made where all contributions not included in a contribution and benefit scheme was reclassified from social contributions to wage bill and payroll tax (tax on employees or self-employed), i.e. a reclassification from ESA transaction code D.61 to D.29C. The only part left as social contributions are contributions related to benefit schemes as pension schemes. Other contributions where it do not exist a fixed correlation between paid fees and paid benefits is recorded as other taxes on production. Total wage bill and payroll taxes can be split into different type of taxes where the general payroll tax is the largest and amounted to 119 billion SEK during 2011, which correspond to 37 percent of total wage bill and payroll tax. Revenue headings are divided based on if it is employers' contributions (heading 1210) or households'/self-employed contributions (heading 1240).

<b>Wage bill and payroll tax rates, <u>employers' social contributions</u></b>	<b>Percent of assessable income</b>		
	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Heading 1210</b>			
Sick insurance contribution	6.71	5.95	5.02
Parental insurance contribution	2.20	2.20	2.20
Work injuries insurance contribution	0.68	0.68	0.68
Old age pension contribution	10.21	10.21	10.21
Survivor pension contribution	1.70	1.70	1.17
Labour market, employment, contribution	2.43	4.65	2.91
General payroll contribution	7.49	6.03	9.23
<b>Total</b>	<b>31.42</b>	<b>31.42</b>	<b>31.42</b>

<b>Wage bill and payroll tax rates, households'/self-employed social contributions</b>	<b>Percent of assessable income</b>		
	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Heading 1240</b>			
Sick insurance contribution	6.93	6.78	5.11
Parental insurance contribution	2.20	2.20	2.20
Work injuries insurance contribution	0.68	0.68	0.68
Old age pension contribution	10.21	10.21	10.21
Survivor pension contribution	1.70	1.70	1.70
Labour market, employment, contribution	0.50	2.11	0.37
General payroll contribution	7.49	6.03	9.23
<b>Total</b>	<b>29.71</b>	<b>29.71</b>	<b>28.97</b>

*Of which General payroll tax (1217, 1247)*

The income under this revenue heading consists of employers' contributions and self-employed traders' contributions. General payroll tax for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ . This tax is a general tax and is the largest one within total wage bill and payroll tax.

*Of which Sick insurance contribution (1211, 1241)*

The objective of the sick insurance contribution is to finance sickness benefit, pregnancy benefit, part of activity support and rehab. Contribution for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ . This is the second largest tax within total wage bill and payroll tax.

*Of which Labour market, employment, contributions (1216, 1246)*

Labour market and employment contribution is constructed to finance a range of benefits within this field, for example unemployment benefits and unemployment insurance schemes, supervision of unemployment benefit societies, part of activity support, wage assurance at bankruptcy and central government pension benefit. Contribution for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ .

*Of which Special payroll tax (1270)*

One part of the special payroll tax refers to tax on imputed pensions and voluntary pension benefits. Corporations, organizations or government units that offer a voluntary pension benefit and pay a pension contribution are obligated to pay special payroll tax, which is a certain percent of the cost of commitment. The tax is collected in conjunction with the collection of income tax from natural persons (self-employed traders) and legal persons.

Another part is special employment tax on earned income, which is collected on earned income of which no part provides eligibility for social insurance benefits. The income consists of employers' contributions and self-employed traders' contributions.

*Of which Parental insurance contribution (1212, 1240)*

Parental insurance contribution should finance parent's insurance scheme and parent insurance benefits. Contribution for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ .

*Of which Survivor pension contribution (1215, 1245)*

Survivor pension contribution should finance survivor pension benefits and related administration cost. Contribution for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ .

*Of which Part of pension fee to state budget (1214, 1244)*

This refers to a part of the pension system. The income side of this revenue heading consists of employers' contributions and self-employed traders' charges. The expenditure consists of transfers to the Swedish National Pension Funds, the Central government and the Swedish National Debt Office, which all manage different parts of the retirement pension scheme. During year 2011 the proportion between the three recipients was 69.5 percent to national pension funds, 19.9 percent to the Swedish National Debt Office concerning the premium pension system and the remaining part 10.6 percent to central government. Contribution for year  $t$  refers to the period February year  $t$  to January year  $t+1$ , but also adjusted for amounts collected other periods that in fact refers to year  $t$ .

*Of which Other wage bill and payroll taxes*

Consist of remaining parts of wage bill and payroll taxes which correspond to the same principle as above mentioned tax headings but are minor. It consists of e.g. work injuries social contribution, undistributed social contribution and a special group life insurance premium tax. The special life insurance premium tax (heading 1290) is payable on premiums for group life insurance and on amounts disbursed representing compensation on the basis of such assurance.

***D29D Taxes on international transactions***

Do not exist in Sweden

***D29E Business and professional licenses (1472, 1483, 1484, 1485, 1488)***

Include different kind of taxes. The major part refer to fee for lorries. The fee is paid for motor vehicles with a total weight above 12 tons if the vehicle is used for only transportation on roads. Vehicles registered in Sweden pays for the right to use the Swedish roads. Foreign vehicles also pay to use the Swedish highways as well as some other main roads. Vehicles used by the defence, police and civil-defence are not obligated to pay the fee. The fee for lorries amounted to 0.8 billion SEK during 2011 which correspond to approximately 75 percent of total business and professional licenses.

Tax on roulette games is a fixed charge for each calendar month in which the tax liability arises. Payment and reporting to the Swedish Tax Agency take place in the month following the accounting period. Revenue headings referring to lotteries, casino etc. include fees for applications, inter alias, to operate lotteries, bingo, casino games and various gaming machines and for type approval or approval under the Lotteries Act. The amount of the fees is scaled according to fee classes. The revenue heading also records levies for the inspection and supervision of gambling and lottery schemes in Sweden. The fees and levies are collected monthly or quarterly.

In addition, any person acquiring a licence to broadcast local radio must pay an annual fee. If there are several applicants for a licence, the amount of the fee is determined by an auction procedure. The fees are payable in equal parts four times per year.

***D29F Taxes on pollution (1473)***

Taxes on pollution vary over time. At present tax on pollution refers to a specific road tax, so called crowding tax with the aim to reduce traffic in large cities. Tax rate depend on time and are higher in the morning and afternoon, but with a maximum cost per vehicle and day.

***D29G Under-compensation of VAT, flat rate system***

Do not exist in Sweden

***D29H Other taxes on production (1487, 1491, 1641, 1645)***

The major part of the remaining taxes is guarantee fee for deposits in banks which amounted to 2.3 billion SEK, which correspond to approximately 75 percent of the total remaining taxes. This

guarantees deposits with banks and certain mutual funds. Every institution covered by the guarantee must pay an annual contribution. The contribution for one year is based on the deposits of the institution at the close of the preceding year to the extent that the deposits are covered by the guarantee scheme.

Remaining taxes are concession fee (expired in 2008), fee for telecommunication and fee for discharge of nitrogen. Concession fee is paid by programme corporations holding a licence to broadcast TV programmes throughout the country, which provide the corporation the right to broadcast advertising and holds exclusive rights for this purpose in the country. The fee consists of a fixed and a variable part. The fixed part of the fee is payable in respect of each month in which broadcasting operations are conducted. The preceding year's advertising revenue forms the basis for the variable part.

Any person who own public communication nets of public importance, is in action according to the Law of Electronic Communication, and has an annual turnover above a certain amount, must pay a fee for financing strains and maintenance for the electronic communication. Furthermore, since 1992 a fee is collected for discharging and emissions of nitrogen dioxide (Knox) from larger facilities in Sweden.

## **4.9 Other subsidies on production**

Other subsidies on production consist of subsidies, apart from subsidies on products (see section 3.29), which resident producers may receive as a consequence of involvement in production. For other non-market output, other non-market producers may receive other subsidies on production only in those cases in which such payments from general government are justified by general provisions applicable to both market and non-market producers. Subsidies are recorded when the transaction or event giving rise to the subsidy takes place.

The major part of the Swedish calculation for other subsidies on production is based on a data source at the Swedish National Financial Management Authority (ESV). ESV records transfer expenditures of departments and agencies of government as well as subsidies from EU. The transfers are recorded according to recipient sector. An additional data source is used concerning agriculture subsidies to farmers. From the Swedish Board of Agriculture supplementary information about agriculture subsidies are collected which enable a correct split between government and EU subsidies, a split between subsidies on products and other subsidies on production as well as an accrual based recording for agriculture subsidies. Concerning other subsidies no specific information is available on the period to which the expenditure belongs, i.e. no time-reallocation of other subsidies can be made in national accounts. However, a significant part refers to government or EU subsidies to agriculture activities. The following expenditure is recorded as other subsidies on production (ESA transaction code D.39):

<b>Other subsidies on production (D.39)</b>	<b>Total amount year 2011</b>
<b>SEK million</b>	
<b><i>From central government</i></b>	<b>38 208</b>
To central government corporations	7 935
To private corporations and private economic associations	24 779
To municipal corporations	1 182
Other central government subsidies	4 312
<b><i>From local government</i></b>	<b>3 720</b>
Of which from municipalities	1 758
Of which from county councils	1 962
<b><i>From EU</i></b>	<b>10 530</b>
To agriculture activities	7 600
To other activities	2 930
<b>Total</b>	<b>52 458</b>

Based on information on government appropriations it is possible to split the major part of the central government subsidies by receiving activity (split by NACE). Approximately 20 percent of central government and EU subsidies together, is given to agriculture activities (NACE A01), followed by 12 percent to R&D (NACE M72). Moreover, a significant part of government contributions to private corporations consist of job creation schemes as well as gross recorded social contribution deductions. Year 2011 social contribution deductions amounted to 7.9 billion SEK. Subsidies paid from central government to local government corporations consist mostly of miscellaneous contributions to public transport and culture activities. Contributions from municipalities consist mostly of grants for construction activity. EU subsidies consist of payments from various funds, but the major part refers to agriculture. Within subsidies to agriculture the part so called *single farm payment scheme* amounted to about 6.0 billion of totally 7.6 billion to agriculture activities.

The information in the different data sources are very detailed which make it possible to distinguish subsidies on production from social contributions to households, investment grant, other miscellaneous transfers etc. Within the framework of public finance statistics and Excessive Deficit Procedure the distinction between general payments as subsidies versus government intervention as capital injections into public corporations have been improved. The data sources regarding payments from government, as well as from the EU, are therefore detailed and divided by type of item/transfer, counterpart, split by appropriation, related to quantities of products and merchandises (D.31) or referring to production (D.39) etc.

The Swedish car scrap scheme expired in 2007. It has been replaced by a higher responsibility/undertaking for the car scrap at the manufacturers and importers. The revenue for central government at the time of an existing scheme was recorded as tax on products and the fee was paid by corporations that sold the vehicle or households if the vehicle was imported by the household itself. The fee/tax was created to build up a fund/reserve which was used to compensate the person who finally scraps the vehicle. The fund was terminated in July 2008 and the remaining funds in the fund was paid to the first vehicles scrapped after first of July 2008 (4 000 SEK per vehicle) until the fund became zero. Cars, trucks and busses with a weight of maximum 3 500 kg were included in this car scrap scheme. The fee was 1 500 SEK for private imported vehicles and 700 SEK for the others. The payments were made to the responsible central government authority – Swedish Road Administration. Payments from the car scrap fund were made to the owner of the vehicle. The fee was paid by unit (by vehicle) and the recording was based on former ESA95 §4.16. The payment from the fund to the owner of the vehicle was recorded as transfer expenditures from central government to households or corporations.



## 4.10 Gross operating surplus

It is currently not possible to calculate GDP entirely with reference to the income side. The calculations are based on production, intermediate consumption and GDP at market prices determined in the production – expenditure calculations in the product accounts. Gross operating surplus is obtained as a balancing item after also recording D1 compensation of employees, D2 taxes on production and imports and D3 subsidies. In the industry-by-industry calculations for the economy as a whole, the sum of gross operating surplus and mixed income is obtained as a residual or balancing item.

In the first stage both production and intermediate consumption from the product accounts for the industry calculations is divided between S11 non-financial corporations and S14 households. The share of registered P1 production and registered P2 intermediate consumption for S11 and S14 is calculated with data from the structured business statistics (SBS) which shows the share of P1 and P2 for corporations divided by the legal form of ownership. In addition to this, assumptions are made for the share of S11 and S14 for P1 production regarding own-account software and car benefits, as well as unregistered activities divided into tax evasive activities and illegal activities. Likewise assumptions are made for the share of S11 and S14 for P2 intermediate consumption regarding adjustments to the SBS, tax evasive activities, illegal activities and FISIM.

Production and intermediate consumption is also recorded for S12 financial corporations, S13 general government and S15 NPISH. Gross operating surplus is calculated as a balancing item or residually when all relevant transactions are recorded. Likewise mixed income for S14 households is calculated as a balancing item simultaneously with gross operating surplus being calculated for S11 non-financial corporations. Because gross operating surplus originates from the calculations in the production approach they are comprehensive in the same way as in the production approach. In particular, several adjustments are done in the SBS according to the national accounts concepts. For a description in all these matters see sections 3.1-3.6.

### 4.10.1 Operating surplus, gross and net in S11 non-financial corporations

The operating surplus of S11 non-financial corporations is calculated for the sector as a whole. The starting point is the enterprise-based business accountings for the sector, which is available from the SBS. Since this data is not fully adapted to the national accounts definitions, adjustments are made together with calculations to compensate for the under coverage of tenant-owners' associations (Where the owners own financial assets in the form of tenant ownership rights, other equity F.519). Additions are also made for inclusion of unrecorded activities.

The definitional adjustments comprise adjustments for costs such as: inventory price changes, insurance costs and settlements, costs for financial leasing, capital formation in short-term inventories and computers as well as computer software and FISIM. In addition the consumption of fixed assets calculated by enterprises is replaced by the national accounts calculation.

The adjustments for inventory price changes can be both positive and negative, depending on price trends for inventory goods. These so-called holding gains must not affect the operating surplus but are entered instead in the account for other changes in assets. The statistics on inventory changes do not currently give full coverage. The adjustment covers mining and manufacturing along with wholesale and retail trade.

The cost of financial leasing is deducted from intermediate consumption in its entirety. The leasing charge consists of two parts: interest and amortisation. The interest is treated as a capital cost and is entered in the income redistribution account, while amortisation is the redemption of a debt and is entered in the Financial Account. In the statistics, leasing is partially deducted from intermediate consumption. For the remainder the leasing costs are estimated on the basis of total revenue to financial corporations and the already deducted amount.

For insurance premiums, the amount entered in intermediate consumption is replaced by the value calculated in the national accounts for insurance services to enterprises. The entire amount of insurance settlements is deducted from receipts.

For short term inventories, computers and software, the investment concepts of the national accounts differ from the procedure in company accounting. Generally speaking, the accounting data underestimate true investment according to the national accounts definitions. The definitional difference has been estimated and deducted from intermediate consumption. This is also a reason why consumption of fixed assets according to the national accounts is higher and the corresponding adjustment partially offsets the previous adjustment.

#### **4.10.2 Operating surplus of tenant-owners' associations**

In the SBS no data are collected for tenant-owners' associations. It is therefore necessary to undertake a special estimate of the corresponding operating surplus, so that operating surpluses of non-financial corporations are not underestimated. Data on costs and income per square meter are obtained from the Income and costs inquiry for multi-dwelling houses (Survey name: Revenues and expenditure survey for multi-dwelling buildings, IKU). For tenant-owners' associations, the IKU is a sample survey based on tax assessment units with an area of over 500 square meters. In order to obtain an estimate for total operating surplus, the total area estimated for the whole population in the IKU is used.

#### **4.10.3 Operating surplus, gross and net in S12 financial corporations**

The production and generation of income accounts in S12 is compiled from an industry perspective rather than a sector perspective. The source of data used in the compilation by industry and sector is the same as regarding the production account. Information on wages and salaries are used from the tax authorities. Other taxes on production, net, wages and salaries and social contributions as well as consumption of fixed assets have been deducted from value added at basic prices in these industries. There is an almost one-to-one relationship between the industry and sector accounts regarding production and generation of income accounts. This relationship is illustrated in the figure below. The reason for the almost one-to-one relationship between K64-K66 and S12 is the exception of S1416, household unincorporated enterprises in financial industries. Data from the SBS shows the share of P1 and P2 for corporations in each industry divided by the legal form of ownership. The SBS shows that there are unincorporated enterprises in K66 Activities auxiliary to financial services and insurance activities. This refers to insurance brokers in K66.220 Activities of insurance agents and brokers. The values for S1416 are quite small and production P1 for the year 2011 is SEK 369 million. The calculations for S1416 affect mixed income and are recorded in the household sector.

<b>Subsectors</b>	<b>Sector</b>		<b>Subindustries</b>	<b>Industry</b>
<i>S12</i>	<i>Financial corporations</i>		<i>K64-K66</i>	<i>Financials</i>
S121	The central bank		K64	Financial services activities except insurance and pension funding and auxiliary services
S122	Deposit-taking corporations except the central bank			
S123	Money market funds (MMFs)			
S124	Non-MMF investment funds		K65	Insurance, re-insurance and pension funding
S125	Other financial intermediaries except insurance corporations and pension funds			
S126	Financial auxiliaries			
S127	Captive financial institutions and money lenders		K66	Auxiliary services to financial and insurance corporations
S128	Insurance corporations			
S129	Pension funds			
				Corporations in this sector are not captured in the above K64-K66 industries, hence separate source of data

#### 4.10.4 Operating surplus, gross and net in S1313 local government

The operating surplus is generated in municipal public service undertakings. The calculation is based on sales and deducts wages and salaries, social contributions, other taxes on production and consumption of fixed assets. These components are calculated in the same way as for the non-market producers of the local government sector. These calculations are described in more detail in section 5.9.

#### 4.10.5 Operating surplus, gross and net in owner-occupied dwellings in S14 household sector

This item covers privately owned dwellings and holiday houses. The calculation of value added is described in section 3.18. Real estate tax, which is accounted as D.29 other production taxes, is deducted from value added and the value of D.39 other production subsidies according to data from the Swedish Financial Management Authority is added. Consumption of fixed assets is calculated in a model based on data from real estate tax assessment and real estate price statistics. A geometric rate of capital consumption is applied in the model with a rate of between 1.21-1.40 percent for different types of owner occupied dwellings. These rates correspond to average service lives of between 65 and 75 years. The proportion of owner-occupied dwellings among all individual houses and holiday homes has been set at 93 per cent. The proportion is based on data from real estate tax assessment where the average share is 93 percent.

#### 4.10.6 Consumption of fixed assets

The calculation of consumption of fixed assets made for all sectors in the national accounts follows in principle the model outlined in section 4.12.

### 4.11 Mixed income

Mixed income is the term used to denote the income of households from business activities and can be said to represent combined compensation for the personal capital invested in an unincorporated enterprise and compensation for the proprietor's own labour in the business.

In the industry-by-industry calculations for the economy as a whole, the sum of gross operating surplus and mixed income is obtained as a balancing item. Therefore the calculation of mixed income has a similar description as that of operating surplus in section 4.10.

In the first stage both production and intermediate consumption from the product accounts for the industry calculations is divided between S11 non-financial corporations and S14 households. The share of registered P1 production and registered P2 intermediate consumption for S11 and S14 is calculated with data from the SBS which shows the share of P1 and P2 for corporations divided by the legal form of ownership. In addition to this, assumptions are made for the share of S11 and S14 for P1 production regarding own-account software and car benefits, as well as unregistered activities divided into tax evasive activities and illegal activities. Likewise assumptions are made for the share of S11 and S14 for P2 intermediate consumption regarding adjustments to the SBS, tax evasive activities, illegal activities and FISIM.

Mixed income for S14 households is calculated as a balancing item simultaneously with gross operating surplus being calculated for S11 non-financial corporations. Note that mixed income is registered for household unincorporated enterprises in non-financial industries as well as in financial industries (K66 in Sweden), with production and intermediate consumption being divided by S1411 for non-financial industries and S1416 for financial industries. See section 4.10.3 for a description of the relation between K64-K66 (financial industries) and sectors S12 and S1416. In S12 the production leads to operating surplus and in S1416 the production leads to mixed income.

Because mixed income originates from the calculations in the production approach they are comprehensive in the same way as in the production approach. In particular, several adjustments are done in the SBS according to the national accounts concepts. For a description in all these matters see sections 3.1-3.6.

## 4.12 Consumption of fixed capital

### 4.12.1 Introduction

The gross value added in general government and non-profit institutions serving households (NPISH) is calculated as the sum of costs where consumption of fixed assets forms one part. The main purpose with the calculation is to distribute the value of capital formation in produced fixed assets to the period where it is used up in production.

In the national accounts, consumption of fixed assets is valued at actual replacement cost (current cost accounting) and in the average prices of the base year. The latter is needed to make comparisons between consecutive years and to construct chain volume indices. This means that fixed assets remaining in the stock but acquired in an earlier period has to be re-valued in the current prices of the actual period.

### 4.12.2 Main aspect of the consumption of fixed capital

Consumption of fixed capital is calculated on the basis of the information available on gross fixed capital formation. This means that the same classifications as are used in the compilations of gross fixed capital formation provide the benchmark for the calculations of consumption of fixed assets. Information on price changes is also obtained from the investment calculations. Apart from gross fixed capital formation at current and constant prices, information is also needed on the rate of capital consumption, i.e. average economic service life in combination with the declining balance rate and other changes in the volume of assets. In the latter case it is mainly a question of reclassification effects when all or part of an activity changes function, industry or institutional sector belonging. For further information on gross fixed capital formation, see section 5.10.

#### 4.12.2.1 Conceptual changes in ESA 2010

All the conceptual changes in ESA 2010 are taken into account. Research and development (R&D) is calculated according to the manual on measuring Research and development in ESA 2010. The treatment of R&D as GFCF will make visible that R&D will be used in the productive process over multiple periods. All R&D production is measured and is accumulated into R&D capital stocks. The

opening balance in year 1993 is based on a calculation of R&D capital stocks using GFCF series back to 1963 in the PIM model. See also section 5.10.3 for further reading about GFCF in R&D.

In ESA 2010 the expenditure for weapon systems is posted as gross fixed capital formation which is depreciated through their economic life. The net stock at the beginning of year 1993 has been calculated with a PIM, where a long times series for expenditure on military weapons system has been used from 1963 to 1992. Information about the service lives, declining balance rate and the capital consumption rate for the various military items, required to calculate the consumption of fixed capital on military weapons system, is taken from US Bureau of Economic Analysis and supplemented with other international data/information. The capital consumption rate is weighted together according to the composition of products in capital formation.

In ESA 1995 the case of minor value assets i.e. small tools, which has a price per unit or when bought in quantities, for the total amount bought of less than a value ECU 500 at 1995 prices, was recorded as intermediate consumption. However, in ESA 2010 there is no such value threshold. Due to lack of data Statistic Sweden have in the past and will continue to record all small tools as IC.

Land improvements should be reported according to ESA 2010 in the new position AN.1123, if they can be reported separately. Due to lack of information Statistics Sweden can only separate clearance of forests, rocks etc. to enable land to be used in production for the first time. All other land improvements are reported in position AN.112. This has not resulted in any changes for the calculation of CFC in the PIM, as Statistics Sweden already calculated in this way.

The criteria to determine whether an institutional unit should be assigned to general government are clearly set out in ESA 2010. Therefore, companies and foundations have been transferred to the general government in the National Accounts. Of these, four hospitals company in Stockholm County Council and SVEDAB is worth mentioning.

The GFCF for those units is transferred from the private sector, market producers to general government non market producers as far back in time as relevant. The GFCF for those four hospitals is of less value because the hospitals do not own the buildings in which they perform their activities, but instead rent the premises. The other units that have been transferred are of less value and are not identifiable previous to year 2012. Therefore the CFC has been transferred from year 2012.

The capital stock for the four hospitals have previously been incorrectly classified in the general government<sup>7</sup> sector but are now under the ESA 2010 correctly classified. The capital stock for SVEDAB has been transferred as far back in time as relevant. The other units that have been transferred are of less value and are not identifiable previous year 2012. Therefore no adjustment is made for those units.

Capital stocks of hardware and telecommunications equipment have been calculated according to the definition outlined by OECD and Eurostat of the product groups to be included in ICT equipment. Machinery and equipment are broken down according to products in capital formation.

#### *4.12.2.2 Level of detail for the consumption of fixed assets*

Statistics Sweden has disaggregated calculations of the consumption of fixed assets for the non-market sector. Statistics Sweden now uses 18 different types of capital assets for non-market producers. The government sector is broken down by sub sector and function. The number of subsectors used is 7 and the number of functions depending on subsector with a maximum of about 28 functions.

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<sup>7</sup> At the time when these hospitals were privatized no transfer of the stock of fixed capital was done.

#### *4.12.2.3 Economic life of units of capital*

Information on depreciation rates have been taken from US Bureau of Economic Analysis (BEA). In some cases, notably automobiles, roads, dwellings and weapon systems, modifications of the service life have been made. In cases where no information has been available, e.g. computer software, the double declining balance rate in combination with rough estimates of economic service life has been used. For research and development a single average service life of 10 years is used, which is the recommendation of the Task Force on the Capitalisation of R&D in National Accounts (DMES 2012/11/08).

For an accounting of service lives, declining balances and rate of capital consumption see table 4.12.1.

Capital consumption rates (service life assumptions) depend on the aggregated product groups into which stocks of fixed assets are subdivided. Machinery and equipment are broken down into transport equipment, computer hardware, ICT equipment and other machinery and equipment.

Transport equipment consists mostly of passenger cars but, in cases where other transport equipment predominates, e.g. trucks and buses, the capital consumption rates are based on such information.

Buildings and structures are the other main category. Structures are calculated separately if they are of significant value, e.g. roads, streets and railways. For buildings allowance is often made for ways in which the area of use affects their economic life. Thus a shorter life, higher rate of capital consumption, is assumed for public buildings, which are used by large numbers of people, e.g. schools and hospitals, than for purely administrative buildings used by courts and government departments.

The third main category is dominated by computer software. For software a distinction is made as regards its economic service life depending on whether it was purchased (standard software) or developed in house. The latter type is assumed to have a longer economic service life and thus a lower rate of capital consumption, because it is tailored to the needs of the business and ready-to-use alternatives are seldom available.

**Table 4.12.1: Depreciation rates for assets of general government and NPISH in the national accounts**

Asset	Economic service life	Declining balance rate	Capital consumption rate
<b>Buildings and structures:</b>			
Public buildings	40-50 years	0.91	1.82% - 2.28% *
Roads and streets	40 years	1.5775	3.94%
Railways	50 years	0.9480	1.9%
Dwellings	65-75 years	0.91	1.21% - 1.4%
<b>Transport equipment:</b>			
Cars, trucks and buses	13 years	1.7252	13.27%
<b>Machinery and equipment:</b>			
Machinery in activities of general government and NPISH (capital consumption rates weighted together according to the composition of products in capital formation)			9.6% - 14.8% **
<b>Other assets:</b>			
Computer software, purchased	5 years	2.0	40%
Computer software, produced on own account	10 years	2.0	20%
Research and development	10 years	1.65	16.5%
Computer hardware	5 and 10 years	1.65 and 2.1832	16.5% - 43.7% **
ICT equipment	12 year	1.6203 and 1.65	13.6% - 13.76%
Weapons systems	5-50 years	1.65 and 0.91	1.82% - 11.99% ***

\* Depending on use

\*\* Depending on function/activity

\*\*\* Depending on type of capital

For weapon systems information on service lives, declining balance rates and hence the capital consumption rate have been taken from US Bureau of Economic Analysis. In some cases modifications of the service life have been made according to national information<sup>8</sup>.

<sup>8</sup> Service life for different category of weapons systems; communication equipment 15 years, measurement devices 15 years, other electronic devices 5 years, parts for vehicles: 15 years, ships 35 years, airplanes 25 years, military vehicles 25 years, other weapon systems 24 years and for military facilities 50 years.

Different capital consumption rates on detailed level has been weighted together to create capital consumption rates at a higher level, i.e. transport equipment, machinery and Buildings and structures.

For research and development a single average service life of 10 years is used with a declining balance rate of 1.65. However, in the next Frascati survey on R&D questions on service life is added. If the result is useful it is possible to implement different service lives by industry.

#### 4.12.2.4 Depreciation function and reclassifications

The calculation of the net stock of assets and the value of capital consumption is made by use a Perpetual Inventory Method (PIM model). A geometric function, which describes how the value of the assets falls over time, is used. The method is used for data back to 1993 and gross stocks are not calculated with the present method.

The net stock at the beginning of year 1993 has been estimated with the long time series of data on gross fixed capital formation compiled according to the former activity classification (SNI69). Thereafter a reclassification was made of the calculated stock value to SNI1992/NACE rev. 1 for each asset group in the stock of fixed assets. The reclassification is based on the relation of gross fixed capital formation data regarding 1993 between the former and the actual activity classification.

For the succeeding years the net stock at the beginning of the year (opening balance),  $N_t$ , valued at the average prices of the previous year, is simply taken from the calculation of the previous year closing balance (end of the year). The stock is then recalculated to the price level of the actual year to form the starting point of the calculation of capital consumption. The recalculation is done by use of the implicit price deflator of the corresponding data on gross fixed capital formation. The same deflator is used to convert consumption of fixed assets in current price into constant prices.

The consumption of fixed assets, P51C91 is calculated in current prices according to the following formula:

$$P51C91 = \delta_t \cdot N_t + (1 - \sqrt{1 - \delta_t}) \cdot GFCF_t$$

where  $\delta_t$  is the geometric rate of capital consumption. This rate is kept fixed over time if no specific information on changes in the rate is available. GFCF<sub>t</sub> is the gross fixed capital formation during the year. The GFCF of the year is assumed to be in service half of the year on average.

The net stock at the end of the year, which is also equal to the net stock at the beginning of the next year in constant (the previous year) prices, is calculated according to the following formula:

$$N_{t+1} = N_t + GFCF_t - P51C91 + P51C92$$

where P51C92 is the sum of all changes in the stock level due to reclassifications.

#### 4.12.3 Consumption of fixed capital on roads bridges etcetera

For roads Statistic Sweden uses a 40 year lifetime combined with a declining balance rate of 1.5775 which gives a depreciation rate of 3.94 percent. This depreciation rate is within the interval of 3.3 percent to 4.0 percent suggested by the GNI Committee, although the committee proposes a lifetime in the interval 50 to 60 years combined with a declining balance rate of 2.0. Due to lack of data on investments and on lifetimes, SCB has not been able to make separate calculations for the different components of the roads (road base, surface layers etc.) In 2006, a study on the consumption of fixed capital on roads including investigation of life-time assumptions was made at Statistic Sweden. No changes in the estimation methods were made as a result of the study.

The government GFCF in construction is split into residential buildings and non-residential buildings and structures. However, most off the residential buildings are classified in the market sector. Roads, streets and railways are separated from other structures.



The only single structures that exceed 15 percent of the net capital stock<sup>9</sup> are roads and streets, see table 4.12.2. Due to lack of data on investments no further separation of single public infrastructure is possible today. The government GFCF time series is consistent back to 1993.

**Table 4.12.2: Shares of capital categories for non-market producers**

Capital category	Share
Railways	13.0
Roads	17.9
Other buildings and structures	45.4
Weapon system, buildings and structures	3.2
Other types of capital	20.5
<b>Total</b>	<b>100</b>

To ensure that the borderline between capital formation and maintenance is correct for central government Statistics Sweden and the Swedish Transport Administration have agreed on a list of specific activities belonging to either one or the other of these two categories. In the case of local government only values from the capital account is used as GFCF.

Assumptions made about the distribution of retirements of assets around the average service life, i.e. a retirement function, is not clearly described because of data limitations. However, information on depreciation rates has been taken from US Bureau of Economic Analysis. In most cases, the rate of geometric depreciation is based on the Hulten-Wyckoff estimates<sup>10</sup> and those depreciation estimates reflect retirements by means of a Winfrey curve. No simultaneous exit is used.

#### 4.12.4 Capitalization of R&D and Entertainment, literary and artistic originals

For research and development a single average service life of 10 year is used, which is the recommendation of the Task Force on the Capitalisation of R&D in National Accounts (DMES 2012/11/08), when no national data is available. The declining balance rate is set to 1.65 which means a capital consumption rate of 16.5 percent. However, in the next Frascati survey on R&D questions on service life is added. If the result is useful it is possible to implement different service lives by industry.

For entertainment, literary and artistic originals an average service life of 3 year is used. The declining balance rate is set to 1.65 which means a capital consumption rate of 55 percent. With a geometric function this leads to fast depreciations in early years of the assets lives as recommended by the committee. This service live is somewhat shorter than the recommendation outlined in the GNP Committee on Entertainment, Literary and Artistic Originals (GNIC/010 and GNIC/022). However, the committee proposes a lifetime in the interval 5 to 10 years combined with a declining balance rate of at least a double-declining balance.

<sup>9</sup> Gross stocks are not calculated with the present method.

<sup>10</sup> For further reading see, Fraumeni M. Barbara, *The Measurement of Depreciation in the U.S. National Income and Product Accounts*. Survey of Current Business, July 1997 (7-23).

## Chapter 5 GDP according to the expenditure approach

Household final consumption expenditure accounts for 46 percent and government final consumption expenditure for 25 percent of GDP. Sweden is an open economy and exports account for 47 percent of GDP.

**Table 5.1 GDP according to expenditure approach, SEK million 2011**

Main aggregates	SEK million	Percent
Household final consumption expenditure, HFCE	1 693	46
Government final consumption expenditure, GFCE	921	25
Gross fixed capital formation, GFCF	830	23
Changes in Inventories	41	1
Exports	1 707	47
Imports	-1 535	-42
GDP	3 657	100

### 5.1 The reference framework

Principal data sources for each of the main components of the expenditure approach are:

Compilations of HFCE are based on a large number of sources. HBS-data, Retail Trade and Services Survey data, VAT register, Energy balances, Comprehensive food sales data, data on sales of alcoholic beverages and tobacco, processes of vehicle register, Transport surveys, NPISH survey, Cross-border statistics, government accounting data on services provided to households and a variety of minor sources.

Calculation of government final consumption expenditure is based on data provided by the Swedish Financial Management Authority for central government and Annual accounts for local government.

The calculation of gross fixed capital formation is mainly based on data from the SBS and the Quarterly Investment Surveys plus data on investments in the public sector. Capitalized software and R&D are compiled by the help of information from the Surveys based on the Frascati manual and on Software included in the SBS and the survey on IT together with government sources.

Estimates on inventories are mainly based on the quarterly inventory surveys with some additions of compilations from model based inventories in forests and SBS data covering service industries.

The statistics of foreign trade in goods are derived principally from data provided by the Swedish Customs and the Intrastat Survey processed by Statistics Sweden. The major source of data on exports and imports of services are the International Trade in Services Survey and some information collected by the Riksbank. The characteristics of these sources are outlined in chapter 10.

### 5.2 The borderline cases

#### 5.2.1 The borderline cases for HFCE

##### *5.2.1.1 Information on how the inclusion of the following borderline cases in HFCE is ensured:*

Owner-occupied dwellings are compiled according to the stratification method recommended in Regulation EC 1722/2005. Data on the housing stock, broken down by various strata, is combined with information on actual rentals paid in each stratum, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling. An addition is made for

do-it-yourself activities. This estimate is based on information from the Time use survey and compensation of employees in construction activity.

Goods and services received as income in kind by employees are also included in the HFCE. The Swedish tax agency collects data on car, fuel and other compensations in kind. The figures reported on income in kind from private use of company cars are used to adjust production and HFCE. Other compensations in kind, which among others comprises dwellings and restaurant services, are included in the calculation of the relevant purposes which means that no extra adjustments have to be done.

When it comes to agricultural goods the National Board of Agriculture calculates producers' own consumption of food and this estimate is added to HFCE. According to Swedish law, farmers have to pay VAT on own consumption. Hence the farmers' own consumption is valued including VAT. Household services by employing staff are extremely rare in Sweden. An addition is made only for au-pair activities in COICOP 0562. The government allows a 50 percent costs deduction to household owners for hiring employees from a service enterprise regarding household services. Therefore this is a much more favourable arrangement than employing staff.

Expenses for materials for small repairs and interior decoration of dwellings of a kind carried out by tenants as well as owners are included in the HFCE of COICOP 04. Also hiring of service enterprises for reconstructions and repairs is subject to a 50 percent costs deduction. Therefore special records are kept at the Swedish Tax Agency on this kind of works. See more detailed information on the description of COICOP 0431 and 0432 in section 5.7.3.

Expenses for materials for repairs to consumer durables are included in the respective purposes of HFCE. Information is collected from sales statistics.

The value of durable goods purchased under hire-purchase agreement is included in HFCE. When the source of the estimate is the Retail trade sale as for purpose COICOP 051 the value of the total sales, irrespective of whether a hire-purchase agreement has taken place or not, is included for the calculation of HFCE. For the calculation of expenditure on cars, car ownership and new car purchases are registered by personal identification number or corporate identification number in the vehicle register. In case of private consumption, the ownership of a car bought under a hire-purchase agreement is recorded on the private person, which means that this transaction is recorded as HFCE.

Purchases and sales of second hand products such as clothing and cars are registered in the Swedish NA on a net basis, which means that sales via a dealer takes into account the dealers' margin while sales of these products from one household to another are not included.

FISIM used for final consumption purposes by households is calculated in the same model as for the estimates of the production, import and other uses of FISIM and then included in the HFCE under purpose COICOP 1262. For more information see section 3.17. HFCE of non-life insurance services is defined as premiums paid less claims settled plus direct returns on actuarial reserves allocated to policyholders. HFCE of life insurance services consists broadly speaking of the management costs incurred by the companies for the activity. For more information see section 5.7.3, COICOP 125.

Direct payments from insurer to car repairers are included in HFCE figures as described in section 5.7.3 COICOP 0723. Direct payments from insurer to other than car "repairers and other services providers" are also included in HFCE as the sales figures from the producing industries of these services, irrespective of who has paid for the service, are used in the extrapolation methods when calculating HFCE.

Sweden has no car registration tax any longer. It was repealed in year 2000.

Pension funding services by the amount of the implicit service charge are calculated from the information given in annual reports of the pension funds. A cost approach is applied for these services.

Payments by households for licenses and permits that are regarded as services according to ESA are recorded as HFCE in the Swedish National Accounts. This is the case for payments such as licences for hunting and passport licenses and payments to the Swedish Enforcement Authority - in this latter case the part that covers the administrative costs, both registered as consumption of other services in COICOP 12702, and expenditures for driving licenses which are recorded as consumption of other services in respect of transport equipment in COICOP 0724. The Swedish National Financial Management Authority collects these data.

#### *5.2.1.2 Information on how the exclusion of the following borderline cases from HFCE is ensured:*

Purchases by general government of goods and services produced by market producers that are supplied to households for final consumption are registered in the Swedish NA as social transfers in kind as D632 constituting a part of Government Final Consumption expenditure. In most cases households pay a small part of the costs, and this part is included in HFCE.

Payments by households which are to be regarded as taxes are recorded in accordance with the rules set up in ESA 4.79 and 4.80. If the issue of licences involves little or no work on the part of government, the licences being granted automatically on payment of the amounts due, it is likely that they are simply a device to raise revenue and in such cases they are treated as taxes.

Data on subscriptions, contributions and dues paid by households to NPISH are collected in the NPISH survey and registered as current transfers D751 to NPISH. Additional data on contributions by households to The Church of Sweden are collected by the Swedish National Financial Management Authority and then recorded as current transfers as well. Data regarding the Church of Sweden is collected in a separate comprehensive survey. Information and also statistics on fundraising is available from The Swedish Fundraising Control. This is a non-profit association who monitors the fundraising. The Principals are The Swedish Trade Union Confederation, The Confederation of Swedish Enterprise, The Swedish Confederation of Professional Associations and The Swedish Confederation of Professional Employees.

The expenditures that an owner-occupier incurs on the decoration, maintenance and repair of the dwelling not typically carried out by the tenants are included in the intermediate consumption in industry L68A, owner-occupied dwellings and second homes. For the owner occupied dwellings the respondents in the HEK survey are asked about their maintenance and repair (IC) and construction and extension (GFCF) of the dwelling. The statistics are based on interview responses and the respondents get information and instructions on what should be accounted for as repairs and what should be accounting for as reconstruction and extension. For a more detailed description of what is treated as GFCF and as intermediate consumption respectively, see section 5.7.3 purpose COICOP 043 and section 3.18.11.

### **5.2.2 The borderline cases for GFCF**

#### *5.2.2.1 How to ensure borderline cases in GFCF*

GFCF of R&D includes the processing of data from the Frascati survey on compensation of employees and intermediate consumption together with additions and subtractions with some other data into an estimate in accordance with the recommendations of the Task Force on the Capitalization of R&D, DMES 2012/11/08.

Structures and equipment used by the military forces are either classified as weapons systems or as ordinary GFCF, machinery or buildings. The distinction is made by the Financial Management Authority, ESV, using data from the Swedish Armed Forces in accordance with the definitions in ESA 2010.

Light weapons used by non-military units, Non-military units do not have access to weapons and vehicles on their own. Organisations like e.g. the Home Guard are included in the Swedish Armed Forces.

Estimates on mineral exploration and evaluation are included in GFCF by the help of data received from the Geological Survey of Sweden (SGU). Data are collected and compiled using telephone interviews to enterprises and private individuals holding prospecting concessions. As exploration must be preceded by permission, the SGU can carry out a full census.

Computer software investments are included and calculated as GFCF as described in 5.10.3. They are divided in purchased software and own account software.

Entertainment, literary or artistic originals are included in GFCF and the compilations are to a large extent based on annual payments of royalties and licenses. Detailed delimitation is described in 5.10.3

The Swedish National accounts have not recognized any other intellectual property rights.

Changes in stocks of livestock are based on numbers of animals reported and unit prices from the Board of Agriculture. Similar statistics to ensure an estimate of GFCF are received for breeding stock where the main source is the Economic Account for Agriculture.

Changes in trees, which are cultivated year after year. No compilation has been done so far. However during last year an investigation was made and it is now possible to include a calculation.

In the national accounts only financial leasing and not operational leasing counts as gross fixed capital formation. Financial leasing is defined as leasing provided by monetary financial institutions, classified as such by the Financial Supervisory Authority. The sources used are the motor vehicles model, the Financial Supervisory Authority's survey of the total supply of leasing items, the SBS business statistics and the investment survey.

According to law, the holder of a licence to own or operate a nuclear facility that gives or has given rise to waste products shall pay a nuclear waste fee. The fees are calculated in relation to the energy that is delivered. The Government decides annually how big the fees should be, based on a proposal from the Swedish Radiation Safety Authority. The fees are intended to finance future expenditures for managing and disposing of spent nuclear fuel and other waste products and costs for safe decommissioning and dismantling of nuclear facilities. The Nuclear Waste Fund also handles disbursements from the Fund. The NA calculations of consumption of fixed capital do however not cover compilations including any anticipated terminal costs.

The tax referring to registration of a vehicle is not included in the borderline cases of GFCF as it has expired in the Swedish tax system

#### *5.2.2.2 Borderline cases, exclusion from GFCF*

Small tools are included in IC in the Company book-keeping, therefore they are not questioned as GFCF in NA.

Ordinary maintenance and repairs are excluded as the instructions to the investment survey specify what to include: As investments should be recorded acquisitions of tangible assets with a life length of at least one year and rebuilding and improvements which significantly improve capacity, standards and life length. Works of maintenance and repair character, however, refer to work that mainly will maintain an asset and to normal minor alterations and should not be recorded as investments.

Only improvements to existing fixed assets such as renovation, reconstruction and enlargements are asked for in the SBS as GFCF.

To exclude operating leasing contracts Statistics Sweden only use data for financial leasing provided by monetary financial institutes for the Financial Supervisory Authority.

Information on number of animals to include in GFCF is made available from the Board of Agriculture every year. The National Board of Forestry provides data on forest activities from which tree felling s can be compiled.

Fortunately, Sweden has not been exposed to many catastrophic losses. But in January 2005 a hurricane felled big amounts of trees. Consideration was then taken to reduced stocks of growing trees in the forests and increased stocks of felled trees. Prices were reduced as there was abundance of forest materials. As Sweden produces no Balance sheets no further measures were taken.

Machinery and equipment for HFCE. Motor vehicles are registered on personal identification number. HBS-estimates are confronted with the assortment survey in retail trade, where questions are posed on HFCE.

The distinction between HFCE and intermediate consumption or GFCF of unincorporated enterprises is made through collecting information in different surveys and registers. The SBS includes unincorporated enterprises, which follows the corporate legislation. SBS information is built on income tax returns supplied to the Swedish Tax Agency. All sole traders, e.g. natural persons that conduct business in their own name, are required to submit a yearly income tax return if the entrepreneur or company has had income which is liable to income tax in Sweden. Unincorporated enterprises have no HFCE, but as members of a private household HFCE is recorded in e.g. HBS and assortments survey of Retail Trade.

## **5.3 Valuation**

### **5.3.1 Valuation of HFCE**

The final consumption expenditure of households is recorded at purchaser's prices. This is the price the purchaser actually pays for the products at the time of the purchase according to ESA 3.06. For used goods, which are sold in the household sector through a third party, only the margin realized on the sale is recorded. In the case of hire purchase, in accordance with ESA 15.22 it is the purchase price including all supplements in the form of delivery and installation charges, which constitutes the value of the product in question. The payments from purchaser to financier are recorded as repayments of principal and interest and broken up as current transfers and household consumption of FISIM.

Generally estimates of HFCE are collected from sources that provide measures in purchasers' prices, e.g. HBS and Retail Trade statistics. If HFCE estimates are based on some other source, e.g. company book-keeping, an adjustment with VAT is made to the account figures, which are provided in basic prices. This is the case regarding e.g. alcoholic beverages and medicines.

### **5.3.2 Valuation of employee compensation in kind at basic prices**

Data on car and fuel compensations in kind to employees that are produced by the employer are delivered by the Swedish Tax Agency. These data are by definition valued at basic prices and are used to adjust income, production and HFCE estimates. The same amount is used for the adjustment of the three sides. Compensation in kind other than car and fuel is considered to be bought by the employer but still included in the levels of the different COICOP-purposes in HFCE, which implies that no adjustment has to be done and that these are valued at purchaser' prices.

In the Swedish National accounts there are two purposes that register consumption of retained goods or services for own account. These are consumption of food (COICOP 01), and expenses for fuel wood (COICOP 0454). When it comes to expenditure on retained fuel wood for own account the calculation is made from the production approach and the same value at basics prices is used for both the output and for the HFCE figures. However consumption of food produced for own account is valued at market prices. This is according to Swedish law producers have to pay VAT on own consumption. Hence the farmers' own consumption is valued including VAT.

From the STA's VAT- brochure 552B: The following are examples of self-supply for which you must report VAT:

You take goods from the business and use them privately.

### **5.3.3 Procedures applied to ensure that GFCF is valued at purchaser's prices**

The instructions from Swedish Accounting Standards Board to Standard Accounts say that Objects included in Gross fixed capital formation are valued at purchasers' prices including delivery and installation costs. The valuation also includes all other costs associated with the acquisition, for example customs duties and other indirect taxes, transport costs, financing of architectural and technical services. Non-deductible value-added tax is included. VAT on the investments of departments and agencies of government are also included in NA data. This treatment of government activities is not in accordance with Swedish tax legislation but with EU claims.

Regarding buildings and structures whose completion time normally extends over several years, the total investment value is apportioned in such a way that the investment amount recorded for each year in principle corresponds to the part completed during that period. Often, however, by way of a satisfactory approximation, it is part payments during the period, which are recorded.

### **5.3.4 Steps to ensure that GFCF produced on own account is valued at basic prices**

For products or activities where a market price is not available the production cost is adjusted using a mark-up estimated based on similar products or activities for which the production cost as well as the value at basic prices can be observed.

### **5.3.5 Valuation rules of acquisitions of intellectual property products**

Estimates for mineral exploration are registered as the actual costs for the activities performed.

Estimates of imported, exported sold or bought computer software are registered according to the estimates supplied in the various sources for these activities. For in-house production values are calculated according to production costs plus mark-up for market producers and production costs for non-market producers.

Entertainment, literary and artistic originals are in principle valued according to the discounted value of expected receipts. As there are no statistical sources providing information on the value of original works produced in any given year a model compilation is necessary. It is assumed that the value of the originals in question is equal to the discounted value of future royalty incomes.

The problem is that the future royalties are not known. However, information on current income from royalties from culture and entertainment is available in annual statistics. In the national accounts the simple assumption is chosen, to use the value of royalties received by the artists in question in year  $t$  as a proxy for the value of originals created in year  $t$ . The reasoning behind this simple convention is as follows: Since there is no information on future royalty earnings, it is assumed that in the long term royalties actually increases somewhat faster than the economy as a whole, since leisure activities have income elasticity greater than one. More specifically, the future real growth rate is taken to be equal to the real rate of interest, which likewise is normally greater than the growth rate of the economy. With these assumptions, the equilibrium value of the originals created in any given year may be estimated as the income from royalties in the same year.

In the absence of a better methodology, the value of production of new original musical works is taken to be equivalent to the value of royalties earned on existing originals, See section 5.10.3

### **5.3.6 Steps taken to value disposals of existing fixed assets**

Information in SBS is available on closing balance and opening balance estimates for fixed capital formation. A net amount of GFCF is therefore possible to compile. Transport equipment is also checked by items also for exports and imports and motor vehicles sold from business sector to

households are transferred between the sectors. Costs of ownership transfers are therefore not included in the estimates.

### **5.3.7 Valuation of inventories**

The estimates for the main part of inventories are based on quarterly records in order to reduce the effect of large fluctuations of the stock data over time. A further description is provided in Section 5.11.

### **5.3.8 Valuation of exports and imports of goods**

Exports and imports of goods are compiled at invoice values and not at c.i.f/f.o.b. as proposed in ESA. This approach also affects the calculation of trade in freight services. Because of this approach a global f.o.b./f.o.b.-calculation is not carried out. Between 1998 and 2006 Sweden used the recommended cif/fob approach by an adjustment of sea freights based on a single survey in Mars 2000. The model however gave exorbitant results and a decision was taken to use invoice values instead. As Sweden uses data from company accounting to a large extent, invoice values for foreign trade operations are in accordance with other book-keeping estimates of enterprises. More information is given in Sections 5.13 and 5.15.

### **5.3.9 Valuation of exports and imports of services**

See valuation of exports and imports of services in Sections 5.14 and 5.16. As invoice values are used for foreign trade in goods, this also affects foreign trade in services as the cif-component is included in the value of the good and not in the transport service provided.

The instructions for foreign trade in services say that VAT and product taxes shall not be included in the reported value. However, VAT payments to and from abroad shall be recorded as transfers.

### **5.3.10 Components of expenditure to be recorded on an accrued basis**

Expenditure estimates are generally collected and recorded on an accrual basis. However, for taxes some period reallocations are undertaken in order to obtain the accrued value. See Section 3.28 for more information.

## **5.4 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts**

### **5.4.1 Private and public accounting versus national accounts concepts**

For Consumption of fixed capital, Investments in intellectual property, Valuables, artistic originals, trees and other assets, military equipment as GFCF, etc, Valuation of inventories, Valuation of cultivated forests, Financial leasing, Insurances, Output of banks and insurance services, Transfers in kind from employers, Social transfers in kind special calculations models are used in order to adapt to the ESA guidelines for NA.

### **5.4.2 Detailed description of the transition between private accounting and ESA 2010 concepts**

Purchases with an economic life shorter than one year are classified as intermediate consumption and excluded from GFCF. Swedish corporate legislation has a limit of 3 years for a purchase to be classified as fixed capital formation while national accounts and ESA 2010 have a time limit of one year. To fill the gap between corporate legislation and national accounts a specific question has been included in the SBS asking for values of objects with an economic life longer than one year but shorter than three years.



See a description of measures taken to ensure satisfactory transition from private accounting to ESA 2010 concepts regarding durable goods of small value and major repairs and renovations in Section 5.2.2.2.

See information about valuation of inventories in section 5.11.

An amount corresponding to the value of purchased software is deducted from intermediate consumption. In addition, the national accounts can reallocate certain intermediate consumption to gross fixed capital formation with the aid of a special question for compilation of this item now included in the SBS. A reallocation of intermediate consumption to investments is therefore possible already in the processing of the SBS data by the producing unit. See more information of own account software in section 5.10.3.

See information of entertainment, literary and artistic originals in section 5.10.3.

See information about R&D in section 5.10.3.

See information about insurance service charge and FISIM in section 3.17.

Statistics Sweden use data for financial leasing provided by monetary financial institutes to exclude operating leasing and to limit accounting differences.

### **5.4.3 Treatment of income in kind, tips and gratuities**

The Swedish Tax Agency has a long list on what items that should be recorded as transfers in kind. Estimates are included in the annual income declarations collected from employers. The most important income in kind in Sweden consists of the car benefits. Estimates of benefits from concessionary cars are imputed to the employer's output value and household consumption. Other benefits in kind are e.g. meal benefits and housing concessions. Meal benefits arise almost exclusively through the sale by an employer of restaurant vouchers at reduced prices to his employees. This benefit is included in the supplement applied to household consumption expenditure in relation to the results of the SBS. Housing concessions are captured in the calculation model of imputed rentals applied. A rental value is calculated for all dwellings in the country and is assigned to final use so there are no reduced rentals in the compilations.

Gratuities are relatively uncommon in Sweden because a service charge is included in the final price of the produced service, e.g. a restaurant bill. It is only in the restaurant and taxi trades that tips may be given. When tips are paid by credit card, which is the most common in Sweden, and the employer doesn't distribute them among the employees, the tips are included in the production estimates in the SBS and therefore incorporated also in the estimation of the production and in the HFCE figures. The Swedish Tax Agency is currently working on a project in order to better register and collect information on tips. A first outcome of this work is expected to be published in 2016.

An investigation on tips by the STA has the following comment: "payment frequently takes place electronically and by credit card, employers cannot conceal corresponding tips from the tax authorities. Even if these amounts are paid directly to employees they will be subject to income tax. The amounts also appear in the employer's administrative data and, consequently, in the production statistics. Other cash tips are comparatively insignificant".

### 5.4.4 Summary table conceptual adjustments consistent with process tables

Table 5.4.4 Conceptual adjustments expenditure approach, 2011, million SEK, current prices

	Conceptual		
	Allocation of FISIM	Other conceptual	Total conceptual
<b>Total final consumption expenditure</b>	<b>26404</b>	<b>-21740</b>	<b>4664</b>
Household final consumption expenditure	23557	0	23557
NPISH final consumption expenditure	748	-12162	-11414
General government final consumption expenditure	2099	-9578	-7479
<b>Gross capital formation</b>	<b>0</b>	<b>706</b>	<b>706</b>
Gross fixed capital formation	0	174	174
Changes in inventories	0	532	532
<b>Exports of goods and services</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Imports of goods and services</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Conceptual adjustments exp. approach</b>	<b>26404</b>	<b>-21034</b>	<b>5370</b>

## 5.5 The roles of direct and indirect estimation methods and of benchmarks and extrapolations

Table 5.5.1 Summary table for each component on which estimation method is used

	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models							Other	Total (sources)
				Benchmark extra-polations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Other E&M	Total Extrap+ Models		
Total final consumption expenditure	774346	323985	338303	524593	0	115158	313953	0	198495	1152199	0	2588833
Household final consumption expenditure	182446	85376	338303	524593	0	0	313953	0	151624	990170	0	1596295
NPISH final consumption expenditure	20404	41057				2780				2780		64241
General government final consumption exp.	571496	197552				112378			46871	159249		928297
Gross capital formation	211572	102592	270289	1040	0	0	0	0	141002	142042	147435	873930
Gross fixed capital formation	188083	92000	267115	1040	0	0	0	0	140112	141152	147435	835785
Changes in inventories	23489	10592	3174	0	0	0	0	0	0	0	0	37255
Exports of goods and services	1615465	0	62320	0	0	0	0	3042	7600	10642		1688427
Imports of goods and services	1514631	0		0				2293	5846	8139		1522770
Sources & methods exp. approach	1086752	426577	670912	525633	0	115158	313953	749	341251	1296744	147435	3628420

### 5.5.1 HFCE

*For items for which the most current year estimates are based on models*

Regarding HFCE all estimates based on models are calculated annually. The models try to provide the most representative picture of the component to which they are applied. The assumptions underlying the models are reviewed regularly. An example is the treatment of the discounts when estimating the value of the cars in the motor vehicle model where contacts with trade organization are taken regularly in order to update the premises in the model. Imputed rental values and FISIM are examples of calculations, which are compiled each year based on the most recent data sources.

*Notes to items for which the most current year estimates are based on extrapolations from a benchmark year*

For information on the extrapolation methods, for which a benchmark year is used and in how far the indicators used in extrapolations are representative of the activities to which they are applied see the detailed information on the section 5.7.3 and the description in the table xx

The assumptions underlying extrapolations are reviewed annually. The Retail Trade Sales survey, which is used for the formation of the matrix used in most of the extrapolations, is updated annually.

Direct measurement methods are used for most expenditure in household consumption. However, indirect measurement methods are used to calculate the utility value of all dwelling services apart from rented apartments. In addition, indirect methods are used to record the utility value of car benefits under purpose 07425 and for the PC benefit under purpose 09413.

For GFCF, annual benchmarks are compiled for investment items. Only a few items with small value, drainage within agriculture and machines in owner-occupied homes, are calculated by an indirect estimation model.

Up to 1999, the Swedish Board of Agriculture reported estimates for drainage in agriculture based on a survey. Presently no detailed explicit information is available, so the estimate, which was SEK 174 million 2011, is held almost constant over the years. A current survey by the SBA indicates that farm land has decreased somewhat which point to towards a stagnant or decreasing development of drainage activities.

Another item where an indirect estimation model is used is the addition for households' replacement investments in white goods, i.e. machine investments in small houses and holiday houses. In Sweden all new residential properties are equipped with white goods, which is part of the total investment value of the property as built. In the event of replacement purchases the property owner bears the cost and finances the replacement through the charge collected from the residents of the property. This means that replacement purchases made by the owner are treated as an investment, and purchases of white goods by tenants are regarded as household consumption.

The current year estimate for white goods replacement investment is calculated with the aid of the housing and rental survey from 1996. An annual chaining is subsequently undertaken by adjusting the level of the current year estimate from the previously calculated year with the development of machine investments in NACE L68B, Property management. The result of the chaining is over time crosschecked and adjusted with respect to changes in the commodity flow, i.e. the domestic supply of a group of white goods products representing replacement investments

Another model used to evaluate or crosscheck the current year estimate is to extrapolate the original housing and rental survey with the changes of stocks of dwellings and price indices of white goods. This model shows that 193 000 apartments in multiple-occupancy buildings made replacement purchases of white goods in 2011 to an average value of SEK 4 000, which amounts to an investment figure of SEK 772 million. For owner-occupied apartments it is assumed that the proportion of the total number of apartments which replace equipment is the same as for rented apartments. This gives 158 000 apartments with a value of SEK 5500 per apartment. The investment value for white goods replacement purchases of owner-occupied apartments in 2011 works out at SEK 872 million. The result of the calculation doesn't differ much from current year estimate recorded in the national accounts of SEK 820 million.

## **5.6 The main approaches taken with respect to exhaustiveness**

### *Main methods to ensure exhaustiveness*

Cooperation within SCB between different departments and the work of the Coordination and Corporate Affairs unit, which is responsible for contacts with the large companies is of vital importance. Service level agreements are negotiated annually and feed-back is given in bilateral meetings with all source statistics. A special group of representatives of bodies working on business statistics, investment surveys, the national accounts and statistical methods continuously assess the results and the construction of surveys in relation to one another. For the GFCF, the comprehensive SBS is the main source for total values. The investment survey and other sources are used for detailed information and for checking the adequacy of the estimates. Problems on over- and under-coverage are also dealt with, according to statistical methodology.

By having comprehensive, updated registers, complete coverage is ensured in most areas. Processes for total coverage in case of non-responses are in place. Widespread access to administrative data sources and to some big data sources, laws to cover the collection of data, compilation models on estimates that are treated differently in company book-keeping compared to NA-manuals, models on hidden and illegal activities, confronting data sources, investigations and cooperation with trade organizations, cooperation with other authorities and especially the Swedish Tax Agency. Consolidation and balancing of estimates in the detailed NA-system also contributes to reliable estimates.

**Table 5.6.1. Exhaustiveness adjustments in HFCE**

	Exhaustiveness Adjustments							
	N1	N2	N3	N4	N5	N6	N7	Total exhaustive-ness
<b>Household final consumption expenditure</b>								
<b>Total</b>	0	4590	0	0	0	12806	0	17396
<b>01 - Food and non-alcoholic beverages</b>	0	0	0	0	0	2611	0	2611
<b>02 - Alcoholic beverages, tobacco and narcotics</b>	0	2989	0	0	0	0	0	2989
<b>03 - Clothing and footwear</b>	0	0	0	0	0	0	0	0
<b>04 - Housing, water, electricity, gas and other fuels</b>	0	0	0	0	0	574	0	574
<b>05 - Furnishings, household equipment and routine household maintenance</b>	0	0	0	0	0	2126	0	2126
<b>06 - Health</b>	0	0	0	0	0	0	0	0
<b>07 - Transport</b>	0	0	0	0	0	5868	0	5868
<b>08 - Communication</b>	0	0	0	0	0	1494	0	1494
<b>09 - Recreation and culture</b>	0	1029	0	0	0	133	0	1162
<b>10 - Education</b>	0	0	0	0	0	0	0	0
<b>11 - Restaurants and hotels</b>	0	0	0	0	0	0	0	0
<b>12 - Miscellaneous goods and services</b>	0	572	0	0	0	0	0	572
<b>Transition to national concept</b>	0	0	0	0	0	0	0	0

## 5.7 HFCE

### 5.7.1 Overview

*5.7.1.1 NA results by COICOP items and the main source and the estimation method used.*

Table 5.7.1.1 HCFE broken down by 3-digit COICOP in SEK million

Level of Details	Basis for NA Figures											Other	Total (sources )	Total (adjustments)	Final estimate
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models											
				Benchmark extrapolations	Commodity Flow Model	CFC(PIM )	Dwellings - stratification method	FISIM	Other E&M	Total Extrapolations					
Total	182446	85376	338303	524593	0	0	313953	23557	151624	1013727	0	1619852	20216	1640068	
01 - Food and non-alcoholic beverages	0	0	194389	0	0	0	0	0	0	0	0	194389	2611	197000	
011 - Food	0	0	174227	0	0	0	0	0	0	0	0	174227	2486	176713	
012 - Non alcoholic beverages	0	0	20162	0	0	0	0	0	0	0	0	20162	125	20287	
02 - Alcoholic beverages, tobacco	0	32641	0	23137	0	0	0	0	20	23157	0	55798	2989	58787	
021 - Alcoholic beverages	0	32641	0	0	0	0	0	0	0	0	0	32641	534	33175	
022 - Tobacco	0	0	0	23137	0	0	0	0	20	23157	0	23157	240	23397	
023 - Narcotics	0	0	0	0	0	0	0	0	0	0	0	0	2215	2215	
03 - Clothing and footwear	0	0	0	78777	0	0	0	0	0	78777	0	78777	-60	78717	
031 - Clothing	0	0	0	66629	0	0	0	0	0	66629	0	66629	-60	66569	
032 - Footwear	0	0	0	12148	0	0	0	0	0	12148	0	12148	0	12148	
04 - Housing, water, electricity, gas	95876	0	0	7216	0	0	313953	0	20283	341452	0	437328	574	437902	
041 - Multiple-occupancy buildings	0	0	0	0	0	0	126868	0	2159	129027	0	129027	0	129027	
042 - Own and holidays homes	0	0	0	0	0	0	187085	0	18124	205209	0	205209	0	205209	
043 - Maintenance and repairs of the dwelling	0	0	0	7216	0	0	0	0	0	7216	0	7216	0	7216	
045 - Electricity, gas and other fuels	95876	0	0	0	0	0	0	0	0	0	0	95876	0	95876	
05 - Furnishings, household equipment	0	0	0	78902	0	0	0	0	0	78902	0	78902	2357	81259	
051 - Furniture and furnishings, carpets	0	0	0	30692	0	0	0	0	0	30692	0	30692	0	30692	
052 - Households textiles	0	0	0	7987	0	0	0	0	0	7987	0	7987	0	7987	
053 - Households appliances	0	0	0	7038	0	0	0	0	0	7038	0	7038	0	7038	
054 - Glassware, tableware and HH	0	0	0	10527	0	0	0	0	0	10527	0	10527	0	10527	
055 - Tools and equip for house and garden	0	0	0	8161	0	0	0	0	0	8161	0	8161	0	8161	
056 - Goods and services for routine maintenance	0	0	0	14497	0	0	0	0	0	14497	0	14497	2357	16854	
06 - Health	13779	0	31744	6868	0	0	0	0	0	6868	0	52391	260	52651	
061 - Medical products, appliances and services	6890	0	8012	6868	0	0	0	0	0	6868	0	21770	260	22030	
062 - Outpatient services	5676	0	23358	0	0	0	0	0	0	0	0	29034	0	29034	
063 - Hospital services	1213	0	374	0	0	0	0	0	0	0	0	1587	0	1587	
07 - Transport	56944	13794	0	69136	0	0	0	0	71472	140608	0	211346	5752	217098	
071 - Purchase of vehicles	2032	0	0	2230	0	0	0	0	53583	55813	0	57845	-116	57729	
072 - Operation of personal transport	54912	13794	0	35091	0	0	0	0	3399	38490	0	107196	5868	113064	
073 - Transport services	0	0	0	31815	0	0	0	0	14490	46305	0	46305	0	46305	
08 - Communication	0	0	0	50363	0	0	0	0	887	51250	0	51250	1889	53139	
09 - Recreation and culture	0	7639	18564	149838	0	0	0	0	3974	153812	0	180015	2239	182254	
091 - Audio-visual, photographic and other	0	0	0	25334	0	0	0	0	0	25334	0	25334	0	25334	
092 - Other major durables for recreation	0	0	0	7596	0	0	0	0	2310	9906	0	9906	312	10218	
093 - Other recreation item and equipment	0	468	236	39349	0	0	0	0	0	39349	0	40053	-200	39853	
094 - Recreation and cultural services	0	7171	18328	40992	0	0	0	0	1664	42656	0	68155	622	68777	
095 - Newspapers, books and stationery	0	0	0	17060	0	0	0	0	0	17060	0	17060	0	17060	
096 - Package holidays	0	0	0	19507	0	0	0	0	0	19507	0	19507	0	19507	
10 - Education	0	41	0	4504	0	0	0	0	0	4504	0	4545	0	4545	
11 - Restaurants and hotels	0	0	93606	0	0	0	0	0	0	0	0	93606	0	93606	
111 - Catering services	0	0	81740	0	0	0	0	0	0	0	0	0	0	0	
112 - Accommodation services	0	0	11866	0	0	0	0	0	0	0	0	0	0	0	
12 - Miscellaneous goods and services	12097	31261	0	55852	0	0	0	23557	54988	134397	0	177755	1605	179360	
121 - Personal care	0	0	0	41938	0	0	0	0	0	41938	0	41938	0	41938	
122 - Prostitution	0	0	0	0	0	0	0	0	0	0	0	0	572	572	
123 - Personal effects n.e.c.	0	0	0	9261	0	0	0	0	0	9261	0	9261	0	9261	
124 - Social protection	11407	24286	0	1699	0	0	0	0	0	1699	0	37392	758	38150	
125 - Insurance	0	6975	0	0	0	0	0	0	15476	15476	0	22451	0	22451	
126 - Financial services	690	0	0	0	0	0	0	23557	32383	55940	0	56630	0	56630	
127 - Other services n.e.c.	0	0	0	2954	0	0	0	0	7129	10083	0	10083	275	10358	
15 - Swedish consumption abroad	72191	0	0	0	0	0	0	0	0	0	0	72191	0	72191	
16 - Foreign consumption in Sweden	-68441	0	0	0	0	0	0	0	0	0	0	-68441	0	-68441	
Transition to national concept	3750									0		3750		3750	

### 5.7.2 Main data sources and their conversion to national accounts results

#### *The general approach to estimate HFCE*

All relevant available sources are used for estimating HFCE. The best source of the available alternatives is chosen when estimating individual COICOP items. Data from different sources are confronted and then these sources are evaluated in the SUT balancing process.

The selection of the best source is sufficiently justified with regard to comparisons and checks in different sources and the SUT balancing procedure. In connection with the SLA-work (Service Level Agreement) all sources are evaluated and Statistics Sweden continuously works on how to improve the quality of them.

#### *Detailed description of the main sources used and the calculation steps from source data to NA results.*

Data on household consumption in accordance with the national accounts definitions are not available in a single statistical survey. A great effort to catch data is made in household budget surveys and surveys on household expenditure, i.e. HBS, HBU and HUT. They have been carried out at intervals since long ago for a number of years. Statistics Sweden has then attempted to measure household expenditure in terms of definitions which coincide as closely as possible with those of the national accounts.

*HBS-statistics* for the years 1995/96 were used quite extensively for benchmarking 1995. HBS-data for 2003-2005 was intended to be used for a new benchmark of year 2004. The HBS-estimates, however, turned out to underestimate household consumption to a great extent for some purposes when compared with other sources. The HBS-statistics could therefore not be used as much as initially planned for the benchmarking this time. The main reason for the rejection was that these HBS-surveys had too small samples of households which made the interval of confidence too big. The HBS-statistics have, however, to a great extent been used to allocate the consumption under many of the purposes to different product groups by the use of shares. The most recent HBS statistics have not been approved for use as a main source for the NA due to the quality of the estimates. Work is in progress in order to improve the HBS-survey by different approaches.

*Retail trade sales.* Statistics Sweden conducts annual surveys of the sales of the different NACE-industries per product of goods and services. In these surveys a question is also included on sales to others than households. By combining industry turnover figures with the shares of goods and services sold by each industry, an industry/goods matrix is obtained. The matrix consists of 70 industries, whose turnover is distributed over 100 different goods and services. Some service industries are also included in order to catch also HFCE of services. The matrix is updated every year.

#### *Comprehensive data on food sales*

A special processing of *total food-sales* is made every year. As food has a specific VAT-rate by 12 percent it is possible to select the total value of food sales from the comprehensive VAT-register. As the sales of food are very concentrated on a few hands in Sweden, a favourable cooperation with the five main retail chains is established. They represent 85 percent of the total food sales. Statistics Sweden receives data from them, which is taken out of their cash registers. This material gives exact information on sales values by product. It is therefore possible to provide an extremely high quality measure of total food sales.

#### *SBS and VAT*

In the SBS annual information is also collected. Turnover by industry is updated regularly. In the SBS is also included a question on sales to different groups of buyers, e.g. households. This information has also been used for checking and consolidating some estimates included in the HFCE.

Monthly Turnover statistics and also estimates by 5-digit NACE-industry based on VAT-reports are available for the quarterly and annual NA compilations. This information is also used for confronting and for extrapolation of consumption expenditures by purpose. The annual growth rates for the different industries are distributed over the various goods and services and estimates for each item are calculated. Estimates by purpose are also confronted with VAT-data where appropriate. In the annual calculations the matrix extrapolations stand for around 17 percent of total household consumption allocated to purposes.

*Vehicle register estimates.* Data on number of new cars registered and recorded by identification number and industry where appropriate is received each quarter from the vehicle register. Prices per model are applied and the estimates on HFCE and GFCF respectively are compiled. Information is also provided on the number of cars sold by business sector to households via car dealers and an appropriate value, reduced by the age of the cars, is calculated. This is mostly previously leased cars.

*Expenditures on dwellings.* For tenants number of dwellings in square meters and actual rents paid are calculated for HFCE. For owner occupiers a rental value is compiled based on actual rents paid by tenants for a comparable dwelling. Data is stratified by age, region and size. For secondary homes a user-cost approach is applied. It covers costs for maintenance and repairs, insurance, waste etc. plus a rate of return to capital of 2.5 percent.

*Energy balances.*

The calculations for the energy consumption of households are undertaken in the special energy balances of the national accounts. Statistics for energy products are available from a variety of sources, and these are coordinated in sixteen different product balances, in which the allocation to different user groups is specified.

*Government data* is available for fees paid in health, child and elderly care and some service licenses

*Adjustments and reconciliations in the annual calculations*

The annual growth rates from the turnover statistics are also compared on an annual basis with the results obtained when the annual SBS and the final VAT records have been collected and processed. Comparisons are undertaken mainly regarding growth rates, but also turnover estimates, for the industries which are of interest in this context. However, it may be difficult to make comparisons because the variables collected in the material are valued differently. For example, VAT is included in the data for the turnover statistics, whereas the business statistics are recorded exclusive of VAT. In the annual calculations use is also made of a range of other detailed information for different goods and services. This involves, for example, records from government bodies, trade associations and non-profit institutions and from supervisory bodies performing monitoring functions, collecting charges or awarding grants in relation to the scale of an activity. Register material and intermittent surveys as well as survey reports on different activities are also used.

The Swedish national accounts are based on an input-output system, which means that all production and use of goods and services is arranged in a system of product group balances in commodity flow analysis. In this way it is possible to check the household consumption estimates and other uses against the supply of the corresponding goods and services. If there are differences between supply and use, a residual item arises, and the good or service in question is then subjected to special analysis and any measures required are taken to ensure a better balance between supply and use.

The product group balancing technique means that benchmarks in household consumption may be affected. In the benchmarking one criterion for the evaluation of sources chosen is the results given by the product balance reconciliations.

Analysis, reconciliations and adjustments are thus carried out for all of the 249 product groups, which constitute the smallest building blocks of household consumption distributed by purposes.

*5.7.2.3 Tables from the “Tabular Approach to Household Final Consumption Expenditure” developed in the context of the Phare program.*

Statistics Sweden has not used the Phare-program approach for compilations and valuations of household consumption estimates.

*Comparison between HFCE data generated from HBS and Retail trade statistics and final estimates according to the NA, SEK million 2012.*

No HBS was carried out for the reference year 2011, but 2009 and 2012 were covered. As the HBS sample is relatively small and in addition to this the response rates have decreased extremely during the last decade not many HBS-estimates are considered relevant. Anyhow, the table below shows a comparison between HBS for the year 2012 and the Turnover statistics and HFCE estimates according to the NA for the same year. An explicit adjustment to the HBS data in the table is made in order to cover the expenses on different COICOP items for all age groups in Sweden. That means that there are still important conceptual differences between the figures from the three sources and therefore comparisons are not relevant for most of the COICOP items in the table. For instance the amount for the item COICOP 0960 in the NA column comprises only expenses for receipts from travel agencies whereas it includes also expenses abroad in connection with the trip in the HBS column.

When HBS data are used they are adjusted in order to comply with the definitions of the NA. This is in accordance with the recommendations from the GNP Committee Task Force on HBS (CPNB 204).

The retail sales data used are confronted with other available sources. RTS are also used to calculate the structure of the sales in retail trade industry broken down by products and services according to COICOP classification which results in the HFCE matrix shares. Adjustments for the non-observed retail sales are included in the HFCE benchmarked initial values that are afterwards extrapolated with aid of the matrix and annual growth rates from the turnover statistics.



Table 5.7.2.3.1 HFCE broken down on source and model

COICOP		NA	HBS	RTS	Benchmark	Annual calculation
<b>01</b>	<b>Food and non-alcoholic beverages</b>	205 189	140 013	200 172	Annual	Combined
<b>02</b>	<b>Alcoholic beverages, tobacco, narcotics</b>	61 253				
021-2	Alcoholic beverages, tobacco	59 038	23 067	58 401	Annual	Adm. data
023	Narcotics	2 215			2001	Various info
<b>03</b>	<b>Clothing and footwear</b>	78 849	56 461	83 615	2002	Extrapolation
<b>04</b>	<b>Housing, electricity, gas and heating</b>	438 865				
041	Actual rentals	128 875	142 821		Annual	Adm. data
042	Individual houses and holiday homes	202 004	0		Annual	Adm. data
043	Maintenance and repair of the dwelling	7 214		21 253	1995	Extrapolation
045	Heating; electricity, gas, oil, etc.	100 772			Annual	Annual NAbal.
<b>05</b>	<b>Furnishings, househ. equipment, maint.</b>	82 750	75 102	86 967	2002	Extrapolation
051	Furniture, fittings, rugs and carpets	31 075	29 368	36 016	2002	Extrapolation
052	Household textiles	8 067	4 840	4 365	2002	Extrapolation
053	Household appliances	6 732	11 271	18 077	1995/2002	Extrapolation
054	Housewares incl. glass and china	11 142	6 258	9 923	2002	Extrapolation
055	Tools, batteries, lamps, etc.	8 353	13 507	8 151	2002	Extrapolation
056	Goods, services for routine maintenance	17 381	9 858	10 435	2004	Extrapolation
<b>06</b>	<b>Health and medical care</b>	55 873	28 011			
061	Medical and pharmaceutical products	23 950				
06111	Prescription medicines	7 416	11 411		Annual	Census
0661rest	Other medical products	16 534	3 980		1995/2002	Various
062	Out-patient medical care	30 200	12 493		2004/Annual	Various
063	Hospital care	1 723	127		2004/Annual	Various
<b>07</b>	<b>Transport</b>	214 111	181 570			
071	Vehicles	53 083	71 340		1995/Annual	Various
072	Vehicle operating costs	112 489	91 813			
0721	Spare parts	9 360	9 517		2004	Extrapolation
0722	Petrol etc.	54 797	65 523		Annual	Annual NAbal.
0723	Maintenance and repairs	23 861	11 108	1 522	1995	Extrapolation
0724		24 471				
07241-2	Driving lessons, tests and inspection	3 600	5 665		1995/Annual	Various
07243	Toll facilities	545			2004	Extrapolation
4244	Parking	3 258			1995/Annual	Extrapolation
07245	Car benefit, car hire	17 068			1995/Annual	Various
073	Transport services	48 539	18 417		1995/2004	Extrapolation
<b>08</b>	<b>Communication</b>	52 557	42 026			
0811	Postal services	2 506	970		2004	Extrapolation
0812	Telecommunications equipment	2 661	7 306		1995	Extrapolation
0813	Telecommunications services	47 390	33 750		2004	Extrapolation
<b>09</b>	<b>Recreation and culture</b>	187 224	189 473			
091	Radio, TV, photo, IT equip., CDs etc.	23 676	32 069	37 754	2002	Extrapolation
092	Other major durables for recreation	10 729	9 522		1995/2004	Extrapolation
0921		6 938	5 072			
09211	Caravans and trailers	4 324			1994	Extrapolation
09212	Boats	1 486		2 427	2004	Annual NAbal.
09213-5	Other major durables for recreation	1 128		813	1995/2004	Extrapolation
093	Other recreational items and equipment	41 644	28 673	43 270	1995/2002	Various
094	Recreational and cultural services	73 663	40 925			Various
09411-3	Sport and recreation				2004	Extrapolation
09414	Municipal music school fees	291	...		Annual	Adm. data

COICOP		NA	HBS	RTS	Benchmark	Annual calculation
09415	<b>Course fees</b>	2 387			1997	Extrapolation
09421	TV licences	7 143			Annual	Quantity-price
09422	Cable and satellite TV	9 130			Annual	Adm. data
09423	Photographic services	602			2004	Extrapolation
09424	Hire of equipment	2 641			2004	Extrapolation
09425	Cinema	3 242			Annual	Adm. data
09426-7	Cultural services				2004	Extrapolation
0943	Gaming	19 654	6 035		Annual	Combined
095	Books, newspapers and stationery	16 280	13 258			
0951	Books	4 698	3 633	5 417	2002	Extrapolation
0952-4	Newspapers and stationery		9 625		1995/2002	Extrapolation
096	Package holidays	21 232	65 026		2002	Extrapolation
10	<b>Education</b>	4 727			Annual	Various
11	<b>Hotels, cafés and restaurants</b>	94 696	47 523		Annual	Combined
12	<b>Miscellaneous goods and services</b>	180 355	82 849			
121	Personal care	6 921	26 599		2004	Extrapolation
122	Prostitution	13 914	...		2004	Reports
123	Personal effects	9 795	6 814		2002	Extrapolation
124	Social protection	39 661	6 534		Annual	Adm. Data
125	Insurance services	21 428	37 448		1995/Annual	Adm. Data
126	Financial services	56 426	1 762		1993/Annual	Adm. Data
127	Other services	10 500	3 692			
12701	Funeral services	2 824	...		2004	Extrapolation
12702	Fees for passports, fishing, etc.	1 134			1995	Extrapolation
12703	Miscellaneous other charges	6 542			2004	Extrapolation
15	<b>Household consumption abroad</b>	78 465	...		Annual	Survey
16	<b>Foreign consumption in Sweden</b>	-74 151	...		Annual	Survey

Retail sales for final consumption that are not purchased by households are measured in a special survey. It contains questions asked on sales to others but households. Most retail industries are oriented towards households, but in some industries the share of sales to others are substantial. This is the case e.g. in stores where construction materials and small tools are sold. Also petrol stations have a high share of sales to others than households. In the table below the shares are shown.

**Table 5.7.2.3.2 Share of sales to households from the retail trade industry.**

<b>Industry</b>	<b>Industry code by Swedish classification</b>	<b>Sales to households share</b>	
Retail sales in supermarkets	47111	100	
Retail sales of food and beverages in non-spec. stores	47112	99,8	
Other retail sale in non-specialized stores	47190	100	
Retail sale of food in specialized stores	4721-24;29	100	
Retail sale of alcoholic beverages	47250	100	
Retail sale of tobacco	47260	100	
Retail sale of automotive fuel	47300	97,6	sales excl fuel
Retail sale of computers	47410	52,3	
Retail sale of telecommunication equipment	47420	79,8	
Retail sale of audio and video equipment	47430	93,3	
Retail sale of textiles	47510	99,9	
Retail sale of building material	47521+47522	72,4	
Retail sale of paints, varnishes and lacquers	47523	56	
Retail sale of carpets and wall coverings	47531	68,8	
Retail sale of textiles	47532	83,3	
Retail sale of households appliances	47540	92,8	
Retail sale of household furniture	47591+92	96,1	
Retail sale of household articles and equipment	47593-94	98,3	
Retail sale of music recordings	47595	96	
Retail sale of books	4761+4762	92,4	
Retail sale of CD, DVD and the like	47630	99,8	
Retail sale of sporting equipment	47641+47642	93,5	
Retail sale of boats	47643	93	
Retail sale of games and toys	47650	98,3	
Retail sale of clothing	47710	93,8	
Retail sale of footwear and leather	47720	95,3	
Retail sale of pharmaceutical and medical goods	47730	81,6	
Retail sale of health care products	4774A	93,4	
Retail sale of flowers, plants	47761	97,8	
Retail sale of pets	47762	99,8	
Retail sale of watches and clocks	47771	99,9	
Retail sale of gold and jewellery	47772	99,2	
Activities of opticians	47781	98,1	
Retail sale of photographic equipment	47782	99,1	
Activities of commercial galleries	47783-84	63,3	
Other retail sale in specialized stores	47789	92,1	
Retail sale of antiques	47790	76,4	
Retail sale via mail order houses or via internet	47910	79	
Retail sale via stalls and markets	478+48.99	87,7	
<b>Total retail sale</b>	<b>NACE 47</b>	<b>93,1</b>	

***Coverage of internet sales within the retail trade survey data and any necessary adjustments for this type of sales within the estimation of HFCE.***

All internet sales by Swedish producers are covered in the estimation of HFCE. The definition of sales and turnover in both the retail trade survey and the monthly turnover statistics include internet sales. Companies that sell their products both at physical stores and on the web are usually classified in a more “traditional” industry whereas companies that just sell their product on the web are usually classified in the industry 47910 “Retail sale via mail order houses or via internet”. This ensures that all Swedish subjects that have internet sales are included in the relevant surveys. In addition to this, the internet sales by foreign subjects to Swedish households are encompassed by COICOP 15 “Consumption expenditure by Swedes abroad”. For more information see section 5.7.3.

***Purchases of residents abroad and purchases of non-residents on the domestic territory in relation to HFCE estimates.***

Total private consumption of households, which is contained in the balance of resources, comprises the consumption of resident households. Resident households are considered to include persons who are permanently resident in Sweden, which means that they must have stayed in the country for at least one year. The consumption of resident households consists of consumption both in Sweden and abroad, hence tourist expenditure and expenditure of diplomats and military personnel abroad are included. In the case of business travel, the portion financed by travel allowances is included in the employers’ intermediate consumption. The expenditures of non-resident tourists, diplomats etc. in Sweden are deducted in order to obtain the consumption of only resident households.

In practice the procedure is that, when the calculations are performed for the various goods and services items, what is consumed in Sweden is measured, regardless whether it is foreign tourists or Swedes who make the purchases. In order to calculate total household consumption, a supplement is added for the consumption of Swedes abroad and a deduction is made for the consumption of foreigners in Sweden. Neither supplement nor deduction is allocated to the various purposes, which is why they are recorded as lump sums (COICOP 15 and 16). However in the tourism satellite accounts a distribution of visitors’ expenditures is made. See a more detailed description of sources and methods for the estimation of the COICOP 15 and 16 in the section 5.7.3.1 below.

***Treatment of HFCE in relation to intermediate consumption of producers of illegal activities***

In the models created for estimates of illegal activities in the Swedish NA the assumption is that intermediate consumption is insignificant and covered as HFCE. For instance, when it comes to drugs as a product, there is no evidence of Swedish production but only imports. Therefore only trade margins are recorded as production (total resources) which equals Household consumption (total use).. For a more detailed description see the points illicit distilling and trade margin for smuggling (COICOP 021 and 022), drugs (COICOP 0230), gambling (COICOP 0943) and prostitution (COICOP 122) in section 5.7.3.)

***The consistency in the service charge for pensions between the value given under output and that included within HFCE.***

The whole output value is allocated to HFCE.

### **5.7.3 Detailed calculations by COICOP items**

**COICOP 01, food.** The calculations for the consumption of food, non-alcoholic beverages, medium-strength beer and light beer are based on an annual comprehensive report called *Foods sales*, which contains detailed sales information and data from the VAT Register. The most detailed material out of the cash receipts from a handful large retailing chains, which represent 85 percent of total food sales, is put together and used for the breakdown of food and non-alcoholic beverages. The total value of sales is collected from the VAT material since food has a special VAT-rate on 12 percent. The

National Board of Agriculture calculates producers' own consumption of food and this estimate is added (N6). According to Swedish law farmers have to pay VAT on own consumption. Hence the farmers' own consumption is valued including VAT. A calculation over what food retail traders and owners of restaurants take out from their businesses is also added and also black consumption of poultry and fish (N6).

Sources: turnover statistics, the VAT Register, SBS, collected special material from the retail trade organizations.

**COICOP 021, alcoholic beverages.** In Sweden the Swedish Alcohol Retailing Monopoly is the only retailer of strong beer, wine and spirits to consumers. Data on the sales values are collected continuously from quarterly reports of Systembolaget. These data are supplemented with VAT. The HBS value for these goods indicated a substantial underestimate. A survey on origin of alcohol consumed is performed by a research centre at the University of Stockholm, SoRAD<sup>11</sup>. These data are used for the annual calculations of the household consumption of illicit distilling and smuggling (N2). Sources: data on Systembolaget's sales to consumers, SoRAD survey on origin of consumed alcohol and tobacco.

**COICOP 022, tobacco.** This purpose comprises both tobacco and snuff. Swedish Match controls distribution to retailers and supplies data for the national accounts. A value for smuggled tobacco is also calculated and added with the aid of the SoRAD survey on origin of tobacco. Total consumption is checked according to a calculation based on the number of smokers and average consumption per smoker<sup>12</sup> and price data. The HBS value for these goods indicated a substantial underestimate. Sources: data from Swedish Match on distribution to retailers, tax records. SoRAD survey on origin of tobacco consumed, CAN annual reports.

**COICOP 0230, narcotics.** The model is based on information about numbers of consumers and prices broken down by type of narcotics. Prices are collected yearly by The Swedish Council for Information on Alcohol and Other Drugs and from the UNODC United Nations Office on Drugs and Crime database. The number of heavy addicts has been investigated three times and is appraised to about 26 000 in 1998<sup>13</sup>. Available information from social and health care agencies does not indicate any drastic changes of this number. Included is also a compilation on consumption of light drugs, e.g. cannabis, which is based on annual investigations on use of narcotics

Sources: The Swedish Council for Information on Alcohol and Other Drugs, CAN; The Swedish National Council for Crime Prevention. The Swedish National Drug policy Coordinator.

**COICOP 03, clothing and footwear.** Apart from clothing and footwear, the purpose also comprises garment fabrics and the repair and hire of goods. The initial value for 2002 is based on the survey of Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 04, Housing.**

**COICOP 0411, tenancies in multiple-occupancy buildings.** The purpose comprises rental costs, excluding heating costs, of rented apartments. The calculation is carried out by the help of the dwelling area according to the national estate taxation register and rent per square metre according to the Rents for dwellings survey, (HiB). Heating costs are deducted according to the calculations made in the comprehensive energy balances. For all years, the calculations are stratified for different strata, such as owner, year of construction, region and apartment size. The estimate is also corrected for the value of unlet apartments. Because the information on rental income refers to rentals for heated accommodation, the heated accommodation rental of households is calculated first. Unheated

<sup>11</sup> SoRAD = Centre for Social Research on Alcohol and Drugs

<sup>12</sup> Statistics Sweden, Survey of Living Conditions

<sup>13</sup> Based on a report from the National Council for Crime Prevention made by Granath, Svensson and Lindström.

accommodation rental is obtained residually as heated accommodation rental less heating costs. Information on sources is applied in the fuel calculations below.

Sources: National Estate Taxation Register, Number of unlet apartments (BOSM), HiB.

**COICOP 0412, tenant-ownership rights in multiple-occupancy buildings.** A holder of a tenant's right of ownership does not own his apartment but holds a share in a tenant-owners' association. The task of the tenant-owners' association is to assure on-going maintenance of the building etc. For this the holder pays a charge to the association, which is somewhat lower than corresponding rentals for ordinary tenancies. As holders of tenant-ownership rights do not rent their apartments, a utility value representing residence in a tenant-owner's apartment is calculated by applying the rental cost per square metre for ordinary tenancies of an equivalent standard. Otherwise the calculation is carried out according to the same principles as for COICOP 0411 Tenancies in multiple-occupancy buildings.

Sources: National Estate Taxation Register, HiB.

**COICOP 0421, Owner-occupied dwellings.** In the national accounts, owner-occupiers are deemed to be unincorporated businesses producing housing services, which they then consume. The same value also appears in the national accounts as a component of production of housing services by unincorporated enterprises within the household sector. This value is also entered as an income for these enterprises. Thus the contribution of this item is the same in all three approaches – production, income and expenditure to the measurement of GDP. The treatment requires the imputing of a rental payment to the owner-occupiers. Thus, a utility value has to be estimated for the residence of a person in his own home. It is not the household's actual expenditure for living in their own home, which is calculated, but instead an alternative cost which indicates how much they would have paid if they had rented the accommodation. In Sweden it is not common for individual houses to be let, hence there is no basis for estimating the utility value with the aid of actual rental costs for individual houses. Instead the level is ascertained with the aid of rental costs per square metre in multiple-occupancy buildings of a corresponding standard. A supplement is also included for access to a garage.

In the same way as for multiple-occupancy houses, the number of individual houses is collected from the National Estate Taxation Register. The estimate is calculated using information on the number of individual houses, rental for garages, taken from the IKU-survey, and average area and rental per square metre, collected from the HiB and HEK. Regional stratification as well as stratification on year of construction and on dwelling size is used in the calculations.

The rental for unheated accommodation is obtained residually as the heated accommodation rental less heating costs. Since the utility value is defined as corresponding to the rental for tenanted apartments, the unheated-accommodation rental is calculated by subtracting the heating cost per square metre for the rented apartment from the heated accommodation rental.

Sources: National Estate Taxation Register, IKU, HiB, HEK

**COICOP 0422, Holiday homes.** For holiday and weekend homes the user-cost method is used. The output is calculated as the sum of costs at current prices for services (refuse collection, water and chimney-sweeping), insurance services, repairs and maintenance, FISIM, real estate tax, consumption of fixed capital and net operating surplus. The net operating surplus is measured by applying a real rate of return of 2.5 percent to the value of the stock at current prices. The service charges for refuse, water and chimney sweeping are calculated by extrapolating the household budget data from HBS-92.

Insurance expenses on individual houses and holiday homes are calculated on a yearly basis. The share of holiday homes of the total insurance services is estimated with the aid of the corresponding tax assessment value for holiday homes. Repairs and maintenance are obtained from a model taking the housing and rental survey (HiB) as its source. Consumption of fixed capital is calculated by help of the values for stocks of fixed assets.

Sources: HBS, HiB, National Estate Taxation Register.

**COICOP 0431 Materials for the maintenance and repair of the dwelling.** The purpose comprises goods and materials for minor repairs and maintenance to the dwelling. Materials intended for permanent and holiday homes are also included in this group. The work is carried out by the household living in the dwelling and no cost or reporting of time used is included in this item. Examples of minor works are interior decorations and repairs, such as wallpapering and painting. The initial value for 1995 was obtained from the household budget statistics through thorough analysis of the expenditures that households stated they had had. The value is updated with the aid of the annual growth rate in retail trade turnover at current prices per quarter.

Sources: HBS, turnover statistics, the VAT Register, SBS.

**COICOP 0432 Services for the maintenance and repair of the dwelling.** The purpose comprises expenditure for minor maintenance and repairs carried out by hired trade's people. The costs of both work and materials are recorded here. The initial value for 1995 was obtained from the household budget statistics (HBS). The value is updated with the aid of the trend in retail trade turnover at current prices per quarter. Since 2008, a house owner is entitled to a reduction of 50 percent on the costs of services bought for repairs and reconstruction of dwellings. The Tax Agency keeps records on these transactions, and data is published on their web page every month. This information is also used in the NA calculations.

Sources: HBS, turnover statistics, the VAT Register, SBS, information from Swedish Tax Agency.

**COICOP 0451, Electricity.** The annual national accounts include an electricity balance in which the supply is reconciled with total use, broken down by different user categories. The calculations are based on data on the consumption of electricity (GWh) by households according to annual electricity, gas and district heating statistics from the Swedish Energy Agency and Statistics Sweden. Price indices from CPI and changes in tax rates are also used for current price compilations of the quantity data. The consumption is extrapolated by the annual change in quantity delivered to households and by consumer price index for electricity including changes in tax rates.

Sources: Swedish Energy Agency and SCB Electricity supply, district heating and supply of natural and gasworks gas statistics. CPI for electricity, tax rates from The Swedish Tax Agency, tax revenues from The Swedish National Financial Management Authority.

**COICOP 0452, Gas.** The annual calculations are based on data on the consumption of gas from gasworks and natural gas (m<sup>3</sup>) by households according to annual electricity, gas and district heating statistics from the Swedish Energy Agency and Statistics Sweden. The consumption is extrapolated by the annual change in quantity delivered to households and by consumer price index for gasworks gas and price index for domestic supply (IHT) including changes in tax rates. In the national accounts a gas balance is also produced for the country, in which supply is reconciled with use broken down by the various user categories.

Sources: Swedish Energy Agency and SCB Electricity supply, district heating and supply of natural and gasworks gas statistics. CPI for town gas is estimated by a price index for domestic supply of natural gas. Tax rates from The Swedish Tax Agency, tax revenues from The Swedish National Financial Management Authority

**COICOP 0453, Liquid fuels.** This item includes light and heavy fuel oils, propane and light oils. The annual calculation is based on the energy balances in the national accounts, in which data on quantities multiplied by price data are calculated and reconciled. Consumption of heating oil and other liquid fuels (m<sup>3</sup>) by households is obtained from Swedish Energy Agency and SCB Monthly fuel, gas and inventory statistics and Annual Energy balances for individual houses, multiple-occupancy buildings and commercial premises. The consumption is extrapolated by the annual change in quantity delivered to households and by consumer price index and price index for domestic supply.

Sources: Swedish Energy Agency and SCB Monthly fuel, gas and inventory statistics and Annual Energy balances for Sweden. CPI for light fuel oils, price index for domestic supply. Tax rates from The Swedish Tax Agency, tax revenues from The Swedish National Financial Management Authority.

**COICOP 0454, Other fuels.** This purpose includes HFCE on charcoal, wood for fuel and wood pellets, of which expenditures on wood pellets constitutes the largest share. Household consumption of charcoal is extrapolated by the volume change of the imported quantity and by price index for domestic supply (IHT) to yield the value of household consumption in current prices. Household expenditures on wood for fuel includes both market sales and production for own final use. Values are compiled by the help of quantities given in Swedish Energy Agency's annual survey Energy statistics for one- and two family dwellings multiplied by price data from the Swedish Forest Agency. Household expenditures on pellets is extrapolated by the change in volume of the quantity delivered to households from the Swedish Pellet Association multiplied by consumer price index.

Sources: Foreign trade statistics, Swedish Energy Agency Energy statistics for one- and two dwelling buildings, Swedish Pellet Association, Swedish Forest Agency and CPI for other fuels, price index for domestic supply of charcoal.

**COICOP 0455, District heating.** The annual calculations are based on data on the consumption of district heating (GWh) by households according to annual electricity, gas and district heating statistics from the Swedish Energy Agency and Statistics Sweden. The statistics cover deliveries to one- and two-family houses and multiple-family houses. The consumption is extrapolated by the annual change in quantity delivered to households and by consumer price index for district heating in one- and two-family houses and multiple-family houses. A heat balance is also undertaken each year in the national accounts, in which supply is reconciled with use broken down by different user categories.

Sources: Swedish Energy Agency and SCB Electricity supply, district heating and supply of natural and gasworks gas statistics and CPI for district heating in one- and two-family houses and multiple-family houses.

**COICOP 051, Furniture, fittings, rugs and carpets etc.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter. The purpose includes repairs of these products. Sources: turnover statistics, the SBS.

**COICOP 052, Household textiles.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is extrapolated with the aid of annual growth rates from the turnover statistics at current prices per quarter. Sources: turnover statistics, SBS.

**COICOP 053, Household appliances.** The purpose includes all small household appliances, repairs, and a certain proportion of major household appliances. The initial value for the small household appliances is from the Retail trade sales 2002 and the initial value for the repairs is from the HBS 2004. A large proportion of purchases of larger household appliances consist of investment purchases of fridges and freezers, cookers and washing machines. In Sweden the majority of these goods is already included in dwellings on construction as new and therefore constitutes part of housing investment. Purchases to replace appliances at the end of their service lives are undertaken by the dwelling owner and the cost for the replacement is included in the rent amount. As owner-occupied dwellings in the NA are valued by the help of imputed rents for a comparable rented dwelling, a replacement value for major household appliances is already included in the calculated rent amount. The household's expenditure on these goods is therefore covered by the purpose Housing and not that of Household appliances.



The HBS estimate records actual expenditures by households on replacements of major household appliances but also extra objects, e.g. an extra freezer. Therefore the HBS estimate is much higher than should be included in this COICOP group according to the NA definitions and compilation procedures. The HBS data from 1995 was evaluated from this point of view and the products recorded were given shares that were used to calculate *the consumption* of major household appliances. The detailed analysis of purchases recorded in the household budget statistics resulted in the shares shown below for different objects. The goods constituting household consumption under this purpose thus consist of appliances that did not form part of the original investment. Examples might be purchases of extras such as microwave ovens and other household appliances, which are usually not original fixtures in the dwelling. However not all dwellings have exactly the same equipment, therefore a certain proportion of such appliances, for example washing machines and chest freezers, have been included under this purpose. All smaller household appliances, such as toasters, vacuum cleaners, electric irons, coffeemakers and sewing machines, are of course included under the purpose to their full value.

	Consumption
Fridges, freezers	25%
Dishwasher	25%
Washing machine	25%
Drier, drying cabinet	25%
Stove	0%
Microwave oven	100%
Fan	100%
Radiator	100%
Cleaning machines	100%
Vacuum cleaner	100%
Vacuum cleaner, accessories (not vacuum cleaner bags)	100%

Reconciliation was performed with investment in the housing sector, in which products were broken down as to “fixtures” of the dwelling and products constituting added equipment. The initial value for the larger household appliances was updated in 2004 with the HBS and the proportions from 1995. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: Retail trade sales, household budget survey.

**COICOP 054, House wares.** The initial value for 2002 was based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: SBS, turnover statistics.

**COICOP 055, Tools and equipment for home and garden.** The initial value for 2002 is based on the survey Retail trade sale 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 0561, Non-durable household goods.** The initial value for 2004 was obtained from the household budget statistics. The value is updated with the aid of the annual growth rates in retail trade turnover at current prices per quarter.

Sources: HBS, turnover statistics, the VAT Register, SBS.

**COICOP 0562, Domestic services and household services**

The initial value for 2004 is partly based on data from the customer information in the SBS. In addition to this a value for black consumption of domestic services (N6) and a calculation for black au pairs (N6) were added. Since 2008, a house owner is entitled to a reduction of 50 percent on household services like cleaning and gardening. The Tax Agency keeps records on these transactions, and data is published on their web page every month. This information is also used for checking the NA estimates. The value is updated with the aid of the annual growth rates from the SBS.

Sources: SBS, turnover statistics, STA information on household services.

**COICOP 06111, Prescription medicines.** Until 2009 prescription medicines in Sweden were only sold through the state owned Apoteket AB. In 2009 the monopoly of Apoteket AB ended, the prescription medicine market were opened and a number of private actors were allowed to sell these products. These medicines carry substantial subsidies for the private consumer. The subsidy system is based on a graduated scale and imposes a maximum amount per person in any one year. Only the amount that is actually paid by households is included in household consumption. Data on sales to households and the subsidy constituted by the refunds from general government to the pharmacist are obtained quarterly from the Swedish e-Health Authority. The annual calculations are reconciled with data from the Swedish e-Health Authority's annual accounts.

Sources: the Swedish e-Health Authority.

**COICOP 06112, Non-prescriptive medicines.** The information comes from data on sales from the Swedish e-Health Authority, which sell a large proportion also of the Non-prescriptive medicines in Sweden. This data is combined with the Retail trade sales survey.

Sources: Retail trade sales, the Swedish e-Health Authority.

**COICOP 0612, health care preparations, medical products.** The initial value for this purpose for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: Retail trade sales, turnover statistics

**COICOP 0613, spectacles, lenses, etc.** The initial value was benchmarked in 1995 with the aid of the HBS 1995 and information from the trade organisation. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: Retail trade sales, turnover statistics

**COICOP 062, Out-patient services.** This purpose includes the charges paid by the patient himself for out-patient attendance and treatment and for dental treatment. Annual data on publicly financed and provided care is obtained from the Annual accounts for county councils, which also show revenue from patient charges. Data on charges collected by private operators are based on the customer breakdown from the SBS 2011.

Sources: Annual accounts for county councils, SBS, RFV.

**COICOP 063, Hospital services.** For publicly financed treatment provided in the public sector, data are obtained from the Annual accounts for local government on revenue received in the form of patients' contributions. The calculation of contributions for treatment not provided within the public sector is based on the customer breakdown in the SBS 2011.

Sources: Annual accounts for the local government, SBS.

**COICOP 0711, Motor cars.** Consumption by households of motor cars consists partly of purchases of new cars and partly of purchases of used cars. Estimates of household spending on new cars are based on information processed from the vehicle register supplemented by prices for make and models

of the cars bought. This provides direct information on the numbers and models of vehicles sold to private individuals. The estimates are derived by multiplying these data by trade information on list prices, together with estimates for any additional 'on the road' costs.

<b>Car model, HFCE</b>	<b>2011q1</b>	<b>2011q2</b>	<b>2011q3</b>	<b>2011q4</b>	<b>2011 Total</b>
New registrations	32 117	46 121	39 402	41 318	
Directly imported, withdrawn	2 933	5 569	4 313	3 064	
Car transfers from car dealers to households	4 116	5 910	5 049	5 295	
Average price (weighted)	232 206	234 477	228 316	229 069	
Average discount	-5,6%	-5,6%	-5,6%	-5,6%	
Average surcharge for additional equipment	9%	9%	9%	9%	
<b>Result, SEK million</b>	<b>7 995</b>	<b>11 265</b>	<b>9 476</b>	<b>10 315</b>	<b>39 051</b>
<i>Calculation example q1 2011 : Step 1 : <math>(-0.056+0.09) * 232\,206=240\,101</math></i>					
<i>Step 2 : <math>(32117-2933+4116)*240101/1000000=7995</math></i>					

Expenditures on used vehicles have two different components, depending on the type of previous owners. For vehicles previously owned by households for private use, only the dealers' margins on the vehicles are recorded in household consumption. For vehicles previously owned by businesses, the full values of the vehicles as well as any dealers' margins are included in household expenditure.

<b>Car model, used cars</b>	<b>2011q1</b>	<b>2011q2</b>	<b>2011q3</b>	<b>2011q4</b>	<b>2011 Total</b>
Used cars transferred from <i>car dealers</i> -> <i>households</i>	19 128	21 702	13 322	14 625	
Average price for used cars from <i>car dealers</i> -> <i>households</i>	161 985	169 977	180 580	192 029	
Used cars transferred from <i>households</i> -> <i>Car dealers</i> -> <i>households</i>	18 160	21 597	20 923	17 449	
Average price for used cars <i>households</i> -> <i>Car dealers</i> -> <i>households</i>	156 120	157 720	158 103	177 836	
<b>Result, SEK million</b>	<b>3 665</b>	<b>4 370</b>	<b>3 068</b>	<b>3 429</b>	<b>14 532</b>
<i>Calculation example q1 2011 : <math>3665 = 3098 + 567 = ((19128*161985)/1000000) + ((18160*156120)/1000000)</math></i>					

Car ownership and new car purchases are registered by personal identification number or enterprise identification number in the vehicle register. By comparing the vehicle register with Statistics Sweden's business register, cars owned by natural persons who are also self-employed traders can be filtered out. Cars purchased by unincorporated enterprises with an annual income of over SEK 200 000 are not included in household consumption but are entered as investment in the national accounts. For investment vehicles, which are also used privately the entrepreneur must record a benefit value for taxation, and this procedure is disadvantageous unless the car is used a lot for the purposes of the business. The above-mentioned income threshold is used, as it is unlikely that a self-employed trader below this annual income level would charge the purchase of a car to his business; it is more likely that he would record the costs of using his private car in the course of his business.

The data in the motor car register also include the make and model of the car and month of manufacture, as well as the owner. BIL Sweden compiles price data for different car models and, on the basis of this information, values are calculated at current prices for new car purchases. Price data for transfers of car ownership from legal to natural persons are calculated with the aid of a model in which data are used on the age of the cars and the corresponding value reduction in relation to new car prices. The model was devised after consultation with the motor trade. It is mainly previously leased company cars that are covered in this group.

Every quarter a value calculation for cars newly registered to natural persons, cars transferred from legal to natural persons and cars sold by one household to another household through the motor trade is carried out with the aid of SCB processing operations based on the vehicle register in combination with the enterprise register and price data. The calculation of transferred ownership implies an assumption that no cars owned by legal persons are scrapped.

The value of the motor trade's margins on the resale of used cars from household to household is calculated with the aid of quantitative data (including models and age) from the motor car register and a percentage mark-up on used car prices.

Direct imports of certain used cars. After Sweden became a member of the EU in 1995, it became advantageous to import used cars directly. The term “used” in this context refers to a car that has been driven for 6000 kilometres and is six months old. Data on the number of directly imported cars is obtained from the new registration statistics. The national accounts calculate a value for these cars by applying to them a standard reduction on the new car prices for the makes in question. The value of direct imports is deducted from purpose 0711, since it is already included in the foreign exchange item included under purpose 15.

The HBS includes sales between households and is therefore not appropriate to use for comparisons without adjustments.

Sources: vehicle register, SCB enterprise register, NA car model

**COICOP 0712, Motor cycles etc.** Apart from motor cycles, the purpose also includes motor-cross cycles, snow scooters and mopeds. The initial value is calculated for 1993, when a very detailed calculation was carried out for motorcycles covering numbers and price data per make and cylinder capacity. Other vehicle types were also calculated with the aid of data on numbers and sale prices according to records from the trade. The annual estimate is updated by the help of new registrations and price data from CPI.

Sources: vehicle register registration statistics, CPI price data

**COICOP 0713, Bicycles.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, SBS.

**COICOP 0721, Spare parts and accessories.** The HBS value for 2004 is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, SBS.

**COICOP 0722, Gasoline, diesel, lubricants.** The annual calculation is based on the energy balances in the national accounts, in which data on quantities and values are calculated and reconciled. In the balances consumption by households in cubic meters is obtained from Swedish Energy Agency and SCB Monthly fuel, gas and inventory statistics. Price data is collected from CPI. Products under this heading are ethanol, gasoline, diesel and lubricants. For lubricants, which are a very small item, a calculation is carried out with the aid of information from the trade and the turnover statistics.

Sources: Swedish Energy Agency and SCB Monthly fuel, gas and inventory statistics. Turnover statistics, CPI for gasoline, diesel, and ethanol, price index for domestic supply of lubricants. Tax rates from The Swedish Tax Agency, tax revenues from The Swedish National Financial Management Authority.

**COICOP 0723, Maintenance and repairs.** The initial value for 1995 was calculated with the aid of the Swedish Consumer Agency’s car repair survey of 1995. This survey covered about 12 000 vehicles. The car repairs are calculated with a model containing a breakdown by insurance repairs and repairs paid for directly by households. Black consumption (N6) was added. Data on the number of insurance policies and claims settled were obtained from statistics of the Financial Supervisory Authority. Extrapolation is carried out using the production of repairs from the SBS.

The HBS estimate 2004 represents only 40 percent of the NA present estimate.

Sources: Swedish Consumer Agency's car repair survey 1995, insurance company records of claims settled in motor vehicle and road accident insurance business in accordance with FM 12 SM, Financial Supervisory Authority. Turnover statistics, the VAT Register and SBS.

**COICOP 07241, Driving schools, registration fees and driving tests.** Information on numbers of driving tests is obtained from the Swedish Transport Agency. The registration fees are obtained from the Swedish Financial Management Authority. The value for driving schools is based on the number of pupils and an average cost for this training.

Sources: Swedish Transport Agency, Swedish Financial Management Authority.

**COICOP 07242, Vehicle inspection and testing.** Both quantity information and price data are obtained from a quarterly survey of the Swedish Motor Vehicle Inspection Company (AB Svensk Bilprovning). This was the only agency authorized to conduct official vehicle inspections until June 2010 when the market was opened to other private subjects. However, the market was still greatly dominated by the Swedish Motor Vehicle Inspection Company during 2011 with 95 percent of all stations in the country. The data also includes follow-up tests. The value is obtained through multiplying data on the number of inspections with data on the price per inspection.

Sources: AB Svensk Bilprovning.

**COICOP 07243, Other services in respect of personal transport equipment.**

This purpose covers charges paid by households to drive across the bridge between Malmö and Copenhagen opened on 1 July 2000. The charges are calculated with the aid of records of the Öresund Consortium on traffic volumes and charges. The benchmark is from 2004 and is continuously updated with revenues from traffic over the bridge. In 2005, the charges for the new Svinesund Bridge between Sweden and Norway were added.

Sources: Öresundskonsortiet.

**COICOP 07244, Parking not assigned to dwellings.**

The purpose consists of chargeable parking on streets and squares and in parking garages. Parking services are provided by both local government agencies and by private operators. The parking services produced by local government are fully covered in the local government finance statistics which is an annual benchmark. The SBS contains information on the private part. Out of this the share of households was benchmarked in 1995 on the basis of a special survey for the industry in question. Information about the annual rate of change in the production of parking services from the SBS is used to extrapolate this private part.

Sources: Local government finance statistics, SBS.

**COICOP 07245, Car benefit and car hire.** The purpose consists primarily of the value recorded by households for the benefit of using a company car for private purposes. The amount is partly obtained annually from the income statement information supplied by employers to the Swedish Tax Agency. However since 1997 an addition is made to the Tax Agency estimate, because of the introduction of a new method. The car benefits, included here, is a benefit in kind. The same amount is also recorded as employers' output and as a payroll expense. The purpose also includes the short-term hire of cars and moving trucks to households. The hire estimate is based on HBS95 and is updated with the aid of annual growth rates from the SBS.

Sources: Car benefits: data from income statements provided by the Swedish Tax Agency, Car hire: turnover statistics and SBS.

**COICOP 0731, Railway transports.** Household consumption data of railway services is collected from the government agency “Transport Analysis”. The agency is in charge of statistics and analysis in field of transport and communication. In statistics it’s possible to get data on transport of goods as well as passengers. Collected data consists of volume data which have to be chained to previous year to accomplish, first, constant price values and finally, by reflating with consumer price index, current price values.

Sources: Transport Analysis, consumer price index.

**COICOP 07321, Taxi transport.** The purpose consists of taxi journeys, which are paid for by private households. Business travel and mobility services are not included. The fraction of charges for mobility services paid by private individuals is assigned to the purpose Elderly-care charges (Coicop 12402). The benchmark for the consumption of taxi journeys is based on HBS 1995, but later revised with respect to illegal production; the item is subsequently calculated with the aid of the annual growth rate for the industry.

Sources: VAT statistics, turnover, and SBS.

**COICOP 07322, Long-distance bus transports.** The initial value is based on HBS 1995. Updating is carried out with the aid of total value of tickets sold according to the SBS.

Sources: the VAT Register, turnover, SBS.

**COICOP 0733, Air transport.** The purpose comprises the consumption by households of air transport journeys with Swedish airlines, excluding charter flights abroad, which are covered by purpose 0960 (Package holidays). Journeys by foreign airlines are recorded as Swedish tourist expenditure abroad. The share of households in the total supply of air transport services by Swedish companies is calculated as a percentage. The initial value for 1995 was calculated from data in the companies’ annual accounts. These were supplemented by a survey of the distribution between private and business travel from the fare tariff. The initial value is updated with the aid of the annual growth rates from The Swedish Travel Agency on number of passengers in national and international departure flights from Swedish airports.

Sources: Swedish Travel Agency.

**COICOP 0734, Sea transport.** The expenditure covers HFCE by vessels in inland and foreign trades, operated by a Swedish shipping company. For the initial value for 2004 the source is the customer information in the SBS. Estimates are updated annually using information from the SBS. Purpose 0734 does not cover all journeys by boat made by Swedish households. If a Swedish individual travels on a boat operated by a non-resident shipping company, the cost is not assigned to this purpose but is recorded as Swedish tourist expenditure abroad.

Sources: SBS.

**COICOP 0735, Public transport.** A benchmark value for the year 2004 was determined by using data on the customer distribution from the SBS. The value was also reconciled with the Swedish Local Traffic Association (SLTF) records. The SLTF is the cooperation body of regional transport executives. Updating is carried out with the aid of total value of tickets sold according to the SBS. The value of tickets sold by local government transport agencies has been added.

Sources: SBS, turnover, VAT Register, SLTF.

**COICOP 0736, Other purchased transport services, e.g. removals.** A benchmark value for the year 2004 was determined by using data on the customer distribution from the SBS. Updates are made by the annual growth rates in SBS.

Sources: SBS, turnover, the VAT Register.

**COICOP 0811, Postal services.** The purpose consists of the expenditure of households for the carriage of letters, cards and packets. A benchmark value for the year 2004 was determined by using data on the customer distribution from the SBS. The share of the production of postal services that is sold to households in the SBS is applied to the calculated total production of postal services in the National accounts. This benchmark value is then extrapolated using data from a report by Swedish Transport Analysis on Postinord mail sales. Although the monopoly of the National Swedish Post for the carriage of mail ceased in 1994, Postinord is now the dominant enterprise in the area.

Sources: Annual reports Postinord, SBS.

**COICOP 0812, Telephone and telefax equipment.** The initial value is based on HBS 1995 and statistics recorded by the trade organization. Expenditure for the purchase of equipment is projected with the aid of information on the number of mobile phones sales and the annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, industry reports from the trade organization of mobile telecommunications equipment suppliers (Mobilteleleverantörerna, MTL).

**COICOP 0813, Telecommunications services.** The purpose comprises expenditure on both fixed and variable charges for fixed and mobile telephony, fax and internet communications. The value is benchmarked 2004 and is extrapolated continuously with aid of statistics from The Swedish Post and Telecom Agency about the revenues for fixed call services, mobile call services and internet access for private users. The part regarding Telephone Answering Services is extrapolated with annual growth rates from SBS regarding the industry SNI82.2 (Activities of call centers). Black consumption, which covers private mobile calls done with the company's mobile phone are also included in the benchmarked value 2004.

Sources: The Swedish Post and Telecom Agency (PTS), annual data from the industry, SBS

**COICOP 0911, Equipment for the reception and playing of sound and pictures.** The purpose comprises purchases by households of tape and disc players, radio, TV, stereo and video devices etc. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from data on sales by product from the trade organization (Elektronikbranschen).

Sources: turnover statistics, the VAT Register, Statistics from the trade organization.

**COICOP 0912, Photographic and cinematographic equipment and optical instruments.** The goods covered by this purpose are cameras, binoculars and microscopes. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from data on sales by product from the trade organization (Elektronikbranschen).

Sources: Trade organisation, turnover statistics, the VAT Register, SBS.

**COICOP 0913, Information processing equipment.** As well as PCs with accessories, the purpose also includes pocket calculators and typewriters. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 0914, Recording media.** The purpose includes, amongst others, CDs, camera film, cassette and video tape and CD recordings. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 0915, Repair of audio-visual, photographic and information processing equipment.**

The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 09211, Caravans and trailers.** A detailed study was carried out for 1994 of newly registered caravans broken down by manufacturer, model and price data on the caravan types concerned. This level is subsequently updated per quarter with the aid of the number of new registrations, and the CPI for caravans is used for reflation to current prices. Annual calculations are carried out with the aid of commodity flow analysis containing the industrial production (PRODCOM), and the foreign trade in goods.

Sources: the vehicle register, foreign trade in goods, Prodcom.

**COICOP 09212, Boats.** The whole-year value is obtained by a NA balance calculation. It consists of production less exports plus imports, trade margins and VAT of pleasure boats. The sources for the calculations are commodity flow analysis based on the industrial production PRODCOM, turnover and international trade statistics. Production in enterprises with fewer than 10 employees, which are not included in the industrial statistics, is estimated with the aid of the VAT Register. HBS2003-2005 gave an estimate that is higher than the data calculated with the aid of the product-by-product reconciliation in the national accounts. In the HBS is however transactions between households also included.

Sources: foreign trade in goods, turnover, industrial statistics, VAT-register.

**COICOP 09213, Boat engines and other equipment for boats.** The initial value is based on HBS 2003-2005. Updating is done with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics.

**COICOP 09214, Riding horses, ponies.** The initial value for 1995 is based on a calculation of the number of foals born and average prices. The purpose includes live-born foals per year of light and heavy stock and ponies. Trotting horses and thoroughbreds for flat-racing are not included. Annual data on the number of foals are recorded by the Swedish Horse Council Foundation, the Islandic Horse Association and The Swedish Warmblood Association. Reflation to current prices is carried out through the total CPI.

Sources: Swedish Horse Council Foundation, Islandic Horse Association and The Swedish Warmblood Association.

**COICOP 09215, Other major durables for recreation.** The purpose includes such items as surfboards, diving gear and golf accessories. The initial value is based on HBS 1995. The HBS value is updated with the aid of annual growth rates per quarter from turnover statistics.

Sources: turnover statistics, SBS.

**COICOP 0922, Musical instruments and major durables for indoor recreation.** In addition to musical instruments the purpose also includes, items such as billiard and table-tennis tables, exercise bicycles and other gymnastic equipment. The initial value for 1995 is based on the survey HBS 1995. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics, the VAT Register, HBS.

**COICOP 0923, Repair and maintenance of durables for recreation.** For the repair of pleasure boats, motor caravans and musical instruments the initial value for 1995 is based on a product classification



for the repair industry drawn from an intermittent survey of household repairs. Updating is carried out using annual growth rates from the turnover statistics at current prices per quarter. For veterinary services for horses and ponies used for recreational riding the initial value for 2004 is based on SBS. Sources: turnover statistics, SBS, the VAT Register.

**COICOP 0931, Games, toys and hobbies.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter. Sources: turnover statistics, the VAT Register, SBS.

**COICOP 0932, Equipment for sport, camping and open-air recreation.** The purpose includes sport articles, such as balls, rackets, frisbees, croquet accessories, skis, golf clubs and dumbbells. Fishing and camping gear, including sleeping bags and rucksacks, are also included. Weapons and ammunition are also counted here. The initial value is based on HBS2003-2005. Quarterly updating is carried out with the aid of annual growth rates from the turnover statistics at current prices. Sources: turnover statistics, SBS.

**COICOP 0933, Gardens, plants and flowers.** The purpose includes seeds and bulbs and both natural and artificial flowers and plants. In addition all auxiliary materials and accessories, such as soil, fertilizer, pesticides and pots, are included. Christmas trees are also entered in this group. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter. Sources: turnover statistics, the VAT Register, SBS.

**COICOP 0934, Pets and related products.** Various sources have been used for the sub-items in this purpose. Part of the initial values for 1995 are based on the household budget survey as regards pet-food and accessories.

Regarding the purchase of animals, on the other hand, the HBS estimate was considered too low. Calculations were mainly carried out on the basis of the material available in a research report from the Swedish University of Agricultural Sciences of 1995, known as the Manimalis Report. Data on medicines are obtained from the records of Apoteket for veterinary medicines. A breakdown of medicinal expenditure was carried out for pets and for animals in commercial activities. It was possible to make comparisons with the HBS estimate. A quarterly update of the entire purpose is carried out with the aid of annual growth rates from the turnover statistics at current prices. Data on sales of medicines to animals from the Swedish Health Agency is used to calculate the annual growth rates used in the annual calculations.

Sources: turnover statistics, Apoteket AB, the Manimalis Report from the Swedish University of Agricultural Sciences.

**COICOP 0935, Veterinary services and other services for animals.** Apart from veterinary services for pets, other services such as clipping, horse-shoeing and boarding facilities are also included. The initial value is based on HBS 1995. Updating is carried out with the aid of the SBS. Sources: SBS, HBS 1995, Manimalis report.

**09411 COICOP, Sport and recreation.** The purpose includes the operation of sports and recreational facilities, activities for sport practiced by sports teams and sports clubs that mainly involved sports events before a paying audience, for example, riding tours, horse sports. Recreation, leisure and entertainment activities are subject to operating facilities or providing services to meet various hobbies. It includes the operation of various attractions, including amusement parks, Zoo, theme exhibits and picnic areas.

The initial value for 2004 is based on SBS. The value per quarter is updated with the help of Sport, leisure and entertainment business turnover in current prices.

Sources: Structural business statistics (SBS), turnover statistics, the VAT Register

**COICOP 09412, Charges for the hire of sport equipment and for participation in sport activities.** This purpose contains fees for rental and leasing of recreational and sports equipment for example boats, canoes, bicycles, skis. It also includes participation in sport activities. The original value in 2004 is based on information provided on consumers in SBS. Quarterly update is performed using Turnover statistics and annual growth rates

Sources: SBS, turnover statistics, the VAT Register

**COICOP 09413, Charges for hire of boats, charges for the use of locks and canals, etc.** This includes the expenditure of households for hire of boats, berths in marinas, laying-up costs for winter storage and charges for the use of locks and canals. The benchmark 2004 is set with the aid of consumer information in the SBS. Annual updating is carried out with the aid of the annual growth rates from the SBS whereas turnover statistics and the VAT Register are used in the quarterly calculations.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 09414, Municipal music school fees.** The consumption consists of fees to pupils for singing and instrument tuition and for the hire of instruments at municipal schools of music. The source for the annual calculations is the Swedish Council of musical and cultural schools.

Sources: Sveriges Musik- och Kulturskoleråd (SmoK).

**COICOP 09415, Course fees of adult education associations.** The expenses by households for study circles and lectures arise mainly from the sale of education by non-profit organizations. Benchmarking was carried out with the aid of data obtained from the Adult education council in 1997

(Folkbildningsrådet), which amongst other things compiles records for the expenditure of the various adult education associations. Extrapolation is made by the number of participants according to the Adult education council and reflat by CPI. One school, the Bibelschool, is not covered by the data of the Adult education council. In this case data is from the SBS. The customer distribution in the SBS is also used to verify the total level of expenses in this COICOP.

Sources: Folkbildningsrådet, SBS

**COICOP 09421, TV licences.** Data on TV licences are obtained via a quarterly survey from the Swedish Broadcasting Corporation. The figures cover the number of fees, the annual fee and the value at current prices.

Source: Radiotjänst.

**COICOP 09422, Cable and satellite TV.** Consumption of these services is calculated with statistics from The Swedish Post and Telecom Agency (PTS). The expenditure is updated with the aid of annual growth rates from PTS about number of subscriptions.

Sources: The Swedish Post and Telecom Agency (PTS)

**COICOP 09423, Photographic services.** The purpose includes services such as portrait photography and processing of customers' films. The initial value 2004 is based on consumer information in the SBS. Updating is carried out with the aid of annual growth rates from the SBS in the annually accounts.

Sources: turnover statistics, the VAT Register, SBS.

**COICOP 09424, Hire of equipment etc.** The purpose includes hire of equipment and accessories such as TV and video sets and video films, music streaming and downloading of music. Hire of musicians and other entertainers for private activities are also recorded here. The initial value for this consumption is based on consumer information from the SBS 2004. Updating is carried out with the aid of annual growth rates from the turnover statistics at current prices per quarter and data on sales of downloaded and streamed music from the International Federation of the Phonographic Industry (IFPI).

Sources: SBS, IFPI, turnover statistics, the VAT Register.

**COICOP 09425, Cinema.** The purpose comprises expenditures on cinema visits and also expenditures for downloading and streaming movies. Information on the expenditure of households for cinema visits is obtained from the records of the Swedish Film Institute. Data on the number of tickets sold are continuously recorded. The annual records also contain information on total ticket revenue. For the expenditures on downloading and streaming an initial value for 2008 is based on statistics from International Federation of the Phonographic Industry (IFPI). The value is updated with the aid of annual growth rates from IFPI regarding streaming and downloading music with the assumption the downloading and streaming movies follows the same trend as downloading and streaming music.

Sources: Swedish Film Institute, International Federation of the Phonographic Industry (IFPI)

**COICOP 09426, Entrance fees at museums, library fees.** The purpose includes entrance fees of different types of museums, art museums, scientific and technical museums, among others. A rough reconciliation has been carried out with the records contained in the statistics on publicly operated institutions in the field. Libraries do not charge any fees for the loan of books; the fees recorded cover late returns where applicable. The initial value is based on consumer information by SBS. The value is updated with the aid of the annual growth rates from the SBS and the annual accounts for municipalities and county councils.

Sources: SBS and annual accounts for municipalities and county councils.

**COICOP 09427, Entrance charges at theatres, concerts, etc.** The purpose includes entrance fees of theatrical performances, concerts, opera and dance performances and other scene representations and additionally charges for theatres and other cultural establishments. Skansen, the open air museum in Stockholm is also included in this group.

A rough reconciliation has been performed using entries contained in the statistics on public-run institutions in the field. The initial value is based on consumer information in SBS and the quarterly update is carried out using turnover statistics.

Sources: Structural business statistics (SBS).

**COICOP 0943, Gambling and betting activities** Household consumption of gambling and betting activities consist of tote betting, lottery, casino games, bingo and bingo lottery games. The data are collected quarterly from the organizers, i.e. the Swedish Game, ATG, Bingolotto and Post Code lottery. Annual information is obtained from SBS. HFCE is equal to the operators' proceeds minus winnings repaid.

**COICOP 0951, Books.** The purpose Books also includes course books paid for by students themselves. The initial value is based on retail trade sales 2002. The initial value is updated with the aid of annual growth rates from the turnover statistics.

Sources: Retail Trade sales, turnover statistics.

**COICOP 0952, Newspapers and magazines.** The initial value is from 1995. For the benchmark quantitative data from AB Tidningsstatistik was used. The data covers both the daily newspapers and the popular press broken down by single-copy sales and subscription sales. The quantitative data were multiplied by average prices for single copies and subscriptions for the dailies and the popular press in order to obtain the relevant consumption value. Extrapolation is carried out through calculations of the annual growth rate with the aid of data from Tidningsstatistik AB. The value in constant prices is reflatd with CPI.

Sources: AB Tidningsstatistik, quarterly surveys of newspaper distributors and publishers.

**COICOP 0953, Other printed matter.** The purpose includes posters, greetings cards and picture postcards, guide books and maps etc. The initial value for 2004 is based on the HBS 2004. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: Household budget survey, turnover statistics

**COICOP 0954, Stationery.** The purpose includes all types of stationery, exercise books, pens and drawing requisites, other accessories such as glues, clips, erasers, chalks, transparencies, pencil cases etc. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: turnover statistics.

**COICOP 0960, Package holidays.** The purpose comprises expenses of households for package tours, i.e. expenses for travel, hotels and other arrangements, which are included in the price of the trip. The costs to the individual traveller arising at foreign resorts are not covered here but are included in foreign exchange for travel under the heading Consumption of households abroad (Coicop 15). The main sources are data collected in the SBS for the initial value of 2004 which is updated with the aid of annual growth rates from data on sales in Sweden from the Association of Swedish Travel Agents and Tour Operators. It is in principle the amount the traveller pay in Sweden for the journey that is included here. Sources: SBS, Association of Swedish Travel Agents and Tour Operators.

**COICOP 10, Education.** In Sweden education in schools as such is financed by taxation and does not therefore give rise to any personal fees or charges. On the other hand separate fees may be charged for items such as entrance examinations, and the expenditure of households for the university aptitude test is covered under this purpose. The number of participants and the rate of the fee are obtained from the National Agency for Higher Education. Also covered here are from year 2003 the charges paid by households for preschool activities. Family day nurseries are recorded in COICOP 12401. Estimates are compiled with data from the Swedish National Agency for Education. Information on charges paid is obtained in the same way as for child-care, see COICOP 12401.

Sources: National Agency for Higher Education, Swedish National Agency for Education, Annual report of local government accounts, the child-care survey, City of Stockholm.

**COICOP 10141, University aptitude test.** The expenditure of households for the university aptitude test is covered under this purpose. The number of participants and the rate of the fee are obtained annually from the National Agency for Higher Education.

Sources: National Agency for Higher Education

**COICOP 111, Restaurants, cafés, fast food outlets.** The purpose includes all restaurant services, even if the restaurant is located within another activity, for example in a museum, at a swimming pool or on a train. "Take-away" sales of food and beverages from food premises and street stalls are also included. Information on the production of all restaurant services from the SBS in addition to the black production corrections are used together with the assumption of the share of the total production sold to private costumers and information on the implicit VAT in order to estimate the HFCE figures.

Sources: turnover statistics, SBS, the VAT Register.

**COICOP 112, Hotel services and other overnight accommodation.** As for restaurant services, the consumption of overnight accommodation is underestimated in the HBS. The benchmark from 2004 was therefore set using a combination of different sources plus a supplement for the consumption of non-resident visitors in Sweden. That value was extrapolated in the following years with the SBS annual growth rates. Nowadays, the SBS production levels are used directly together with information on the sales to private customer's shares and data on the VAT rates. Quarterly updates are collected from the turnover statistics, supplemented by Statistics Sweden's continuous accommodation statistics and camping statistics from the industry.

Sources: turnover statistics, SBS, the VAT Register, SCB accommodation statistics.

**COICOP 1211, Hair and beauty care.** In addition to hairdressing services, the purpose also includes expenditure for solarium facilities and skin care. The initial value for 2004 is based on consumer information in the SBS. The purpose is subsequently updated with annual growth rates.

Sources: SBS, turnover statistics, the VAT Register.

**COICOP 1212, Electrical appliances for personal use.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: SBS, turnover statistics, the VAT Register.

**COICOP 1213, Goods for personal use.** The purpose includes goods for personal hygiene and beauty care. Examples of articles included are soap, shampoo, lotions, sanitary towels, toilet paper, cotton-wool, make-up, perfumes, shaving requisites, brushes, combs, hairpins, scales, scissors etc.

The initial value for 2004 is based on the HBS. The value is updated with the aid of the annual growth rates in retail trade turnover at current prices per quarter.

Sources: SBS, turnover statistics, the VAT Register

**COICOP 1220, Prostitution.** Estimates for prostitution are compiled by the help of a special model. It is by large built on the number of prostitutes according to special intermittent surveys and the amount of money needed to buy drugs during a year. A large number of prostitutes are drug addicts. The benchmark is from 2004 and intermittent updates may be possible when special investigations are made by the National Board of Health and Welfare. A study published in 2015 indicates that no major changes can be traced. Sources: Intermittent surveys published as Statens Officiella utredningar and material on the subject from The National Board of Health and Welfare, Research report from Malmö highschool.

**COICOP 1231, Jewellery and watches including repairs.** The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter.

Sources: SBS, turnover statistics, the VAT Register

**COICOP 1232, Other personal effects.** This purpose includes miscellaneous goods such as handbags and wallets of all kinds, smokers' requisites such as pipes, lighters and the like, baby accessories such as prams and car-seats, umbrellas, walking-sticks, sunglasses etc. The initial value for 2002 is based on the survey Retail trade sales 2002. The value is updated with the aid of annual growth rates from the turnover statistics at current prices per quarter. The HBS estimate and the Retail trade estimate was the same.

Sources: SBS, turnover statistics, the VAT Register.

**COICOP 12401, Child-care fees for child welfare.** The consumption consists of fees paid by parents for child welfare including family day nurseries. The main source for the annual calculations is Annual accounts for the municipalities. For child-care provided in facilities other than those of the municipality, the following calculation model is used. Expenditure on the number of children placed in different forms of care is taken from the annual child-care surveys. The average cost per year and per child is calculated with the aid of charges collected by the local authority child-care services and the number of children in local authority care. With the aid of the average cost per child, the total amount of charges for other child-care is calculated.

Sources: Annual accounts for municipalities, The Swedish National Agency for Education annual child-care survey.

**COICOP 12402, Elder-care including mobility service.** The main part of the consumption consists of charges paid by elderly and disabled care recipients to the local authorities for different forms of care and for mobility service. The different forms of care consist of services in the person's own home, special accommodation in serviced houses and apartments and residence in group facilities. The sources for the annual calculations are the Annual accounts for local government, in which the charges paid by care recipients are recorded. A smaller part is charges collected by private entrepreneurs in this case the value is based on consumer information in the SBS.

Sources: Annual accounts for local government as well as SBS.

**COICOP 12403, Compensation for a personal assistant under the Act concerning support and Service for persons with certain disabilities.** This covers compensation to disabled persons who receive care to pay for the services of personal assistants. Decisions on the right to a personal assistant must have been taken within the municipal social services. The law that gives the right to personal assistant came into force in 1993 and is part of a larger reorganization of services, for which registration in national accounts first began in 1994. This service had previously been provided entirely in closed facilities. Care recipient has the option to choose for himself who he or she wishes to employ as a personal assistant. Assistants represent several different employer groups such as government, cooperatives, social work activities and other service organizations.

Data on compensation per hour and the number of hours worked is provided every month from the Swedish financial management authority and the National Social Insurance Board. The material is based on reimbursement of the aid authorised and paid. Source: Swedish financial management authority (ESV), National Social Insurance Board (RFV)

**COICOP 12404, Charges for individual welfare services.** The charges covered here relate, inter alia, to family guidance services. Data on the charges paid under this heading are obtained from the local government annual accounts. Sources: local government annual accounts.

**COICOP 125, Insurance services.** Insurance services are calculated annually in conjunction with the output calculations for insurance companies and consist of insurance services for life insurance and non-life insurance. Data are obtained from the Financial Supervisory Authority and are processed for the national accounts in such a way that definitions in line with the SNA are obtained. The consumption by households of life insurance services consists broadly speaking of the management costs incurred by the companies for the activity. The consumption by households of non-life insurance services is defined as premiums paid plus direct returns on actuarial reserves allocated to policyholders, less claims settled. The source of information used for the calculation of the output of other non-life insurance services does not contain information on the allocation of the output.

*Insurance*

<i>class</i>	<i>Final consumption %</i>	
1	Health and accident insurance	100
2	Employers no-fault insurance	100
3	Householder's and homeowner's insurance	40
4	Business and homeowner's insurance	0
5	Motor vehicle insurance	70
6	Motor third party insurance	70
7	Marine insurance	20
8	Aviation insurance	0
9	Transport insurance	0
10	Credit insurance	0
11	Discharge insurance	100
12	Animal insurance	5

Insurance classes 2 and 11 are set to 100 percent final consumption and insurance class 4 is 100 percent intermediate consumption. Insurance class 1, contractual insurance is deducted from non-life insurance and is a part of COICOP 1262. Health and accident insurance paid by employers outside of contractual agreements are not included. Insurance classes 8, 9 and 10 are set to 100 percent intermediate consumption where the proportion of final consumption is believed to be nothing or negligible. Insurance classes 3, 7 and 12 use benchmark information from 1993. Insurance classes 5 and 6 were benchmarked in 2005 using information from the Swedish Insurance Federation (Trade association) and the Swedish Financial Supervisory Authority.

Source: the Swedish Financial Supervisory Authority.

**COICOP 1261, FISIM.** HFCE of FISIM comprises FISIM on loans and deposits for consumption and FISIM on loans for tenant-ownership rights in multiple-occupancy buildings and is calculated annually. Stocks of loans and deposits for consumption are obtained by subtracting the households total with stocks of loans and deposits for intermediate consumption (households as owners of dwellings and unincorporated enterprises) and tenant owned flats. The source of information for the stock of loans for tenant owned flats is the Riksbank's Financial Market Statistics on housing credit institution's lending by collateral. The calculation of FISIM is described in section 3.17.

Sources: the Swedish Financial Supervisory Authority and the Riksbank.

**COICOP 1262, Financial services.** HFCE of financial services consist partly of directly measurable services in the form of commissions, brokerage fees and charges paid for various financial services and partly of indirect charges on household fund savings. Commission income is recorded by banks, credit institutes and mutual funds. It is also recorded in NACE 66, for example, by the Swedish Securities Register Centre, the Stock Exchange and foreign exchange offices.

Sources: statistics on financial sector results.

**COICOP 12701, Funeral services.** The level was benchmarked in 2004 with the aid of the SBS 2004. Reconciliation is carried out with the VAT Register. Updating is carried out at constant prices per quarter on the basis of information on the number persons deceased. Reflation to current prices is carried out with the CPI for funeral services.

Sources: Statistics Sweden, population statistics, data on the number of deceased, average funeral cost according to information from the trade, the VAT Register, SBS.

**COICOP 12702, Miscellaneous charges, including fees for passports and fishing permits and fees payable to the enforcement service.** The initial benchmark is from 1995. Annual data obtained from Financial Management Authority records on fees received are used for extrapolation.

Sources: ESV records

**COICOP 12703, Miscellaneous other charges.** Other services consist of expenditure for legal, fiscal and technical services. The purpose includes miscellaneous small charges such as for copying, consultation of astrologers and the like, newspaper advertisements and agents' fees in connection with the sale of tenant-ownership rights. The initial value for 2004 is based on SBS with a supplement for agents' fees collected in conjunction with the housing calculations. Updating is carried out at current prices with the aid of the SBS and data on real estate sales from the Real State Prices and Registrations of Title and information from the Stockholm Housing Service.

Sources: SBS and statistics on Real estate Prices and Registrations of Title.

**COICOP 15, Consumption expenditure by Swedes abroad.** Consumption of households abroad covers the costs of Swedish households for temporary stays abroad. The item comprises the data collected in accordance with IMF recommendations and classified as item Travel in the Swedish balance of payments statistics. The item also includes the internet purchases on foreign websites by Swedish households. The sources are information in the quarterly survey of external trade of services and information from credit card companies, whose reporting contains data on use of cards abroad by Swedes and use of cards in Sweden by foreigners.

The total Swedish travellers' data are reduced by the share constituted by Swedish business travellers' subsistence expenses. The share has been calculated on the basis of the intermittent travellers' foreign exchange surveys conducted by the Swedish Central Bank. The purpose is, amongst other things, to measure the distribution of total travel between business journeys and leisure travel which enables the calculations of the Intermediate consumption and the HFCE.

Source: Foreign trade in Services Survey.

**COICOP 16, Consumption expenditure of foreign visitors in Sweden.** Consumption in Sweden by non-residents covers the subsistence expenses of foreign visitors and the expenses of foreign embassies in Sweden. Here too the source is provided by information from the travel item in the Foreign trade in services survey.

Source: Foreign trade in Services Survey.

There is no exact commodity breakdown for either Swedish expenditure abroad or for the expenditures of visitors in Sweden. The product balancing is solved through the fact that these two different purposes have their own product groups. COICOP 15 is product X9901 and COICOP 16 is product X9902. Through this solution a product balancing without commodity breakdown can be done. However in the tourism satellite accounts an overall breakdown is made in accordance with some information from surveys on incoming visitors to Sweden.

***Recommendations of the GNI Committee on the Treatment of Car Scrap Schemes (GNIC/232)*** The Swedish car scrap scheme has been replaced by a higher responsibility/ undertaking for the car scrap at the manufacturers and importers. The scheme expired in 2007. The car scrap scheme was conditional in Sweden and it was recorded as a tax on products in the Swedish national accounts (D.21) and not as subsidies on products (D.31), as stated in GNIC/232, rec. 3. According to the Commission's decision on reservation IV for car scrap schemes, this was properly addressed by Sweden.

The allocation of "other non-life insurance" output to use is described in detail above in the section for COICOP 12, as well in chapter 3.17.



***Recommendation of the GNI Committee on Software Measurement, CPNB/313 and GNIC/015 – Rev. 1 on the estimation for expenditure on software***

The estimation for expenditure on software is made separately from the output estimates. The household expenditure is calculated with the aid of the annual growth rates from the turnover statistics whereas the SBS is used for the estimation of the output figures. However, a final reconciliation between the production and the use of the software is carried out in order to ensure consistency.

## **5.8 NPISH final consumption expenditures**

### ***Introduction***

The non-profit institutions serving households (NPISH) consist of organizations in the household sector which is operated without a profit objective. Organizations such as trade unions, churches, political parties, sport associations and welfare organizations belong to this sector.

Like non-market government units, the output of NPISH is valued at the total costs of production. From the output estimate, final consumption expenditure is compiled by adding and subtracting items in accordance with ESA 3.117 and the scheme below

+ Intermediate consumption
+ Wages and salaries
+ Employers' social contributions
+ Consumption of fixed capital
+ Other taxes on production
'- Other subsidies on production
= OUTPUT
+ Expenditure on products supplied to households via market producers
'- Payments for sold goods and services
'- Own-account capital formation
= FINAL CONSUMPTION EXPENDITURE

VALUE ADDED is calculated as output minus intermediate consumption

Consumption in NPISHs is presented as an item included in household final consumption expenditure, but is recorded separately as a lump sum and not allocated to goods and services by COICOP.

### ***Sources and methods***

The compilations are based on several sources. One main source of information for the calculations is the wages and salaries data which all employers must submit to the tax authorities for every person employed. It is the LSUM, Gross pay based on income statements. The data are comprehensive and comprise wages and salaries paid and pay-related benefits. Source data is distributed on activities according to NACE. This source is more described in chapter 10.

Social contributions are either compulsory or regulated by agreement between the parties on the labour market, i.e. employers and employees organizations respectively. In 2011 the compulsory social contributions to retirement pension was set to 9.13 percent of the total wages and salaries. These charges are legally binding. The other part is social contributions regulated by agreement. They constitute security benefits of the same type as those provided under the Social Insurance system. They are recorded as other taxes on production and calculated as percentages of the total wages and salaries. In 2011 they were set to 22.29 percent of wages and salaries.

Another main source is the survey on Non-profit institutions serving households. This source gives detailed information on income (payments for sold goods/services) and expenditure (intermediate

consumption) distributed by 42 different NACE activities. The transactions recorded on some of these activities are however very small, therefore they are grouped into nine aggregated NACE-activities. Figures on wages and salaries and number of employees are also collected but as this is a sample survey the registers from the STA are used instead as they are comprehensive.

The third main source contains data for the Church of Sweden. The survey is divided into three different parts covering different activities within the Church. The activities of the parishes are covered in one of them and the activities of the dioceses in the second one. The third recording contains a special collection of data covering the ownership and management of land, forests and buildings belonging to the Church. The survey contains comprehensive and detailed information on income, expenditures, investments and balances for the needs of NA-compilations.

From the comprehensive survey on the Church of Sweden information on sales is collected. The NPISH survey also has some information on sales, e.g. from rents and café activities but other sources are also used from which total estimates can be recorded. These concern primarily activities in the game market, e.g. lotto, V65, Bingo, etc, reported from Lotterinspektionen, Swedish Gambling Authority. For sports activities information on entrance fees etc is gathered from the umbrella organization Sveriges riksidrottsförbund, Swedish Sports Confederation and from an organization in horse racing, The Swedish Horse Racing Totalisator Board.

In the national accounts, NPISH are divided on the following kind of activities. The Church of Sweden is to be found within S94.

<b>NACE 2007</b>	<b>L68B</b>	<b>M72</b>	<b>P85</b>	<b>Q86</b>	<b>Q87</b>	<b>Q88</b>	<b>R90_92</b>	<b>R93</b>	<b>S94</b>	<b>Total</b>
<b>NPISH 2011, SEK million</b>										
Intermediate consumption	1 015	106	1 970	39	310	527	442	3 895	12 335	20 639
Wages and salaries	277	155	4 724	156	1 087	1 841	723	4 454	17 282	30 699
Employers social contributions	34	34	719	23	139	184	99	506	3 846	5 584
Other taxes on production	70	39	1 189	40	273	463	182	1 122	4 352	7 730
Other subsidies on production	-31	-2	-342	-5	-6	-134	-169	-1 072	-1 211	-2 972
Consumption of fixed capital	170	14	218	12	63	45	76	260	1 922	2 780
<b>Output</b>	<b>1 535</b>	<b>346</b>	<b>8 478</b>	<b>265</b>	<b>1 866</b>	<b>2 926</b>	<b>1 353</b>	<b>9 165</b>	<b>38 526</b>	<b>64 460</b>
Sales	..	..	-1 677	..	..	-2 814	-195	-4 334	-2 262	-11 282
Production for own final use	-1	-6	-16	..	..	-5	-16	-9	-298	-351
<b>Final consumption expenditures</b>	<b>1 534</b>	<b>340</b>	<b>6 785</b>	<b>265</b>	<b>1 866</b>	<b>107</b>	<b>1 142</b>	<b>4 822</b>	<b>35 966</b>	<b>52 827</b>

**NPISH broken down on industry****NACE**

L68	Real estate activities
M72	Professional, scientific and technical activities
P85	Education
Q86	Human health activities
Q87	Residential care activities
Q88	Social work activities without accommodation
R90_92	Arts, cultural and gambling activities
R93	Sports, amusement and recreation activities
S94	Other service activities

Minor shares of the small organizations which are not coded to any of the activities mentioned above are included in Other services. All Swedish companies and organizations in all sectors are noted in the business register, FDB. In the NPISH survey (not a census) all organizations listed as NPISH represent the population. About 2100 organizations of the total NPISH population of about 173 000 take part in the NPISH survey.

Consumption of fixed capital is added to each kind of activity. The value of capital consumption depends of the stock of capital and the mix of capital items. CFC compilations are based on the perpetual inventory method using data on acquisitions and disposals of gross fixed capital formation covering a long period also in the past and information or assumptions about the rate at which the value of assets decline over time.

Methods of CFC are elaborated in chapter 4.12.

The subsidies are collected from the government accounts and deducted from the output value. There are both domestic and EU subsidies.

Own-account capital formation refers to development of in-house software and R&D and also to purchases of these products. Like for other sectors of the economy, estimates are based on a model compilation in accordance with the recommendations of the Task Force on R&D, DMES 2012/11/08. Estimates are recoded as conceptual adjustments resulting in data on computer software and R&D.

There are no data on own-account capital formation except computer software and R&D, nor is there any data on social transfers in kind.

FISIM is compiled in connection with the compilations for the rest of the economy. Source data is supplied by the Financial Supervisory Authority.

***Process tables***

In the process tables, below, all intermediate consumption is derived from surveys while wages and social contributions, other taxes/subsidies are derived from administrative records. Consumption of fixed capital is derived from The PIM model. There are also some major conceptual adjustments. The calculation involves adding up and subtracting cost items according to the calculation scheme above. At a first stage output is compiled and then among other things the transaction P131, non-market sales is withdrawn. The amount of P 131 is put under the heading Conceptual adjustments along with other minor items and FISIM.

NPISH SEK million			2011
Basis for NA Figures	Surveys & Censuses		20639
	Administrative Records		39942
	Combined Data		
	Extrapolation and Models	Benchmark extrapolations	
		Commodity Flow Model	
		CFC(PIM)	2780
		Dwellings - stratification method	
		FISIM	
		Other E&M	
		Total Extrap+Models	2780
	Other		
	Total (sources)		63361
Adjustments	Data validation		
	Conceptual	Allocation of FISIM	-748
		Other conceptual	-9786
		Total conceptual	-10534
	Exhaustiveness	N1	
		N2	
		N3	
		N4	
		N5	
		N6	
		N7	
		Total exhaustiveness	
	Balancing		
	Total (adjustments)		52827

## 5.9 Government final consumption expenditure

Table 5.9.1 Process table of final consumption expenditure of Government, SEK million 2011

			Final consumption expenditure
Basis for NA Figures	Surveys & Censuses		569 098
	Administrative Records		198 637
	Combined Data		0
	Extrapolation and Models	Benchmark extrapolations	
		Commodity Flow Model	
		CFC(PIM)	112 378
		Dwellings - stratification method	
		FISIM	
		Other E&M	46 927
		Total Extrapolation+Models	159 305
	Other		
	Total (sources)		927 040
Adjustments	Data validation		0
	Conceptual	Allocation of FISIM	2 099
		Other conceptual	-8 321
		Total conceptual	-6 222
	Exhaustiveness	N1	
		N2	
		N3	
		N4	
		N5	
		N6	
		N7	
		Total exhaustiveness	
	Balancing		
	Total (adjustments)		
Final estimate			920 818

Information is gathered from the annual accounts of local government and the administrative records of central government. Models refer to consumption of fixed capital (section 4.12), value-added tax (section 3.21.1.1) and own-produced software (section 3.4). Conceptual adjustments refer to bought software (section 3.4), R&D (section 3.4) and other adjustments on intermediate consumption, see 3.21.2.1.

### 5.9.0 General government – introduction

#### 5.9.0.1 Scope and size

In the national accounts general government consists of three subsectors – central government, local government and the social security funds. The breakdown in terms of the relative scale of general government consumption expenditure including VAT in 2011 was as follows:

	Value	Share %
Central government	245 363	26.6
Social security sector	2 675	0.3
Local government	672 780	73.1
- Primary municipalities	440 643	47.9
- County councils	232 137	25.2
<b>General government</b>	<b>920 818</b>	<b>100.0</b>

General government is one of the so-called institutional sectors. These sectors consist of institutional units (ESA 2010, 2.12). All institutional units are producers and produce goods and services. There are three main types of producers. The first type is market producers (ESA 2010, 3.24), which are characterized by the fact that they produce goods and services that are sold on a market at economically significant prices, so-called market products. The second type of units produces mainly so-called other non-market products for collective and individual consumption. The major part of their output is provided for free or at not economically significant prices (ESA 2010, 3.26). The third type of producers consists of producers for own final use, whose output is used within the same institutional unit (ESA 2010, 3.25).

The general government sector includes all institutional units, which are other non-market producers, or producers for own final use that are mainly financed and/or controlled by general government. There are units within general government, which are organized as limited companies but are nevertheless classified as other non-market producers because they are mainly controlled and/or financed by general government. Similarly there may be units which are similar to companies but do not have the legal status of a company. These so-called quasi-corporations are also classified as market producers. They are characterized both by the fact that they keep a full set of accounts and by the fact that they are managed as though they were companies. Thus, with certain exceptions, publicly owned corporations and quasi-corporations do not form part of general government.

An institutional unit may consist of several kind-of-activity units (KAU) (ESA 2010, 2.148-2.151). In general government there are KAUs, which are classified as market producers or producers for own final use. Government Final Consumption Expenditures, GFCE, only arises in units, which are other non-market producers.

#### *5.9.0.2 Definitions*

GFCE is calculated as the output value, i.e. the total costs of production less payments for non-market output, e.g. fees for health care, less own account capital formation, e.g. in-house R&D production, less market output by non-market producers (ESA 3.98). Market output by non-market producers refers to production by non-market producers which is sold at significant prices. Included in GFCE are also social transfers in kind, i.e. purchases by general government of goods and services produced by market producers and supplied to households, without any further handling in general government (ESA 3.98). The output value of public services is defined in chapter 3.21.

#### *5.9.0.3 Classification by purpose*

General government consumption expenditure is classified according to purpose. The classification by purpose follows Consumption of Functions of Government (COFOG). Public services may either concern society as a whole, i.e. they may constitute collective consumption expenditures, or consist of individually oriented services, i.e. individual consumption expenditures. As the COFOG purposes are divided into individual and collective expenditures respectively, classification in accordance with COFOG amongst other things offers the possibility of distinguishing between individual and collective services provided by general government. In the national accounts expenditures for individual consumption is treated as transfers in kind. By deducting them from total final consumption expenditures in general government, it is possible to obtain actual consumption of general government. By adding the individual part of GFCE to the final consumption expenditure of households, it is possible to obtain the actual consumption of households. Classification by purpose is undertaken for each component individually. Intermediate consumption, sales and transfers in kind are further divided into income and expenditure types. Production classified in accordance with COFOG is recoded to NACE industries for the industry-by-industry presentation of the production accounts.

### 5.9.1 Reference framework

#### 5.9.1.1 *The register of general government units*

Government sector delimitation analysis (and resulting reclassification, if any) is established and performed on a regular basis according to the criteria stated in ESA 2010 and MGDD 2014 edition in the national accounts. An investigation of government owned corporations is ongoing. The review does not refer to all of these, because there are about 2 500 corporations. But, all large corporations i.e. when referring to total liabilities, number of employees and corporations have been checked. Also corporations discussed bilateral together with Eurostat during a number of years have been thoroughly analysed. Furthermore, major holding companies and head offices/parent companies have been analysed.

The result of the investigation and the outcome from working with sector delineation for general government and within the framework of both the Excessive Deficit Procedure (EDP) and the implementation of ESA 2010 is that 25 corporations have been reclassified into general government. 18 have been placed into local government and 7 into central government. Most of the corporations are very small with either zero or only a few employees. The four hospitals, now included in County councils, is an exception with between 400-4000 employees each.

All four hospitals together with two corporations classified into central government have been recalculated for the entire time series back to 1993. The other 21 units are, because of their limited size, added from 2012.

The work with investigating public corporations continues on a regular basis, each year in connection with the annual questionnaire about publicly owned and controlled units. New units are checked as soon as they appear. Government sector delimitation analysis (and resulting reclassification, if any) has been established as a regular activity in the national accounts.

#### 5.9.1.2 *The central government sector*

##### *Definitions and scope*

Central government includes all administrative departments of central government and other central authorities and institutions whose powers range over the entire economic territory, apart from the administration of the social security sector. This demarcation coincides to a large extent with the legal entity of the State. Also included are non-profit institutions, which are controlled and largely financed by central government. The legal form of these institutions is that of representational associations, other foundations or funds, social security funds and public corporations and establishments along with a few public limited companies.

The Swedish Central Bank (Riksbanken) is assigned to the corporate sector. Certain units, for example the royal theatres and Chalmers Technical University, which are operated as public limited companies, form part of the central government sector because they cannot be viewed as market producers. This is because they are controlled by the central government and their incomes from sales do not cover more than 50 percent of their production costs. The current list of institutions forming part of central government is continuously updated and is available from both the Swedish Financial Management Authority and Statistics Sweden).

##### *Sources*

The calculations are based on the recording by the Swedish National Financial Management Authority (ESV) of the expenditures of departments and agencies of central government by type of expenditure,

the so-called basis of central government net lending. The basis for these records is derived from the central government accounting system and therefore covers all expenditures of these bodies, also those financed from sources outside the State budget. All expenditures are thus recorded as consumption, investment or a transfer and are specified by type of expenditure and purpose.

The ESV statistics on central government are based on the government accounts, the accounting system to which the departments and agencies of central government report expenditures and income. With effect from 1999 the real economic codes are integrated with the codes for end-of-year financial statements. They are referred to by the common designation “S-codes”, or State reporting codes. Data for central government authorities is collected either on a monthly or on a quarterly basis depending on the type of transaction.

The code designations for the real economic income/expenditure types in the ESV basic data are five-character expressions. The codes start with an S which is followed by four digits. For certain bodies for which special information needs arise there is a further two-digit breakdown. The S codes are grouped in the following code classes:

- \* S1 Assets
- \* S2 Capital and liabilities
- \* S3 Income of the activity
- \* S4 Costs of the activity (staff costs)
- \* S5 Costs of the activity (expenses for premises and other operating costs)
- \* S6 Disposal, writing off and depreciation of fixed assets
- \* S7 Collection of revenue and transfers
- \* S8 Results from shares in subsidiaries and participations and capital changes

These code classes consist of a large number of detailed codes in which various staff costs, various types of other activity costs and income for services and goods etc. are specified. ESV and Statistics Sweden co-operate and meet several times a year and the result is that each variable is classified according to the national account's needs and the relevant COFOG-codes in the dataset that ESV delivers. Different parts within the material are handled in different ways but each variable in the dataset at ESV corresponds to one (or more) defined variable(s) in NA. It depends on the level of detail on which the calculations are performed. For example, in the ESV data, compensation of employees is broken down into subcategories, in this case wages and salaries as well as employer's social contributions. These subcategories can easily be used to construct relevant NA aggregates, such as compensations of employees (D.1) in the above example.

Records for non-profit institutions and other institutional units, which are classified as central government bodies but not covered by the State budget are collected by ESV in separate sequence and are included and distributed in real economic terms in the ESV's material.

### *5.9.1.3 The local government sector*

#### *Definitions and scope*

In 2011 the local authorities comprised 290 civic primary municipalities (primärkommuner, pk), 16 county councils and 4 regions and 4 private hospitals classified within the county councils (landsting, lt) and 186 municipal associations (kommunalförbund, kfb).<sup>14</sup> The calculations of the local government sector also include the Swedish Association of Local Authorities and Regions (Sveriges kommuner och landsting), SKL) and non-profit institutions (ideella organisationer, IO) belonging to

<sup>14</sup> The Church of Sweden, previously included in the local government sector, became an independent non-profit organization on 1 January 2000.



the local government sector. The shares of the various units in local government consumption expenditure excluding VAT for 2011 are shown below:

<b>Value, SEK m/ Share as %</b>	<b>Primary municipalities</b>	<b>County councils</b>	<b>Municipal associations, Swedish Association of Local Authorities and Regions, non-profit institutions</b>
672 780	426 759	232 137	13 884
100	63	35	2

The primary municipalities in Sweden are responsible by law for:

Social services including elderly-care, child-care and social assistance issues

The system of public education for children and young people

Planning and construction issues

Protection of health and the environment

Sanitation and waste disposal

Emergency services

Water and sewerage

The municipality of Gotland (Sweden's largest island) is in addition responsible for health and medical care. The local authorities may also conduct activities on a voluntary basis in the fields of leisure and culture, supplementary basic education for adults (KOMVUX), housing, energy and trade and industry. Output of waste disposal, water and sewerage, housing and energy is performed by units classified as market producers. Hence they are not included in the calculations for the consumption expenditures of primary municipalities.

In Sweden the 16 county councils and 4 regions plus the municipality of Gotland engage in "county council activity". About 92 per cent of county council activity consists of health and medical care. Other tasks consist of education and cultural activities and, together with the municipalities, responsibility for the counties' public transport and tourism promotion activities. In the field of education, the responsibilities of the county councils have progressively diminished. The municipal association, Swedish Association of Local Authorities and Regions and non-profit institutions belong to the local government sector.

### *Sources*

The main source for the calculation of the consumption expenditure of the *primary municipalities* is provided by the annual accounts which are compiled annually by Statistics Sweden. The data are collected using an electronic form. As well as the questionnaire itself, the electronic form also contains pre-printed data, scrutiny checks and key figures, which are calculated automatically. There is also feedback reporting to the municipalities in order to safeguard the quality of the data collected. The form contains around 2400 variables.

The source for the calculation of the consumption expenditure of the *municipal associations* is the annual accounts supplied annually to Statistics Sweden. The data are collected using an electronic form and contains about 50 variables.

The main source for the calculation of the consumption expenditure of the *county councils* is the annual accounts of the county councils, which include the closing financial statements. The main source for the 4 private hospitals is the Structural business statistics and the annual

report for each private hospital. The data from the various county councils/regions are collected and compiled at Statistics Sweden.

The statistics for the primary municipalities, municipal associations and county councils are comprehensive, i.e. all units are included. The provisional annual accounts are published annually in June and the definite results are published in September. They refer to annual expenditures and incomes for the preceding year. In the annual accounts for the primary municipalities, municipal associations and county councils a breakdown is shown by both fields of activity and types of expenditure and income. Data by field of activity are used in the distribution by purposes in accordance with COFOG.

Other sources used in the calculations of local government consumption include the annual report of the Swedish Association of Local Authorities and Regions, the annual report covering the government owned companies included in local government, statistics on dance and theatres from the National Council for Cultural Affairs, employment statistics from Statistics Sweden and material from the National Agency for Education and the National Board of Health and Welfare.

#### *5.9.1.4 Social security sector*

##### *Definitions and scope*

The social security funds subsector includes institutional units of general government whose main activity is to manage funded social security schemes. They were set up and are monitored by the State, through legislation or otherwise, with the aim of providing social security transfers to the entire community or to large sections of it. The institutions must be independent with respect to the State, which is guaranteed by the fact that the transfers are financed by way of funds. The funds are more independent than most government agencies because the Board has sole responsibility for the operations of the Fund and because Sweden's national pension funds are regulated solely by legislation and not by government directives. The Ministry of Finance reviews the national pension funds' performance on an annual basis.

Social security schemes must fulfil two criteria (ESA 2.117):

It is compulsory by law or by regulation for certain groups in the population to participate in the scheme or to pay contributions.

General government is responsible for the management of the institution as regards determining or approving the contributions and transfers independently of its role as a supervisory body or employer.

The Swedish Social Security Sector consists of The Swedish Pensions Agency and AP-Funds number 1, 2, 3, 4 and 6. The AP-Funds are government agencies constituting buffer funds in the Swedish national income pension system. Together, the buffer funds hold around 13% of total pension system assets. The income pension system is a distribution system in which pension contributions paid in by the gainfully employed during the year are used to pay out pensions to pensioners the same year. The surpluses and deficits that arise when contributions deviate from disbursements are handled by the AP Funds, which is why they are often referred to as "buffer funds". The funds manage diversified portfolios of listed and unlisted equities, fixed income assets and alternative investments. Alternative investments consist of private equity, real estate, timberland, infrastructure assets and new strategies. They generate investment returns that help to finance the system over the long term.

The social security funds subsector comprises the National Pension Scheme, excluding the investment funded part of the premium pension which is classified in a notional unit within the pension funds subsector, sector 129. Though, the traditional insurance plan in the premium pension scheme is classified in the social security funds subsector.

### Sources

The National Pension Scheme is administered by the management boards of the Swedish National Pension Fund. Public consumption in the social security funds subsector is made up of the administrative costs of the various insurance schemes. Sources for the consumption expenditure are the annual accounts of the national pension funds, based on the official annual reports, quarterly survey including revenues and expenditures carried out by Statistics Sweden as well as a survey conducted by the Swedish Pension Agency which is also available for Statistics Sweden. Data for the consumption expenditure relating to the activities of the Swedish Pension Agency is collected by ESV and made available to Statistics Sweden. Also, the annual report for the Swedish Pension Agency is used. All different data sources are compared and analysed. All units are covered in the data sources.

The following information is collected for each item within social security funds consumption expenditures (amounts in SEK million in year 2011):

	Data sources	Amounts
Intermediate consumption	SPA via ESV, SCB and annual reports	1 964
Wages and salaries	SPA via ESV, SCB and annual reports	521
Employers' social contributions	SPA via ESV, SCB and annual reports	316
Other taxes on production	SPA via ESV, SCB and annual reports	116
Consumption of fixed capital	SCB	47
Sales	SPA via ESV	289
Final consumption expenditure		2 675

SPA The Swedish Pension Agency

SCB Statistics Sweden

ESV The Swedish National Financial Management Authority

The major part of the production costs refer to intermediate consumption which contain pure administration costs, cost for provisions and costs relating to performance of investments for the AP-funds (together 1 037 million of SEK year 2011), administration costs at the Swedish Pension Agency (410), FISIM (210) and the rest referring to value added tax (307).

### 5.9.2 Valuation

Consumption expenditure consists up of the output value of the activity units of general government, which are classified as other non-market producers, minus their sales income plus their purchases from market producers of goods and services, which are supplied to households directly without further processing as social transfers in kind. The output value is defined in chapter 3.21.

Value 2011 (SEK million)	Description in chapter	s1311	s1313	s1314	s13	<i>There of total value of 6 borderline cases in s13<sup>15</sup></i>
+ Output value	3.21	303 822	672 424	2 964	<b>979 210</b>	7836
– Sales of goods and services	5.9.7.2	40 807	103 860	289	<b>144 956</b>	468
– Production for own final use	5.9.7.2	28 866	4 936	0	<b>33 802</b>	0
+ Social transfers in kind	5.9.7.3	11 214	109 152	0	<b>120 366</b>	0
<b>= Consumption expenditure</b>		<b>245 363</b>	<b>672 780</b>	<b>2 675</b>	<b>920 818</b>	<b>7368</b>

VAT is added on Social transfers in kind, which are described in chapter 3.22 together with the treatment of VAT on intermediate consumption and gross fixed capital formation.

### 5.9.3 Transition from private accounting concepts to ESA 2010 national accounts concepts

See adjustments for the various calculation groups (types of expenditure) in Sections 3.21.2 and 5.9.7.

### 5.9.4 Roles of direct and indirect estimation methods

Direct estimation methods are applied in the calculations for general government. However software and R&D are compiled by the help of models in accordance with ESA guidelines.

### 5.9.5 Roles of benchmarks and extrapolation

The calculations are based on annual data at current prices, hence extrapolation is not used.

### 5.9.6 Exhaustiveness

The basic material is comprehensive since data are collected for all activities. A plausibility check of the material is always carried out when it is received by Statistics Sweden. Comparisons in the form of time series are also used in order to detect any major divergences between years. The material is also returned to the data providers, inter alia in the form of key figures, which facilitate comparisons between different local authorities. The suppliers are then able to correct their data if they consider that there has been an error.

### 5.9.7 Description of the calculation methods for the consumption expenditure

In accordance with ESA 3.117 final consumption expenditure is equal to the sum of output plus the expenditure on products supplied to households via market producers, plus social transfers in kind, e.g. medical treatment minus payments for goods or services provided

<sup>15</sup> Out of the total number of 27 new units, 21 are incorporated in the government sector from 2012 and onwards. The total value of consumption expenditure of these 21 units in 2012 is 788 SEK million. These borderline cases are described in section 5.9.1.1.

minus own-account capital formation

Data at current prices are obtained from the ESV material for central government and the Annual Accounts for local government and some minor additional sources.

#### *5.9.7.1 Output*

Output is calculated by summarizing the total costs of production (ESA 3.49). These consist of intermediate consumption, wages and salaries, social contributions, consumption of fixed capital and other taxes on production, less other subsidies on production. The process is described in chapter 3.21.

#### *5.9.7.2 Sales*

Sales from government units comprise for example:

- Rental income from internal government units as well as from external tenants
- Services bought by private entrepreneurs, e.g. laboratory services, X-ray-activities
- Services provided to households/individuals, e.g. fees for child and elderly care, health and dental care, sports centres, energy and waste distributions, driving licenses, etc.

##### *5.9.7.2.1 Central government*

Sales denote the sale by departments and agencies of government of goods and services, including rental income. Sales income is a deduction item in the calculation of consumption. Sales income must include both charges payable under public law and charges payable in the execution of orders and contracts, as well as marketing activities. The borderline between taxes and purchases of services from general government, in respect of payments by both enterprises and private individuals, is defined as follows:

If permits/licenses are issued automatically in return for the payment of a fixed amount, the payments are treated as taxes. If on the other hand general government uses licensing effectively as a form of control (for example, as a means of controlling the competence or qualifications of the persons or enterprises concerned), the payment for the license is treated as a purchase from general government, unless the payment is out of all proportion to the cost of providing the service.

In the national accounts a calculation is used to determine the scale of software purchases by the different sectors and of their production of software for own account. The estimate on software produced for own account is subtracted from consumption expenditures and added to investments instead. The same method is used for the capitalization of R&D, which is a new treatment according to ESA 2010.

The amount of internal sales income, broken down by rentals and other goods and services, which are matched by commensurate amounts on the expenditure side partly in the form of other current intermediate consumption and partly in the form of internal rental costs, is recorded in and obtained from the ESV material.

##### *5.9.7.2.2 Primary municipalities*

Internal accommodation rentals, and for primary municipalities also joint activities, like administrative units, are included in sales and intermediate consumption with the same amounts (see section 3.21.2.1.2 on intermediate consumption).

In the primary municipality calculations data are obtained from the annual accounts, columns for tariffs and charges, external rentals for housing and premises and other external income. The following items are deducted from the records of the annual accounts:

*Sales to other municipalities* are calculated from the specification in the annual accounts. The primary municipalities sell and purchase activities to and from each other, which are recorded net. See further under intermediate consumption: purchases and sales between primary municipalities, section 3.12.2.

*Operating grants from central government and the National Labour Market Board* to the primary municipalities are counted as transfers.

*Grants from the EU* to the primary municipalities are also counted as transfers.

The calculation of *software produced for own account* is described in detail in the section on acquisitions minus disposals of intellectual property products (5.10). Software produced for own account is subtracted from consumption expenditures and added to investments instead. The same method is used for *R&D produced for own account*.

Mobility schemes, which have been developed in Sweden since the 1960s, are intended to supplement public transport provision and to extend travel facilities to elderly and disabled persons who experience substantial difficulties in moving from place to place unaided. The costs of transportation services for elderly and disabled are split between households and municipalities/county councils. Elderly and disabled pay fees (a small part of the total costs) when they use these mobility services. The fees users pay are counted as household consumption expenditure and the same amount is treated as sales from municipalities. The costs that the fees from households do not cover are recorded as social transfers in kind and as consumption expenditure in the municipalities /county councils.

#### 5.9.7.2.3 County councils

For the county council calculations information on sales is available from the annual accounts of the county councils. The items recorded for the county councils are subdivided according to the following income types:

Goods

Services excluding rentals and charges

External premises rentals

Internal premises rentals

Patient charges for public dental treatment

Patient charges for out-patient medical treatment

Patient charges for in-patient medical treatment

Software produced for own account

Research and development produced for own account

#### **Patient charges for public dental treatment**

For the annual calculations, data are available in the annual accounts on patient charges received by the county council.

#### **Patient charges for out-patient medical treatment**

These include charges in respect of attendance both for primary care and for care provided under regional and county schemes and for other health-care services, such as physiotherapy, district nurses, auxiliary nurses, psychiatric teams, occupational therapy, midwives etc. (maternity and infant welfare, which are free of charge, are not included in attendance charges).

Data on patient charges are obtained from the annual accounts of the county councils. The distribution between primary municipality health care and county and regional health care is based on the attendance statistics collected by Statistics Sweden.

#### 5.9.7.2.4 *Social security funds*

For Social security funds, the sales are the service charges for the administrative costs of the Swedish Pension Agency related the premium pension scheme. The figures are available in the data source collected by ESV, and also in the annual accounts of the Swedish Pension Agency.

#### 5.9.7.3. *Social transfers in kind*

Social transfers in kind arise at central government, primary municipality and county council level. Social transfers in kind arise in the activities social welfare, education and health and medical care and is described below.

##### 5.9.7.3.1 Central government

Social transfers in kind of central government include for example public legal aid, vocational training, dental care and rehabilitation services. Data is obtained from ESV in the standard deliveries.

##### 5.9.7.3.2 *Primary municipalities*

The annual accounts of the primary municipalities record purchases of activities and purchased contract services by contracting party and area of activity. Purchases of local authorities from enterprises and from associations and foundations are classified as social transfers in kind.

For *health and medical care* summations of the activity purchases by Gotland according to the annual account for county councils are applied. As of 1998, the only primary authority remaining untied with a county council is Gotland and therefore Gotland is the only primary municipality that purchases activities in health and medical care.

Purchases of *Child welfare* from enterprises, associations and foundations are classified both as social transfers in kind and as grants. Parents' cooperatives, which count as enterprises, associations and foundations are assigned to non-profit institutions serving households (NPISH); purchases from these are therefore classified as grants. Social transfers in kind are obtained residually after the grant element has been deducted from the purchased activities. They are calculated with the aid of data from the National Agency for Education, who has statistics on the number of children receiving welfare in parents' cooperatives and the total number attending privately operated crèches or recreation centres. Older children attending recreation centres out of school hours are assigned half weighting in relation to the others. The grant element is obtained as the proportion of children in parents' cooperatives in relation to children receiving welfare in privately operated facilities times the amount of purchases from enterprises, associations and foundations.

Social transfers in kind of *welfare for the elderly and disabled* consist of the purchases of the relevant activities from enterprises, associations and foundations. Part of social transfers in kind consists of restitutions in accordance with the Act concerning Support and Service for Persons with Certain Functional Impairments (LSS), which came into force in 1994 and is a statute of rights, intended to guarantee good quality of life for persons with extensive and long-term disabilities. After assessment of needs, the disabled person may amongst other things be granted an allowance for personal assistance and accompaniment service measured in number of hours. The primary municipalities always pay for the first 20 hours. Hours in addition are paid for by central government. The portion of the assistance allowance funding provided by central government, which the municipalities use to purchase external services is counted as social transfers in kind.

Social transfers in kind of *education* are calculated from the statistics of the National Agency for Education on the number of pupils in primary and secondary education who attend a school run by a private corporation. The number of pupils and the amount paid per pupil are available. All education in Sweden is financed by general taxes and this is how private entrepreneurs within the school area are reimbursement per child.

*Mobility services / national mobility services* supplied by private corporations are also classified as social transfers in kind. The purchase by local authorities of mobility journeys is recorded in external services in the annual accounts. The charges paid by the passenger himself/herself are deducted from the amount. The remainder constitutes what the primary municipalities pay for the service.

#### *5.9.7.3.3 County councils*

Social transfers in kind for the county councils consist of care agreements with private care providers and net purchases by the county councils of mobility services. The data are recorded in the annual accounts. From 1997 onwards the provision of incontinence protection is also included in social transfers in kind and, from 1998, also costs of medicines covered by medical transfers for out-patient treatment.

## **5.10 Acquisitions less disposals of produced fixed assets**

### *Definition of GFCF.*

Gross fixed capital formation consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realized by the productive activity of producers or institutional units. Fixed assets are produced assets used in production for more than one year, ESA 3.124.

### **5.10.1 Overview**

#### *5.10.1.1 Description given by type of asset*

Acquisitions less disposals of fixed assets consist of many subtypes in the national accounts. The main types of non-financial assets are dwellings, other buildings and structures, machinery, equipment and weapons systems, cultivated biological resources and intellectual property products. Dwellings and other buildings and structures, are combined the largest type of assets representing 40 percent of total GFCF. The transition to ESA 2010 means that R&D is classified as GFCF. R&D, which is part of intellectual property products, amounted to approximately SEK 136 billion in year 2011 corresponding to about 4 percent of GDP. In addition, military weapons systems are according to ESA 2010 classified as GFCF. Before, they were classified as intermediate consumption. Divided by NACE industries, Real estate activities, NACE L68, takes the largest part of GFCF followed by manufacturing industries.



**Table 5.10.1.1, Gross fixed capital formation, NACE sections A\*21, SEK million, 2011**

Gross fixed capital formation	Dwellings	Other buildings and structures	Machinery and equipment and weapon systems	Cultivated biological resources	Intellectual property products	Total
<b>NACE A*21</b>						
A01-A03 Agriculture, forestry and fishing	444	5 370	11 198	1 778	326	19 116
B05-B09 Mining and quarrying		1 749	7 332		1 414	10 495
C10-C33 Manufacturing		6 058	52 521		100 925	159 504
D35 Electricity, gas and steam		14 901	15 844		2 365	33 110
E36-E39 Water and waste management services		5 920	4 999		1 839	12 758
F41-F43 Construction		3 429	21 201		801	25 431
G45-G47 Wholesale and retail trade; repair of motorcycles		3 344	32 575		9 992	45 911
H49-H53 Transportation and storage		41 549	28 239		4 835	74 623
I55-I56 Accommodation and food service activities		1 249	4 395		394	6 038
J58-J63 Information and communication		7 300	9 653		21 206	38 159
K64-K66 Financial and insurance activities		1 240	8 394		17 353	26 987
L68 Real estate activities	141 128	49 202	12 747		967	204 044
M69-M75 Professional, scientific and technical activities		2 013	13 657		40 736	56 406
N77-N82 Administrative and support service activities		518	15 628		2 643	18 789
O84 Public administration and defence		18 903	16 638		8 938	44 479
P85 Education		5 450	4 249		5 744	15 443
Q86-Q87 Human health and social work activities		10 479	8 983		3 443	22 905
R90-R93 Arts, entertainment and recreation		4 606	3 137	660	3 167	11 570
S94-S96 Other service activities		1 104	1 629		1 234	3 967
Total	141 572	184 384	273 019	2 438	228 322	829 735

*5.10.1.3. Additions to the value of non-produced non-financial assets and costs of ownership transfer on non-produced assets.*

**Table 5.10.1.2 Additions to the value of non-produced non-financial assets and costs of ownership transfer on non-produced assets. SEK million 2011.**

<b>GFCF, non-financial, non-produced assets</b>		
A01 Agriculture	Drainage	174
A01 Agriculture	Costs of ownership transfer	111
A02 Forestry	Forestry management operations	1 797
A02 Forestry	Costs of ownership transfer	333
Total		2 415

*5.10.1.4. GFCF by institutional sector.*

**Table 5.10.1.3 GFCF by institutional sector, SEK million 2011.**

<b>Institutional sectors</b>		
S11	Non-financial corporations	537 038
S12	Financial corporations	26 987
S13	General government	162 204
S14	Households	100 380
S15	Non-profit institutions serving households	3 126
	Total	829 735

*5.10.1.5 Distinction between resident and non-resident units*

The distinction between resident and non-resident units acquiring produced and non-produced non-financial assets is treated in Section 8.4.2.2 - "Swedes' consumption of dwellings services abroad". Non-residents, who own property, e.g. secondary dwellings in Sweden are sorted out by help of the addresses in the Swedish Real Estate Taxation Register. Cross-border income flows for the properties

of this group is calculated based on stock values of the property \* annual rate of return \* occupation period.

**Table 5.10.1.4 Excerpt from Process Table GFCF about sources, exhaustiveness and balancing adjustments**

Level of Details	Basis for NA Figures							Adjustments				Total (adjustments)	Total
	Surveys & Censuses	Administrative Records	Combined Data	Extrapolation and Models			Other	Total (sources)	Data validation	Other conceptual	Total conceptual		
Total	188 083	92 000	267 115	1 214	140 112	141 326	147 435	835 959	-6 224	0	0	-6 224	829 735
AN.111 Dwellings	58 799	0	9 967	0	70 415	70 415	8 615	147 796	-6 224	0	0	-6 224	141 572
AN.112 Oth buildings & struct	46 099	26 461	97 236	174	14 199	14 373	215	184 384	0	0	0	0	184 384
AN.113 Machinery & equip	20 295	57 583	159 912	0	25 478	25 478	0	263 268	0	0	0	0	263 268
AN.114 Weapons systems	0	7 956	0	0	1 795	1 795	0	9 751	0	0	0	0	9 751
AN.115 Cultiv bio resources	0	0	0	0	0	0	2 438	2 438	0	0	0	0	2 438
AN.117 Int property prod	62 890	0	0	1 040	28 225	29 265	136 167	228 322	0	0	0	0	228 322

Level of Details	Basis for NA Figures								Adjustments				Total
	Surveys & Censuses	Adminis- trative Records	Combined Data	Extrapolation and Models			Other	Total (source s)	Data validation	Conceptual		Total (adjust- ments)	
				Benchmark extra- polations	Other E&M	Total Extrap- Models				Other con- ceptual	Total con- ceptual		
Total	188 083	92 000	267 115	1 040	140 112	141 152	147 435	835 785	-6 224	174	174	-6 050	829 735
AN. 111 Dwellings	58 799	0	9 967	0	70 415	70 415	8 615	147 796	-6 224	0	0	-6 224	141 572
AN. 112 Other buidlings and structures	46 099	26 461	97 236	0	14 199	14 199	215	184 210	0	174	174	174	184 384
AN. 113 Machinery and equipment	20 295	57 583	159 912	0	25 478	25 478	0	263 268	0	0	0	0	263 268
AN. 114 Weapons systems	0	7 956	0	0	1 795	1 795	0	9 751	0	0	0	0	9 751
AN. 115 Cultivated biological resources	0	0	0	0	0	0	2 438	2 438	0	0	0	0	2 438
AN. 117 Intellectual property products	62 890	0	0	1 040	28 225	29 265	136 167	228 322	0	0	0	0	228 322

### 5.10.2 Main data sources and their conversion to national accounts results

Surveys and censuses refer to government sources, foreign trade survey, housing construction and quarterly investment survey. Administrative records are the source for motor vehicles and the main source for central government investments. Combined data refer to SBS. Extrapolation and models refer to the special calculations of dwellings, transport equipment, software, entertainment, literary and artistic originals and costs of ownership transfer. Data validation refers to an adjustment of investment expenditure to repairs as the recording was not of an investment character.

The quarterly investment surveys and the SBS are the main sources for annual investment estimates of market production. Central government investments are collected from the Financial Management Authority and local government from the Annual Accounts. Covered are the investments in new structures, machinery and equipment, other buildings and structures.

Gross fixed capital formation is calculated as the difference between the closing and opening balance adjusted with the difference between remaining value and sales value as mirrored in the reported capital gains/losses. This latter item is the difference between the book-keeping value and the value according to the National Accounts (ESA). The sum of this calculation will be the net investments for the period.

From the SBS is sorted out which companies have made major investments during the year. For the detailed information on objects firstly the ordinary quarterly investment survey is used and for the rest of the companies, which have not received and answered the quarterly survey, a special complementary annual survey is sent out. The investment concept used is defined as the acquisition of capital assets with a calculated economic life of at least one year together with reconstruction and improvements, which significantly increase capacity, standard or economic life. The SBS and the

investment survey do not cover intellectual property products. The calculations of IPP are based on R&D surveys and models like e.g. number of employed IT-developers, compensation for their work and other related expenses.

The surveys give information on investment amounts broken down by object. The material is also broken down by new works in progress, by new investments, by purchases of existing items and production for own account. For machinery and transport equipment new acquisitions during the year and new installations of machinery in progress less sales of machinery and equipment is calculated. For buildings and structures the calculation covers new constructions of buildings and structures in progress less purchases of existing buildings and structures. All new and existing produced fixed assets are covered.

#### *Additions to the value of non-produced non-financial assets*

Gross fixed capital formation covers additions made to the value of non-produced assets arising in the course of the productive activity of a producer or institutional unit. The national accounts in this context calculate gross fixed capital formation for improvements made to land and costs of changes in ownership, i.e. intermediation charges.

Drainage in agriculture constitutes an improvement of so called non-produced investments. Up to 1999, the Swedish Board of Agriculture reported annual estimates based on a survey made to farmers. As no detailed explicit information is available nowadays in the EAA-calculations, the estimate, which is SEK 174 million in 2011, is held almost constant. A new survey from Swedish Board of Agriculture (Jo 41 SM1402) indicates that the area of farm land has decreased somewhat during the latest years. The survey results point towards a stagnant or decreasing development of drainage activities.

Another kind of addition to the value of non-produced non-financial assets is forestry management operations. Records covered here include operations such as cleaning, soil scarification, forest cultivation, forest regeneration, forest fertilization, forest drainage etc. Annual information is obtained from the Swedish Forest Agency.

The 'one year' rule is applied and small tools for production purposes are excluded in investment values. As Swedish book-keeping requires an object to be used more than 3 years in order to be considered as an investment, a special question is posed in the SBS in order to cover investments intended to be used more than one year. A special book-keeping account is used for recording small tools, so this value is used as the estimate. Estimates on tools are also checked by commodity flow analysis, i.e. production plus imports minus exports on CN-level.

### **5.10.3 Detailed estimation methods used by AN code**

#### *5.10.3.1 Detailed description of specific sources and adjustments*

##### ***Dwellings and other buildings and structures, AN.111 and AN.112***

Estimates of other buildings and structures are based on data from the SBS and the investment surveys for most NACE sections. SBS doesn't cover financial companies such as banks and insurance companies. Data on NACE K64-66 is instead collected from the quarterly investment survey. Also, some reallocations and additions are made in a few cases described below.

Roads in agriculture are based on data from the Swedish Transport Administration, which records the amount of grants paid for the construction of private roads. As the grant is paid at the rate of 60 per cent of the total cost, total investment in roads can be calculated.

For the industry electricity, gas, heat and water supply the total investment amount in the SBS is reallocated between buildings and machinery. The reason for the reallocation is that the Swedish legislation since the middle of the 1980s has allowed the distribution structures of utilities to be recorded as machinery investment. This is in conflict with the ESA guidelines, according to which distribution facilities should be recorded as investment in buildings and structures. A certain share of

investment in machinery is therefore transferred. The share was determined after contacts with the industry and on the basis of the ratios, which applied in the years prior to the change in tax legislation. The ratios vary somewhat depending on the form of ownership and sub-industry involved.

For sub-industry Electricity and heating supply, NACE D35, the following ratios are used: Private corporations including previously state-owned public service undertakings: 40 percent of total investment in buildings and structures and 60 percent in machines. Central government corporations: 44 percent of total investment in buildings and structures and 56 percent in machines. Local government corporations: 65 percent of total investment in buildings and structures and 35 percent in machines. For the sub-industries gas supply and water supply only investments in buildings and structures arises.

For transport, storage and communication the values of the business statistics, SBS, are used for all sub-industries with the exception of the telecommunication industry. Here the same issue regarding accounting rules prevail, which necessitate a reallocation from machinery to buildings and structures. Based on information supplied in footnotes to the financial reports of the largest companies 80 percent of the total annual value reported for buildings and machinery in SBS is recorded as investments in buildings and structures in the national accounts.

The housing and real estate management industry is divided in sub-industries one and two-family houses, holiday houses and multiple-occupancy buildings and other real estate management. Investment estimates also include brokerage costs, which cover the remuneration received by brokers and agents for intermediation and sales of available dwellings.

The calculations of dwellings are based on monthly data of number of apartments commenced and completed. This data is reported to the local government and forwarded to Statistics Sweden. In addition, data is also collected on construction costs. They are gathered in a comprehensive SCB-survey to construction companies. The survey contains data on newly constructed multi-dwelling buildings and collectively built one- and two-dwelling buildings. Information is given on ground costs, building costs and total production costs. Construction costs are distributed with the aid of a construction cost profile, based on the data supplied on beginning and end of the projects, so that the costs incurred each quarter can be calculated. This profile has the following distribution in percent by quarter for one and two family dwellings and multiple-dwelling buildings respectively:

One and two family dwellings	0,25	0,43	0,22	0,1	
Multiple occupancy dwellings	0,11	0,22	0,28	0,23	0,16

The NA-calculations are separated into two main categories; one and two family houses and multiple-occupancy buildings, respectively. The material is also broken down by owner category, i.e. rented and owner-occupied dwellings. The calculation process below shows step by step compilations for detached houses. The procedure for multiple-dwelling is similar, only relating to other sources for basic data on costs.

The survey on construction costs does not cover individually built detached houses, but only collectively built. Therefore a mark-up for the difference in constructions costs between collectively built and individually built objects are applied. The mark-up is set after discussions with the construction organisation to an adjustment by 24 percent. This covers the fact that individually built detached houses on average are larger and contain higher quality materials and machinery equipment.

**Table 5.10.3.1 The calculation process for new investments in one and two family houses, SEK million 2011**

<b>Individually and collectively built houses</b>					
Construction cost collectively built one and two dwelling houses/house			2.628	(as of prices 2011q2)	
Construction cost individually built, 24 % extra: more quality and size/house			1.24*2.628		
Number of collectively built, 32.3%	2415				
Number of individually built, total-collective, 7477-2415. 67.7%	5062				
Average construction cost coll+ ind: $2628*0.323+1.24*2628*0.677$			3.055		
		<b>2011q1</b>	<b>2011q2</b>	<b>2011q3</b>	<b>2011q4</b>
Construction costs are distributed by quarters in construction profile		0.25	0.43	0.22	0.1
Number of commenced by quarter	<b>8042</b>	2099	3159	1432	1352
Construction costs	3055				
Construction cost index, used for distribution of the annual construction cost by quarter.		868	<b>878</b>	879	878
from previous years		795	0	0	0
from previous years		1237	569	0	0
from previous years		3197	1655	753	0
2011, new		<b>1584</b>	2757	1412	641
2011, new		0	<b>2412</b>	4153	2123
2011, new		0	0	<b>1095</b>	1881
2011, new		0	0	0	<b>1033</b>
Total investment each quarter 2011 (not exact due to roundings)		6815	7394	7412	5678
Calculation new objects 2011q1		1584	$=2099*3.055*0.25*868/878$		
Calculation new objects 2011q2			2412	$=3159*3.055*0.43*878/878$	
Calculation new objects 2011q3				1095	$=1432*3.055*0.22*879/878$
Calculation new objects 2011q4					1033 $=1352*3.055*0.1*878/878$

Reconstruction of one and two family houses is compiled by the help of information from an annual Statistics Sweden sample survey for household finances, HEK.

**Table 5.10.3.2 The calculation process for reconstruction of one and two family houses, SEK million 2011**

<b>Reconstruction of one and two family houses</b>	Owned	BRF	Rented
Total number of houses by owner category	1 859 988	78 820	64 327
Total number according to HEK	1 442 732		
Missing number HEK	417 256		
Undercoverage 2011, HEK survey	0.22		
Reconstruction cost/house from HEK, SEK	28 671		
Reconstruction share, missing numbers	0.4		
Reconstruction value, acc to HEK population, SEK million	41 365	$=1442732*28671/1000000$	
Reconstruction value, missing HEK population, SEK million	4 785	$=(417256*28671*0.4)/1000000$	
Total value, SEK million	46 150	41365+4785	
Reconstruction share, BRF houses	0,6		
Reconstruction value BRF, SEK million	1 356	$=(78820*28671*0.6)/1000000$	
Reconstruction share, rented houses	0,01		
Reconstruction value, rented houses, SEK million	18	$=(64327*28671*0.01)/1000000$	
Total reconstruction value, SEK million	47 524	41365+4785+1356+18	
Reduction for repairs, not reconstruction acc to NA, 25 %	11 881	$=47524*0.25$	
Remaining reconstruction value, SEK million	35 643		
Do it yourself, own produced work, special calculation	1 947		
Total reconstruction value, SEK million	37 590		

Reconstruction of dwellings in *multiple-occupancy buildings* is compiled by the help of information on construction costs for different owner categories and tenant categories from an annual inquiry from Statistics Sweden; the revenues and expenditure survey for multi-dwellings, IKU. Tenant-ownership rights in multiple-occupancy buildings, here abbreviated as BRF, is object to a special treatment in this calculation. A holder of a tenant's right of ownership does not own his apartment, but holds a share in a tenant-owners' association, BRF. The holder however, buys his apartment to ordinary and high market prices, at least in the metropolitan areas. The holder also has the right to reconstruct and change the inner contents of his apartment, i.e. replace all kitchen equipment. This is quite often the case when apartments change holders. Therefore an extra investment value is added for BRF-apartments in the calculation below.

Tenants not living in BRF-apartments are not allowed to replace the contents of their apartments. Their landlords have to keep ordinary rented apartments in satisfactory conditions and of course pay for any alterations and reconstructions.

Other populations in the table below refer to e.g. foundations, etc.

**Table 5.10.3.3 Calculation of reconstruction of multiple-dwellings, SEK million 2011**

	Local govt enterprises	Private	BRF	Oth pop(+3%)	Sum				
<b>Reconstruction of multiple-dwellings</b>									
Reconstruction costs, total from IKU-survey, 2011	7940	2261	6729	505	17435				
Additions, population undercoverage in IKU, 0.05 %	397	113	336	25	872				
NA additions for work and materials 0.02 % on all BRF			141		141	=0,02*336+6729			
NA additions for work and materials 0.02 % on 0.05 % of the others				11	11	=0,02*0.05*(7940+2261+505+397+113+25)			
Bought services from professionals, STA data based on reduction principles			3234		3234				
Do it yourself, BRF			186		186				
Total including BRF					21879				

For the calculation of construction of secondary homes used as *weekend/holiday homes* the annual change in the number of holiday homes in the Taxation Register is collected. From the SCB-survey on construction the total expenditures per permanent house are collected. Construction costs for secondary houses are reduced in relation to construction costs for permanent houses. The relation is based on the relations in size between secondary and permanent houses plus an extra addition for machinery equipment. The results give a share of 67 percent of the costs of a permanent house.

Of the total number of holiday homes about 25 percent are subject to reconstruction every year. Construction periods extends normally over two years. These shares are set in discussions with the construction organisation.

**Table 5.10.3.4 Calculation of construction and reconstruction of secondary homes, SEK million 2011**

New construction of secondary homes							
Total number of holiday homes in 2010 from Tax register	517 598						
Total number of holiday homes in 2011	519 643						
Total number of holiday homes in 2012	522 240						
New units in 2011	2 045						
Share new construction of 2011 new units (in 2011)	0.67	construction period extends over two years					
New units in 2012	2 597						
Share construction of new 2012-units (in 2011)	0.33	construction of new units starts during previous year					
Adjusted number of units constructed during 2011	2 227	=0.67*2045+0.33*2597					
Cost of construction permanent one and two family houses/house	3 055						
Share of construction costs for holiday homes	0.65						
Construction cost /holiday home	1 986	=0.65*3055					
Total new construction value holiday homes, SEK million	4 423	=2227*1986/1000					
Reconstruction of secondary homes							
Total number of holiday homes in 2011	519 643						
Reconstruction share of total number	0.25						
Reconstruction costs/permanent house (from survey)	28 671						
Share reconstruction costs of permanent house for holiday house	0.65						
Total reconstruction value in 2011, SEK million	2 421	=(519643*0.25*28671*0.65)/1000000					

The estimate of buildings and structures in real estate management is calculated according to a special model taking care of information from the SBS and the NA dwelling compilations.

**Table 5.10.3.5 Other buildings and structures in NACE L68B, real estate management, SEK million 2012<sup>16</sup>**

	SBS, Other buildings and structures, NACE L68B	56 301
+	SBS, Privately rented multiple-occupancy buildings in the total economy	+25 879
-	NA, Privately rented multiple-occupancy buildings	-28 350
=	NA, Other buildings and structures, NACE L68B	=53 830

In the SBS, most investments in privately rented multiple-occupancy buildings are recorded in NACE L68B, but there are also small values in other NACE-industries. The small values from other industries in SBS are reallocated to NACE L68B for a reconciliation of total values of buildings and structures including rented multiple-occupancy buildings.

For dwellings, the NA dwelling compilations described above are performed at a detailed level for all types of dwellings. Therefore the NA construction value regarding privately rented multiple-occupancy buildings are more detailed and accrual than the SBS value for the same objects. However the total SBS-level of investments in privately rented multiple-occupancy buildings and other buildings and structures is considered as a comprehensive measure. Therefore, to keep the SBS total value and at the same time use the data of dwellings from the NA dwellings compilation model, other buildings and structures in L68B is adjusted by the difference between privately rented multiple-occupancy buildings as recorded in the SBS and the value from the NA dwellings compilations model.

The difference between the two sources of investment in privately rented multiple-occupancy buildings amounted to about SEK 2.5 billion in year 2012.

Construction and also other relations regarding tenant-ownership rights in multiple-occupancy buildings, called BRF, have to be treated in special ways. New construction BRF-objects are not included in the SBS, so they are calculated separately outside the SBS-data. The very special ownership form also creates problems in other contexts. They are neither included in multiple occupancy buildings aimed for tenants nor in owner-occupied dwellings as the ownership is only connected to the BRF-association. Therefore there is no landlord but a BRF-association who owns the building, and these buildings are not included in the Real Estate industry in the Business register. So we have to find other solutions for treating them in the NA.

*Costs of ownership transfers* are calculated for owner-occupied houses, i.e. one and two family houses and weekend/holiday homes, multiple-occupancy buildings and agricultural- and forestry properties. Costs of ownership transfers include apart from real estate agents' fees also stamp duties and fees for mortgages (pantbrev). The calculation uses data from SBS on real estate agents' income and data from the Swedish Financial Management Authority on stamp duties. The stamp duty paid in conjunction with the acquisition of real estate is also included in the costs of ownership transfers.

Central government investments in other buildings and structures are calculated from the source Basis of central government net lending, UFS, which is compiled by the Financial Management Authority (ESV) and grouped in accordance with the national accounts definitions.

Regarding investments of primary municipalities total investment expenditure is obtained directly from the investment accounts of the annual accounts (RS). Purchases of machinery and equipment and purchases of land, buildings and technical structures are deducted from total investment. Building investment, which comprises buildings and structures both purchased and produced for own account, is therefore calculated residually. Purchases of existing buildings are excluded in order to record only

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The table refers to year 2012 instead of 2011. The Swedish National Accounts made a major revision in autumn 2014 which means that accounts from 2011 and older has been chained from year 2012. Detailed data is therefore not available for 2011.

new own account investments during the year. Investments are grouped according to the relevant COFOG and activity.

Data on investment for the county councils are also obtained from the annual accounts (RS). For the four hospitals also classified as country councils, investment data is collected from Structural Business Statistics (SBS).

Investments in other buildings and structures of other types of local authority are based on investments accounts from the annual accounts (RS) of municipal associations and the annual accounts of the Swedish Association of Local Authorities and Regions. This annual accounts also gives a breakdown by different activities.

NPISH, are divided into two separate units with different sources; the Church of Sweden and other NPISH organizations. The Church of Sweden belonged until 1 January 2000 to the Government. Both groups are covered by surveys. The church survey is comprehensive and the NPISH survey is a random sample survey. The NPISH survey gives information about acquisitions and disposals of buildings and machinery. As an effect of non-response, the survey is also supplemented by taxation data from The Swedish Tax Agency. Investments by NPISH organizations are distributed into eight NACE industries.

### ***Machinery and equipment and military weapons systems (AN.113 and AN.114)***

Estimates of machinery and transport equipment are mainly based on data from the SBS. Some reallocations are made as described in the former section about buildings and structures and there are also additions in a few cases.

Administrative registers for vehicles, ships and aero planes and also the foreign trade statistics are used in order to crosscheck the information of the SBS. Transport equipment investments are included in the data on machinery investment for enterprises from the SBS, but not leasing investments. Another source for leasing investment is therefore included in the calculations. Own financed and leasing investments are recorded separately, specified by industry and calculated in accordance with the models described later in this section, investments in motor vehicles and leasing investments.

Information of agricultural machinery is collected from the SBS for various kinds of machinery. For the detailed breakdown on products, an annual machinery survey carried out by the Swedish Board of Agriculture is used. The survey records the value of tractors and other types of agricultural machinery sold. The source for fishing boats is the Swedish Maritime Administration's ship register.

For electricity, gas, heat and water supply, NACE D35-E39, the same reallocation between machinery and structures and buildings as described above about recording of distribution facilities is made using inverted shares. The source is the SBS.

Regarding transports, storage and communication annual information is collected from the SBS regarding the total estimate of machinery and transport equipment. In order to distribute the total estimate on different objects, various sources described below are used. Transports, storage and communication are divided into 16 NACE-industries. Motor vehicle investments for the different industries are obtained from the model described in the following section below. Investment in ships is divided in new and used ships. The main source is the foreign trade statistics for exports and imports and, for production, the SBS. Also an estimate for on-going work is classified as GFCF and is based on information from the SBS. Currently information is collected in the foreign trade statistics and Statistics Sweden also uses information from the Swedish Maritime Administration's register on ships.

Investments in aircraft are calculated with the aid of Statistics Sweden's international trade statistics. Net imports of civil helicopters with a weight of over 2000 kg and civil aero planes are counted as investments in aircraft. The foreign trade statistics are checked in order to ensure that aircraft manufactured in Sweden and directly exported is not included as GFCF. Investments in railway trains are also calculated by the help of commodity flow analysis including net imports and domestic



production of freight cars, locomotive engines and passenger trains. The investment survey provides preliminary figures for GFCF.

For the sub-industry telecommunications, around 90 per cent of the annual value for buildings and machinery is recorded as investments in machinery. This allocation is based on data obtained from the annual financial reports of the largest corporations in the industry. (Compare to the section above on Dwellings and other buildings and structures.).

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After the inclusion of ESA 2010, ICT investments, AN.1132, were specified in GFCF as computers and communication equipment. The ICT investments are calculated according to the value of the product group computers and communication equipment in every NACE industry. In more detail, investments in computers consist of the sum of product groups; computers and peripheral equipment and office machinery and equipment. Communication equipment consists of; communication equipment, instruments and appliances for measuring, testing and navigation, optical instruments and photographic equipment and installation of industrial machinery and devices.

Central government investments in machinery are calculated from the source Basis of central government net lending, UFS, which is compiled by the Financial Management Authority (ESV) and grouped in accordance with the national accounts definitions of an economic life of one year or more and a significant level of value (different limits for different authorities).

Investments in machinery for the social security sector are investments relating to the activities of the Swedish Pension Agency and is collected by ESV and made available to Statistics Sweden.

Purchases of machinery and equipment by the primary municipalities with an economic life of more than three years are recorded separately in the investment accounts of the annual accounts. In order to obtain the net value a deduction is made with the amount sold machinery and equipment, which are recorded as investment income. Investments are grouped according to the relevant COFOG and activity.

For county councils data on investment expenditure in medical technical equipment and other inventories are obtained from the county councils annual accounts. Investment expenditure for the four hospitals classified within the county councils is calculated from the SBS. Investments are grouped according to the relevant COFOG and activity.

Investments in machinery for other types of local authority are based on investments accounts from the annual accounts (RS) of municipal associations and the annual accounts of the Swedish Association of Local Authorities and Regions. This annual accounts also gives a breakdown by different activities.

NPISH investments of machinery are divided into two separate units with different sources; the Church of Sweden and other NPISH organizations. The church survey is comprehensive and the NPISH survey is a random sample survey. GFCF is covered from information about acquisitions and disposals of machinery and other buildings and structures, adjusted by taxation data from The Swedish Tax Agency.

In ESA 2010 military weapons systems, AN.114, are classified as GFCF and are divided into vehicles and other equipment such as warships, submarines, military aircraft, tanks, missile carriers and launchers etc. The source for weapons systems data is the same as for most central government data, namely the Financial Management Authority, where data from all authorities are gathered. Data on weapon systems is available from the source for the entire time series. Further, ESV was consulted regarding the choice of accounting methods and classifications related to military weapon systems when ESA 2010 was introduced. Military buildings and facilities are compiled in the same way for the entire time series and there is no change in compilation methodology between ESA 2010 and ESA 1995. Other investments in military weapons system are divided into different investment types, machinery, transport equipment and building and structures. The split is made based on a distribution provided by ESV on data delivered from the Swedish Armed Forces and was introduced in the

accounts in the ESA 2010 implementation (2014). Distributions are available from 2008 and onwards. For earlier years, 2008's distribution is used to allocate between investment types and thus there is no break in the time series.

### ***Investment in motor vehicles - The motor vehicle model***

#### ***Sources and definitions***

The main source for calculation of both investment and household consumption of vehicles are Statistics Sweden's vehicle statistics. Statistics Sweden (SCB) continuously receives data on newly registered and deregistered vehicles from the national vehicle register kept by the Swedish Transport Agency. The register contains both technical and administrative data on different types of vehicles. All vehicles are registered by either personal identification number or enterprise identification number. On the basis of these data Statistics Sweden compiles distributions by NACE industry and institutional sector, and also a breakdown by legal and natural persons. Vehicles used in a financial leasing agreement have a special code attached and can therefore easily be identified in the register. Used vehicles, which are directly imported also get a special identification code.

For self-employed traders the enterprise identification number is the same as the personal identification number; in this respect therefore they count as natural persons. From the national accounts point of view, a problem arises from this interpretation. In the national accounts the motor vehicle purchases of self-employed traders are recorded as investment and those of natural persons as household consumption. Motor vehicles purchased by self-employed traders must therefore be identified and transferred to the investment calculation.

By comparing the vehicle data with the business register, it is possible to filter out vehicles owned by self-employed traders. In this matching only traders with an annual income exceeding 200 000 SEK are included. The reason for the income limit is that it is more advantageous for self-employed traders with a low annual income to buy the car privately and declare the cost of using a private vehicle for business purposes. This has to do with the fact that taxes on the benefit of using a business car for private purposes are quite high. It is therefore necessary to use the car relatively intensively in the business before this solution becomes more advantageous than purchasing the car privately and entering the cost of using it for business purposes as a charge on the business. Data matching between private and business ownership is carried out every quarter.

ESA 2010, §3.182 stipulates that an item of goods that is used both privately and in a business activity, e.g. a car, must be apportioned as to a component representing household consumption and a component representing investment or intermediate consumption. The apportionment must be based on the proportion of the use of the item what is private and what is business-related. In the national accounts, however, a car purchase made by a legal person is recorded as investment and a car purchase made by a natural person as household consumption. But for all business cars, which are also used privately a benefit value must be reported to the Swedish Tax Agency which reflects the utility value of a certain car to the person who benefits from it. Statistics Sweden receives these data directly from the Swedish Tax Agency and they are entered both as household consumption expenditure and production and as a benefit classified as pay to the person concerned. See section 4.7 regarding the valuation of the utility element. The car in its entirety, however, is also recorded as a capital item.

In the model, investment expenditure on motor vehicles is calculated for acquisitions both in the form of outright purchase and in the form of financial leasing. With the aid of the enterprise identification code, vehicles can be allocated to NACE industries. Calculations are performed for four vehicle types: passenger cars, goods vehicles, trailers and buses. The model comprises all new registrations and de-registrations. The numerical data of the vehicle register also contain directly imported used vehicles, and for these an adjustment to avoid double-counting must be made since they also appear in the foreign currency exchange item under household consumption expenditure.

The following sections describe the essentials of the investment calculations for the different vehicle types but, because of the close link, the consumption calculations are also affected to a certain extent. Purchases of lorries and buses count 100 per cent as investment. A small proportion of the acquisition of trailers is included in household consumption, the remainder constituting investment.

### *Calculation of passenger cars and goods vehicles*

The annual calculation is based on data on the number of new car registrations allocated by NACE industries and by natural persons, respectively, and to car models. The material also contains information on the number of leased vehicles in the various industries.

The data on numbers of passenger cars is combined with new car prices per car model in accordance with a price list produced by the trade organization for cars, BIL Sweden<sup>17</sup>. Where no price is available for a special car model in the source material, an algorithm is used for matching the missing prices.

The algorithm is using average prices depending on several variables of existing cars and their prices, to match the missing prices. The variables used are brand, model, year, car body, car power, cylinders, weight, fuel type, fuel consumption, gear type.

With the aid of the price information, a weighted mean price is calculated which is combined with industry-by-industry data on numbers and a value for each industry is obtained. Goods vehicle prices have been set in cooperation with the Swedish Association of Haulage Contractors for an initial year and are thereafter updated with the price trend for goods vehicles.

The calculations also take account of sales of used passenger cars from the corporate sector to the household sector. This flow of sales from legal to natural persons is shown as a deduction in the investment calculations, and as a corresponding addition in the calculation of household consumption. The transfer varies substantially from year to year and is of great significance to the outcome of the calculations. In order to obtain a more differentiated picture of the background to these fluctuations, stock variations in certain individual sub-industries are also examined, e.g. the scrap trade, the retail motor trade, car repair workshops, agriculture, forestry and construction activities.

Price data for cars whose ownership is transferred from legal to natural persons is calculated with the aid of a model in which data on the cars' age and corresponding depreciation in relation to new car prices are used. The model was devised after consultation with the motor trade. It is mostly cars previously leased by enterprises, which fall into this group.

Car dealers (legal persons) continuously register new cars in their businesses. Some of the cars are sold to natural persons. They are then recorded as transferred from legal to natural persons in the vehicle register, although in practice they are cars newly registered to natural persons. For these cars a special analysis must be carried out. In February each year, therefore, a processing routine is conducted for the previous year covering the number of cars in total stock at 31 December and, of the total, those newly registered during the year. This processing routine includes re-registration, i.e. passenger cars which were first registered with car dealers but subsequently sold on to private individuals are treated as new registrations to natural persons here and not as second hand cars transferred to them.

The value of investment in the various vehicle types (passenger cars and goods vehicles, buses and trailers) is summed by industry and only the total vehicle investment in the particular industry, broken down as to acquisition by purchase and acquisition by leasing, is recorded in the national accounts system.

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<sup>17</sup> Represents manufacturers and importers of cars, trucks and buses

**Calculation for buses and trailers**

The statistical source material consists of data on the number of new registrations of buses and trailers, respectively, per NACE industry and the value at purchasers' prices of the total domestic supply calculated as production and imports less exports and with a supplement for trade margins. This value is allocated to the various industries in accordance with the new registration statistics. A small number of trailers are purchased by households and are therefore recorded under household consumption expenditure; hence they are excluded from the investment calculation.

**Leasing investments**

A distinction is made between financial and operational leasing depending on the terms of the leasing contract. A feature of financial leasing is that the contract between supplier and customer is strictly financial in nature, which is illustrated by the fact that the customer is responsible for repairs, maintenance, insurance etc. Financial leasing is thus to be regarded as a type of financing, a means of obtaining credit. Contracts, which cannot be characterized as financial leasing, are classified as operational leasing. Operational leasing usually includes some form of maintenance and guarantee commitment on the part of the lesser.

In the national accounts only financial leasing counts as gross fixed capital formation. Financial leasing is defined as leasing provided by Monetary Financial Institutes, MFIs, classified as such by the Financial Supervisory Authority. The sources used are data collected from the MFIs of the total supply of leasing items, the motor vehicles model and the SBS business statistics and the investment survey. The MFI survey has some information on different objects and also on user sector. Leasing investment in motor vehicles is calculated by data from the motor vehicle model and is allocated to industries on detailed NACE-industry.

**Table 5.10.3.6 Calculation model for machine leasing, SEK million 2011**

	SEK million
Total economy, leasing investments, motor vehicles and machinery, ex. VAT, MFI data	42 031
+ VAT passenger cars, non-deductible in private and public sector	6 709
+ Addition for non-deductible VAT on other machinery from WAR-calculation	201
= Total economy, leasing of motor vehicles and other machinery	48 941
- Leasing in motor vehicles, incl non-deductible VAT, market prod, NA's motor vehicle model	26 785
- Leasing in motor vehicles public sector	423
= Total economy, leasing of machinery except motor vehicles	21 735
- Leasing in machinery public sector	142
- Leasing in machinery, manufact. industry and mining >20 employees	1 363
- Leasing in machinery, manf.ind.adjustment for < 20 employees	305
= Leasing in machinery, excl. manufact. industry, mining and public sector	19 923
SBS statistics on financial leasing fees are used to distribute total leasing by other NACE-industries	

The model for calculation of machine leasing starts with the value of new leasing contracts minus the disposals during the year. This information is collected in the quarterly survey answered by the MFIs who provide financial leasing activities. The annual value is benchmarked 2006 and extrapolated with annual growth rate since then. The value incorporates both passenger cars and all other kinds of machinery. Valuation in the survey is at basic prices, i.e. excluding VAT.

As explicit information on the value of leased passenger cars is available from the calculations of the NA's vehicle model, the value of leased passenger cars is withdrawn from the total leasing value according to the MFI survey. However, valuation in the NA vehicle model is inclusive of non-deductible VAT. Only industries which use leased cars in their production process, i.e. taxi, funeral, car hire and driving education services are allowed to deduct VAT according to taxation rules.

Therefore this amount has to be considered in the calculation process, SEK 6 709 million. Another correction has to be made regarding industries which cannot deduct VAT on other machinery, i.e. financial, education, health care services, the SEK 201 million. This amount is available in the weighted average rate calculations.

After leased car vehicles both in the private and the public sector have been properly valued and withdrawn, the remaining value represents other machinery items.

For the distribution of machinery objects on different industries, the following sources and methods are used. The manufacturing industry is covered by the investment survey. Data are obtained on the value of new machinery leasing contracts minus disposals. However, the investment survey does not cover enterprises that have less than 20 employees so an adjustment is made for these enterprises. The adjustment is based on the relation between number of employees between those surveyed and the group with less than 20 employees in every NACE-industry belonging to this group. Further, leasing of cars according to the NA vehicle model for market and non-market producers respectively is withdrawn. The remaining value represents machinery leasing object except motor vehicles. The value for non-market producers is based on a benchmark from year 2000 recorded in the government annual accounts. This benchmark is extrapolated with the annual growth rate of the private sector leasing.

The remaining value represents machinery leasing in other industries of the economy. However, the survey gives no information by industry, which is desirable from the point of view of the national accounts. The value of the supply of leasing items is therefore allocated to user industries by the help of the fees paid. Data are obtained from the SBS business statistics on the financial leasing fees paid by industry. The industries' respective shares of the financial leasing fees are used for distributing the total value of leasing items by industry.

### ***Cultivated biological resources (AN.115)***

Investments in cultivated biological resources consist of livestock, draught animals and dairy cattle which relates to net changes in stocks of these animals. The calculations are carried out by the Swedish Board of Agriculture on the basis of numbers reported and unit prices. Race horses are cultivated assets bred for the purpose to be used repeatedly in the production process. The money from horse races that go back to the horse owners is the basic frame for the calculation of horses. One source for calculation is the Economic Account for Agriculture (EAA) that gives stud farms sales value a small raising premium. Another source is wages to horse trainers that give the increment to the sales value and the raising premium. The figures also include foreign trade and intermittent consumption figures. Moreover, AN. 115 includes other forestry operations. Records covered here include forest management operations, such as cleaning, soil scarification, forest cultivation, forest regeneration, forest fertilization, forest drainage etc. The data are obtained from the National Board of Forestry.

### ***Intellectual property products (AN.117)***

The following types of GFCF in intellectual property products are distinguished in ESA 3.127 (8-11).

**Table 5.10.3.7 Intellectual property products, SEK million 2011**

AN.117	Intellectual property products	228 322
AN.1171	Research and development	136 167
AN.1172	Mineral exploration and evaluation	1 040
AN.1173	Computer software and databases	88 602
AN.1174	Entertainment, literary or artistic originals	2 513

### ***R&D in GFCF estimates (AN.1171)***

The approach used to measure Research and Development (R&D) involves summing up the costs incurred in the course of production. The source for the current cost and capital expenditures is the

Frascati survey on R&D. The Frascati survey is an exhaustive source for all R&D performed. The measurement of the output is the sum of current cost i.e. compensation of employees and payments for intermediate consumption. The level of software R&D is deducted from the expenditures on R&D by industry to avoid double recording.

To eliminate double recording of own-account production of software, Statistic Sweden makes the following adjustment. With the information from the Frascati survey on R&D in year 2001 about software related to R&D, the proportion of the total expenditure which constitutes software-related expenditure on R&D by industry has been calculated. This proportion by industry is applied on the total expenditure on R&D from the Frascati survey by industry each year. The level of software R&D is then deducted from the expenditure on R&D by industry.

A contribution of capital services from other traditional capital assets such as buildings, machinery etc. is added. The capital services are measured through the value of capital consumption of these assets. Further reading about capital services is available in section 4.12. Taxes on production, not included in the Frascati survey, are added and subsidies on production are subtracted. Other taxes on production are calculated as follow. The sum of other taxes on production by industry is divided with total output by industry in current price. This gives the proportion of tax on production by industry. This share is then applied on own production of R&D that gives the taxes on production by industry. This amount of taxes by industry is then added to the own production of R&D that gives own production of R&D including tax on production. The source for the subsidies on production is The Swedish National Financial Management Authority. Extramural<sup>18</sup> purchases of R&D that should be recorded as intermediate consumption is added. The intermediate consumption in the R&D industry, i.e. R&D services subcontracted by one R&D institutional unit to another R&D institutional unit, is calculated as follows. First, the R&D industry's share of the total production of product M72, R&D; is calculated. This share is applied to the R&D industry's total investment in product M72. The outcome of this is recorded as intermediate consumption in the R&D industry.

In addition, for market producers an extra item is added in the form of a mark-up reflecting the need to generate enough operating surplus. The net-operating surplus of market producers of own-account R&D is derived with a mark-up including unsuccessful R&D. No adjustment is done to the sum of cost derived from the Frascati survey which entails that the unsuccessful R&D is included in the calculation of the mark-up. The mark-up is calculated as an average of several years' net operating surplus for all industries, except the pharmaceutical industry and the industry for real estate activities.

An addition is made by industry for those producers that are not included in the Frascati survey frame, i.e. industries with less than ten employees. The addition is an upward adjustment of 3.2 percent that is applied to all industries that produce R&D. The upward adjustment is based on the relation between employees in these small enterprises and the surveyed population. A work is in progress to include producers with less than ten employees in the Frascati survey frame and a pilot study has been conducted. The result from the pilot study showed that the results were in line with the upward adjustment already made. Other adjustments in sector 13 refers to Stockholm School of economics and municipals associations. Further, ALF<sup>19</sup> funds goes from the state through university to university hospitals and is thus the public consumption of counties and as transfers from the state to counties under National accounts. This has previously been treated as purchases and sales between sectors of NA. In the R&D statistics (Frascati survey) include ALF funds both in the county and the university, which allows us to draw ALF from the university.

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<sup>18</sup> From outside the unit in question

<sup>19</sup> Agreement on medical training

From the results of total R&D, as calculated above, the R&D that is sold is deducted. Hence, the remaining result is own account R&D. The source for the sold R&D is the SBS. The source for the sold R&D by industries is the SBS.

The source for R&D produced by specialized commercial research laboratories and institutes is also the SBS. The production is valued at market price by adding net taxes on products. Moreover, tables 5.10.3.8 and 5.10.3.9 below show the templates that are used to calculate total output and GFCF of R&D, whether it is R&D sold or on own account.

To the total R&D output, the imports of R&D are added. The source is the foreign trade statistics on services. However, for large enterprises this data is compared with the extramural expenditure of the Frascati surveys, which will include purchases from abroad. Taxes on products are added and subsidies on products are subtracted. The taxes on products are value added tax.

Extramural purchases of R&D that should be recorded as intermediate consumption and changes in inventories of finished R&D are subtracted. The source for changes in inventories is the SBS. The work in progress in SBS has the same definition as the accounting principles prevailing. There are costs incurred for R&D which is ordered and will be sold but not yet invoiced. The exports of R&D are subtracted. The source for the exports of R&D is the foreign trade statistics on services. Finally, net purchases of R&D between domestic sectors is added. The calculations can also be followed in tables 5.10.3.8 and 5.10.3.9 below.

#### *Government, non-profit and non-market producers*

All expenditures by government units on R&D are recorded as GFCF. The Frascati survey on R&D is the source for the calculations. R&D by government units and non-profit research institutes is valued as the sum of costs of production including capital consumption for assets held, but no mark-up is imputed. Otherwise the calculation of the output for non-market producers is carried out with the same principles as for market producers. The Swedish national financial management authority (ESV) is the source for the revenues from sale of R&D by non-market producers of R&D. The revenues from sale of R&D by non-market producers of R&D are recorded as revenues from secondary market output. The R&D production calculated with data from Frascati survey is adjusted with the secondary market output to avoid double counting.

The main sources for non-market producers of R&D are three separate R&D surveys based on the Frascati manual. The surveys cover:

- Central and local government agencies, Public research foundations, Government financed local and regional research-units
- Universities and High schools
- Non-Profit Institutions Serving Households

**Table 5.10.3.8 Output of R&D, SEK million and percentages, 2011**

		S11		S12		S13		S14		S15		TOTAL	
		+	-	+	-	+	-	+	-	+	-	+	-
1	Frascati Manual Intramural expenditures on R&D	80332		812		39490				246		120880	
2	Subtract payments for licences to use intellectual products (principally R&D assets, such as patents) that should be recorded as GFCF												
3	Subtract expenditure on own-account production of software		5887		367		248						6502
4	Add payments to postgraduate students not included in FM data												
5	Subtract capital expenditures		5147		28		1669				1		6845
6	Add other taxes on production not included in FM data	1664		20		2						1686	
7	Subtract other subsidies on production		2002		0								2002
8	Add extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	1689		0								1689	
9	Sub-Total (1 to 8): current expenditures	83685	13036	832	395	39492	1917			246	1	124255	15349
10	Add estimate of consumption of fixed capital plus a return to capital (for non market producers only consumption of fixed capital):												
11	- Option 1: As percentage of current expenditures (line 9) or compensation of employees	11352		67		1676				4		13099	
12	- Option 2: As cost of capital services measured with a PIM												
13	Adjustment for exhaustiveness	2624		16								2640	
14	Other adjustments		6		2		1911						1919
15	Balance : Output of R&D		84619		518		37340				249		122726



**Table 5.10.3.9 Gross Fixed Capital Formation of R&D, SEK million and percentages, 2011**

		S11		S12		S13		S14		S15		TOTAL	
		-	+	-	+	-	+	-	+	-	+	-	+
1	R&D output		84619		518		37340				249		122726
2	Add imports of R&D		31351		36		275				223		31885
3	Add trade margins												
4	Add taxes on products		146		14						105		265
5	Subtract subsidies on products												
6	Subtract extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	1689										1689	
7	Subtract acquisitions of R&D not expected to provide a benefit												
8	Subtract changes in inventories of finished R&D	264										264	
9	Subtract exports of R&D	16756										16756	
10	Add net purchases of R&D between domestic sectors		3825				-4026				201		
11	Sub-Total	18709	119941	0	568	0	33589			0	778	18709	154876
12	Balance: Total GFCF of R&D		101232		568		33589				778		136167
13	Add/subtract capital transfers of R&D assets between sectors in capital account												

5.10.3.9 The calculation of CFC of R&D is made with a geometric depreciation function, see also section 4.12. Due to lack of specified information on service life, the recommendation from the Task Force on R&D of 10 years is used. A declining balance rate of 1.65 results in a depreciation rate of 16.5 percent. However, in the next round of Frascati survey on R&D a question about service life is added for the market producers. This will hopefully lead to more specific national data by industry for service life estimates on R&D.

#### **Back casting of R&D estimates and the estimates for years between the R&D surveys.**

The source for the current cost and capital expenditures is the Frascati survey on R&D. Sources are available for different periods for different sectors. Market producers and Central government from 1964, Local government from 2005, University from 1971 and for NPISH from 1964.

Complete calculations as described above is done for the business sector back to 2005. For earlier years the Frascati survey on R&D have also been the source for the calculations. However, an extrapolation has been done for companies that employs 10-49 persons that is not surveyed before year 2005. The companies that employ 10-49 persons in the Frascati survey year 2005 and forward, on average stands for 8 percent of the business sectors R&D expenditure. The total R&D expenditure the years before 2005 has been grossed up with 8 percent. The gross up and has been distributed down by industry using each industry's share of total costs in 2007.

Before 2001 NACE K, financial services and insurance activities, was not surveyed. A back cast has been done for earlier years. The share of NACE K R&D expenditure in year 2001 has been used to extrapolate NACE K back in time.

For Central government and universities the Frascati survey on R&D have been the source for the calculations the whole time series. The County Councils and the municipalities is not surveyed before year 2005. Complete calculations is done from 2005 and forward. The years before 2005 the County Councils and the municipalities R&D expenditure is back casted with the growth of output for each sector respectively.

For Non-Profit Institutions Serving Households the Frascati survey on R&D have been the source for the calculations since 2011. Before 2011 the survey had another survey sampling frame, private non-profit, and where therefore not usable. Before year 2011 the R&D expenditures are back casted with wage growth in the sector.

Own account R&D in years in which no primary statistics are available, the R&D is carried out every two years, have been extrapolated with the development of production in each industry. The R&D survey also collect forecast for the coming year  $t+1$ . The statistic previously had poor quality but has in recent years become much better, which has made that we have begun to use this as a source for R&D.

### ***Computer software and databases (AN.1173)***

Investment in computer programs consists of two parts, *purchased software* and *software produced for own account*. Hardware consultancy services are separately identified and described in section 3.16 and not included here.

#### ***Purchased software***

The basic source for the calculation of purchased software is the survey “Enterprises’ IT expenditure” which is carried out yearly and is mandatory for all companies. In the survey companies are asked to fill in specific amounts regarding costs and expenses from their balance sheets and income statements. The answers provide detailed information about the companies’ costs and investments in purchased software. It also provides data on the allocation of use between intermediate consumption and gross fixed capital formation, and the share of IC and GFCF.

The final data is then divided by NACE-industry in a more aggregated level, e.g. industries grouped according to relevant kind of production. The following table shows which industries are aggregated in the survey results:

NACE	05-09	10-33	35-39	41-43	45-47	49-53	55-56	58-63	64-66	68	69-82	90-93	95
------	-------	-------	-------	-------	-------	-------	-------	-------	-------	----	-------	-------	----

The data is then compared to the level of investment for purchased software of the previous year for calculating the annual change. The industry aggregated levels are used to calculate the investment on each individual NACE. For industries, which are not included in the table, as well as for the other sectors of the economy, extrapolation by annual growth rate for the total investments in software from the survey is used.

#### ***Software produced for own account***

Own account software is software that is intended for internal use by the developing company in their administration or production process; or for the purpose of selling copies, and is therefore treated as an investment.

For the calculation of own account software the following sources are used:

- Vocational Register: the number of computer specialists (ISCO 08; 213) employed by sector and industry
- Salary Statistics: average salaries for computer specialists employed by sector and industry.
- The survey “Use of IT in companies”, that is carried out by Statistics Sweden. In the questionnaire, companies are asked to allocate time spent by computer specialists to three parts:

- Own account software development
- Software development on commission
- Maintenance, support and repairs.

Structural Business Statistics: production value and salary totals for NACE 62, Computer consultants.

The calculation of gross fixed capital formation in own account software is a multistage process consisting of several steps:

$$\begin{aligned}
 &\text{Own account software} = \\
 &\quad \text{The number of computer specialists} \\
 &\quad \quad \times \\
 &\quad \text{Average salaries for computer specialists including employer's contributions} \\
 &\quad \quad \times \\
 &\quad \text{Percent share of computer specialists' time spent on own account software development} \\
 &\quad \quad \times \\
 &\quad \text{Production to Salary ratio of NACE62 Computer consultants}
 \end{aligned}$$

As a first step in the compilation process new sector distributed data on the number of computer specialists was aggregated into the NA industry codes. After this salary totals were compiled for each industry and sector as the product of the number of employees and average salaries over a year. Salary totals were compiled inclusive of employer contributions.

The data was then adjusted to account for the fact that computer specialists do not spend 100 percent of their time on the development of own account software. The adjustment factor for each industry depends on the shares provided in the IT-survey.

**Table 5.10.3.10 Calculation of own-account software**

Own-account software calculation, 2011					
NACE	Number of computer specialists	Average year salaries for computer specialists, SEK th. , incl. employer's cont.	Percent share of computer specialists' time on own account software development, %	Production value/salary ratio, NACE 62 Computer consultants	Output of own account software = Investment of own account software
A01	27	641.29291704	17.1347865226587	2.66	8
.	.	.	.	.	.
J58	4 640	629.153273124	7.89456374292337	2.66	613
J59	155	531.984021696	7.89456374292337	2.66	17
J60	239	576.300366756	7.89456374292337	2.66	29
J61	1 351	738.691408908	37.6741333523701	2.66	1 000
.	.	.	.	.	.
P85	390	487.219134852	17.1347865226587	2.66	87
.	.	.	.	.	.
.	.	.	.	.	.
Total					27 183
Ex. NACE J61 output= $(1351 * 738.7 * (37.67/100)) * 2.66 = 1000$ SEK million					

Finally the adjusted values were transformed into a market value by applying the ratio between production value and salary totals for NACE 62-Computer consultants to the estimates based on the computer specialists salaries by industry and sector. Thus intermediate consumption, consumption of fixed capital and a mark-up for net operating surplus is included implicitly.

#### ***Investment in entertainment, literary and artistic originals (AN.1174)***

As recommended in GNI/022, the Task Force on Entertainment, Literary and Artistic Originals, the estimation of gross fixed capital formation in the form of originals covers literary and musical works and the production of films and certain TV and radio stock programs. However, they must be covered by copyright, have primary artistic intent, meet the capitalization criterion of use for more than one year and not be accounted for anywhere else in the NA.

These intellectual property rights are assets, which will give the holder regular earnings for the foreseeable future. When the assets are created and traded, the acquisition and disposal values should be recorded. The current payments which constitute present and future earnings on intellectual property assets will be the capital formation. Two different methods of estimation are recommended.

A production costs approach including a mark-up for operating surplus. Production costs should include any royalty payments made for the use of other originals.

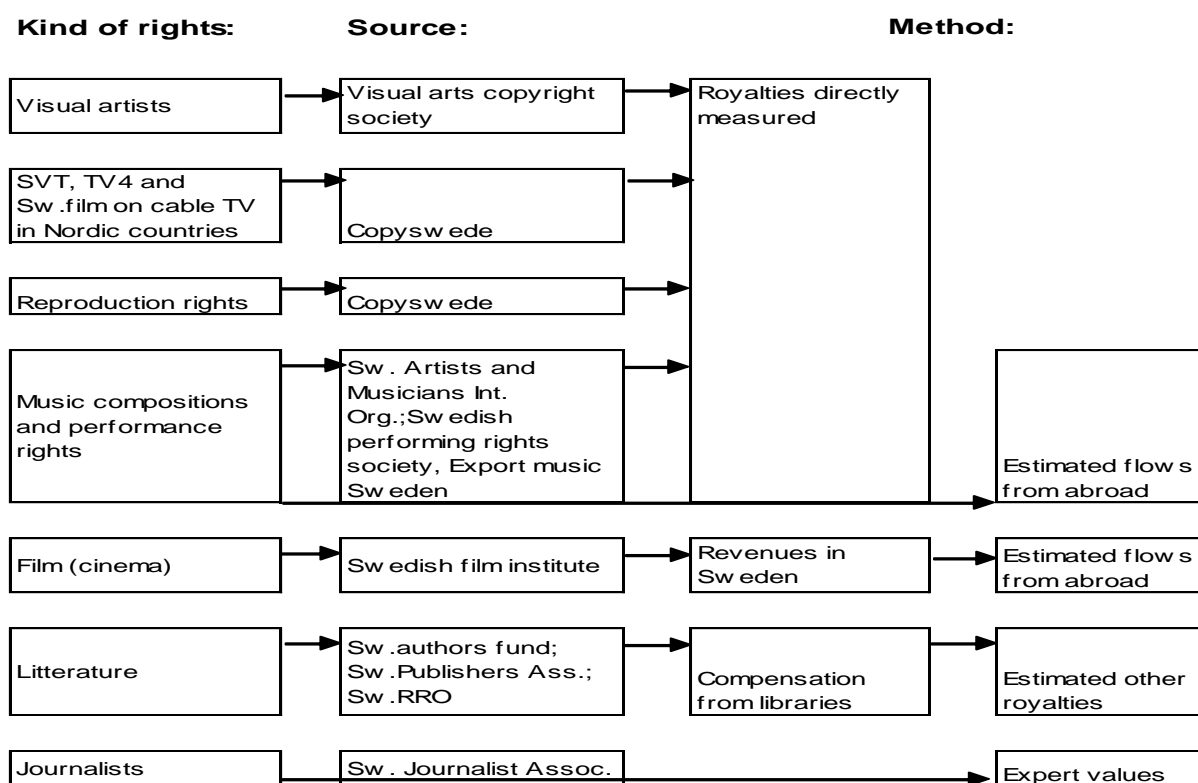
A discounting approach of future returns at the present value. In this approach it is assumed that output and discount factor is on average the same when looked upon over a period of time. The value W can then be compiled by the help of formula  $W = H * (1+r-i)$  for each object where H is the value of annual fees of royalties and copyrights and  $r$  is the growth rate of royalties. It is assumed that the value of the originals in question is equal to the discounted value of future royalty incomes.

The problem is that the future royalties are not known. However, information on current income from royalties from culture and entertainment is available in annual statistics. In the national accounts the simple assumption is chosen, to use the value of royalties received by the artists in question in year  $t$  as

a proxy for the value of originals created in year  $t$ . The reasoning behind this simple convention is as follows: Since there is no information on future royalty earnings, it is assumed that in the long term royalties actually increases somewhat faster than the economy as a whole, since leisure activities have income elasticity greater than one. More specifically, the future real growth rate is taken to be equal to the real rate of interest, which likewise is normally greater than the growth rate of the economy. With these assumptions, the equilibrium value of the originals created in any given year may be estimated as the income from royalties in the same year. In the absence of a better methodology, the value of production of new original musical works is taken to be equivalent to the value of royalties earned on existing originals

Where copyright and related rights generated by a work are collected mainly via management societies, the output of original works is estimated on the basis of the royalties paid by all the Swedish management societies combined to Swedish recipients. The following items are covered:

**Table 5.10.3.11 Sources and methods of artistic originals**



The method chosen for the Swedish estimates mainly use data from organizations in charge of copyrights to authors, artists, musicians etc. Information has been collected with the assistance of the respective member organizations. There are a great number of organizations covering a wide range of activities within the area. They all keep annual records on what is paid from clients to the originators. The pattern of payments under the copyright system is somewhat complicated. Both Swedish and foreign companies or private persons can be registered in Sweden as rights holders and the contents of the member organizations regard them all as Swedish. The information available relates to annual payments of compensation for rights which are either totally new or have existed for an unknown number of years. The calculation, therefore, includes current payments under copyrights and other payments such as royalties, which occur particularly in the field of literature and music. Other occasional income is not regarded as capital formation. Both payments under copyright and royalties in the field of literature and music are included.

Although there are rights' transfers, it is assumed that this is own account capital formation. Data on annual payments are used, irrespective of whether the work is new or not. There is output from the production of originals and any costs for these can be accommodated during one year.

Swedish cinema is defined somewhat differently than other rights, inter alia owing to the nature of the available data. Revenue from Swedish cinema in Sweden is recorded as annual revenue, without payment of compensation under the copyright. There are no data on Swedish films abroad at present, whereas Swedish music abroad has been calculated in a research project in cooperation with the organization Export Music Sweden.

Depreciation is calculated using a depreciation rate of 0.55 for artistic originals. We do not have any empirical data supporting this rate. It is based on an assumption that normally these rights have a substantial economic benefit over a few years after the right has been established. We have agreed on an average service life of 3 years but in most cases it is shorter, including video rights and the like. But to include exceptions like block busters and ABBA a slightly longer service life is chosen. The declining balance value used is the same as is used by BEA for machinery when no other information is at hand, i.e. 1.65. This gives us  $1.65/3$ , which equals 0.55.

#### *5.10.3.2. Consumption of fixed capital on roads and bridges*

For roads Statistic Sweden uses a 40 year lifetime combined with a declining balance rate of 1.5775 which gives a depreciation rate of 3.94 percent. This depreciation rate is within the interval of 3.3 percent to 4.0 percent suggested by the GNI Committee, although the committee proposes a lifetime in the interval 50 to 60 years combined with a declining balance rate of 2.0. See Section 4.12.3 for more details.

#### *5.10.3.3 Car scrap schemes*

The Swedish car scrap scheme expired in 2007. It has been replaced by a higher responsibility/undertaking for the car scrap at the manufacturers and importers. The car scrap scheme was conditional in Sweden and it was recorded as a tax on products in the Swedish national accounts (D21) albeit the GNI Committee recommendation is to record as subsidies on products D31 as stated in GNIC/232, rec. 3. It is noted that the recording as D21 is GNI neutral. According to the Commission's services the recording was properly addressed by Sweden. For more information see chapter 4.9.

#### *5.10.3.4 Land improvements in GFCF*

Land improvements (AN.1123) in Sweden concern draining of agricultural and forest land and woodland improvement like soil preparation in order to improve regeneration after fellings. Information is received from the Swedish Board of Agriculture and the Swedish Forest Agency.

#### *5.10.3.5 Costs of ownership transfer in GFCF estimates*

Costs of ownership transfer on non-produced assets (AN.116) are treated as a special item of GFCF. However, when stock levels are itemized, the value of these costs of ownership transfer is included within the non-produced assets to which they refer. Also see section 5.2.

## 5.11 Changes in inventories

### 5.11.1 Sources and methods

In the Swedish NA, the main sources used to calculate changes in inventories are two quarterly business surveys. These surveys are carried out by Statistics Sweden. The first survey covers inventories in manufacturing industries and the second covers wholesale and retail trade industries. These sources are complemented with a number of other sources for the industries agriculture, forestry, electricity, fuel and gas, construction and services industries.

Two main methods are used to estimate changes in inventories. The first, and most important, method is based on the book-keeping values of opening and closing stocks of inventories from business accounts. Enterprise surveys are used in order to obtain the inventory stocks followed by a process of deflation, differencing and reflation to the average price of the period, which is described below in section 5.11.2. The second method is the so called quantity revaluation approach, where the calculation is based on information about quantities of inventories at the beginning and end of a period. The quantities are multiplied with the price of the products to obtain the change in inventories. When calculating changes in inventories from opening and closing stocks, irrespective of book values or quantities are available, it is important to use short time periods because of the large fluctuations of the stock data overtime. Therefore figures based on quarterly (and monthly) statistics are better than annual information. Hence the Swedish figures for annual inventories are mainly based on quarterly information from surveys carried out by Statistics Sweden. The annual value will be the sum of the four quarters. Annual balance sheet information from business accounting is only used for small parts of inventories.

### 5.11.2 Valuation principles

To calculate changes in inventories according to national accounts definitions information on all entries into and withdrawals from inventories are required. These entries and withdrawals should also be valued at the actual prices when transactions are made. However, these flows and the valuation are difficult to measure in practice. Business accounts, which are the main source for the quarterly business surveys, have two major shortcomings in this aspect. First, enterprises usually do not keep full details of inventory flows. The surveys instead measure stocks of inventories at the beginning and at the end of the quarter. Second, enterprises use varieties of historic cost methods, e.g. acquisition costs, for valuation of inventories, none of which satisfy the national accounts concept of valuation. Consequently, approximations and models are needed to recalculate data to meet national accounts requirements.

There is no complete information on what kind of accounting methods the enterprises use, but previous studies have been carried out to get information on which methods are the most common. The quarterly business surveys used to ask the enterprises about what valuation method they used, but that is no longer the case. Now, the enterprises are instead asked to value the inventories in a specific and consistent way. In the Industrial inventories survey, enterprises are asked to value the inventories of intermediate inputs of materials and supplies and goods for resale at acquisition cost. For inventories of work in progress and finished goods (from own production) the valuation by the enterprises should be the net sales value of the measurement day, but enterprises not able to do this can use manufacturing cost plus a mark-up. The enterprises in the Survey on inventories in the wholesale and retail trade industries are asked to value the inventories in acquisition cost. The acquisition cost of the inventory can be calculated according to the FIFO (First-In-First-Out) method or weighted average prices.

Recurrent losses in inventories are deducted according to accounting rules. If net sales value is reported then deduction is made for inventory obsolescence and if acquisition cost is reported then the enterprises use a standard deduction. This applies under the condition that the enterprises have an ongoing inventory accounting or at least quarterly inventory and follow the accounting rules.

A changed valuation of the stock of inventories in enterprises contains effects of both a change in stock volume for a product and a change in price per unit of the product. Only the former effect should be taken into account when calculating changes in inventories in the national accounts. The effect of price changes is treated as holding gains/losses. Holding gains/losses are not the result of a production process and thus do not contribute to GDP. The nominal holding gains/losses are instead a part of both the asset and liability side of changes in net worth (K7), within the revaluation account in the sector accounts.

The Statistics Sweden's model for calculating changes in inventories is described in the six steps below that also explain how the holding gains/losses are excluded. This is the main method but some minor exceptions are made in the Wholesale and retail trade industry.

Steps:

The opening and closing stocks of inventories that are collected in the surveys are, as previous mentioned, valued at *acquisition cost* for goods for resale and materials and supplies by the enterprises. Inventories of finished goods and work-in-progress are in net sales values.

The inventories valued at acquisition cost (i.e. goods for resale and materials and supplies) are recalculated by Statistics Sweden to replacement cost using the price index from the time the goods entered the inventory. The time the goods entered the inventory is estimated using a model on how long goods on average are in the inventory (inventory-to-sale ratio) and the assumption that purchases for inventory is distributed evenly over the period.

Opening and closing stocks of inventories are then recalculated to the price level in the middle of the quarter, which means that opening and closing stocks are valued at same price level, the mid-month of the quarter.

Opening and closing stocks of inventories are then deflated with the price index of the middle month in the quarter. The difference between the deflated opening and closing stock of inventories are the *changes in inventories at constant prices*.

The *changes in inventories at current prices* are then calculated by reverse deflating the changes of inventories in constant prices with the average price of the quarter expressed in relation to the averages price of previous year.

The holding gains/losses are then the difference between the result in step 5 and the change in inventories valued at replacement cost, in step 2. This item not included in GDP but recorded in the revaluation account.

A fictitious numeric example of these calculation steps are presented in table 5.11.1.

**Table 5.11.1: Calculations steps to exclude holdings gains/losses**

Step	Valuation/price		2010Q4	2011Q1	2011Q2	2011Q3	2011Q4	2011
1	Acquisition cost	Closing inventory stock	100	110	105	120	115	
		Changes in inventories		10	-5	15	-5	15
		Deflator for replacement cost	100,5	101,1	100,8	99,0	102,3	
2	Replacement cost	Closing inventory stock	101	111	106	119	118	
		Changes in inventories		11	-5	13	-1	17
		Mid-month deflator	100,3	98,0	101,6	104,1	102,7	
3	Mid-month price level	Closing inventory stock	101	109	108	124	121	
		Changes in inventories		8	-1	16	-3	20
		Mid-month deflator (t-1)	98,9	99,9	100,1	94,7	99,7	
4	Constant prices (t-1)	Closing inventory stock	100	109	108	117	120	
		Changes in inventories		9	-1	9	3	21
		Quarterly price index in t-1-level	102,0	100,9	97,8	96,1	99,3	
5	Mid-month price level	Changes in inventories		9	-1	10	3	21
6		Holding gains/losses (=5-2)						4



### 5.11.3 Inventory by type and industry

Inventories are calculated for agriculture, forestry, mining and quarrying, manufacturing, electricity, gas and water, construction, trade, other service industries and central government contingency inventories. These industry-groups are allocated in different inventory type subcategories (P52). The connection to the ESA 2010 §3.148 categories is shown in table 5.11.1.

**Table 5.11.2: Changes in inventories and stocks at the beginning and at the end of the year by different categories**

Inventories (ESA 2010 § 3.148)		Industry	Changes in inventories (P52), 2011, million SEK	Source:	Estimation method:
a	materials and supplies	Mining and manufacturing industries	5 950	Industrial inventories survey	Book-keeping values
		Construction industries	109	SBS	Book-keeping values
		Inventories in electricity, gas and water industry	566	Monthly fuel, gas and inventory statistics	Quantity revaluation approach
b	work-in-progress	Agriculture	-99	Swedish Board of Agriculture	Quantity revaluation approach
		Forestry industry, net growing of standing timber	10 278	The Swedish Forest Agency and Statistics Sweden	Quantity revaluation approach
		Mining and manufacturing industries	2 119	Industrial inventories survey	Book-keeping values
		Service industries	2 722	SBS	Book-keeping values
c	finished goods	Mining and manufacturing industries	6 372	Industrial inventories survey	Book-keeping values
		Forestry industry, felled timber	263	The Swedish Forest Agency and Statistics Sweden	Quantity revaluation approach
d	goods for resale	Mining and manufacturing industries	1 741	Industrial inventories survey	Book-keeping values
		Trade industries	10 203	Inventories in trade and services survey	Book-keeping values

Provided below is an excerpt from the Process Tables showing the values from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustments.

**Table 5.11.3: Excerpt from the Process table for Changes inventories, SEK million 2011**

			Changes in inventories				
			Total	Materials and supplies	Work-in-progress	Finished goods	Goods for resale
Basis for NA Figures	Surveys & Censuses		23 489	5 920	1 604	6 189	9 776
	Administrative Records		10 592	150	10 179	263	
	Combined Data		3 174	111	3 063		
	Total (sources)		37 255	6 181	14 846	6 452	9 776
Adjustments	Data validation		2 095				2 095
	Conceptual	Allocation of FISIM					
		Other conceptual	532	636	515	183	-802
		Total conceptual	532	636	515	183	-802
	Balancing		342	-192	-341		875
	Total (adjustments)		2 969	444	174	183	2 168
Final estimate			40 224	6 625	15 020	6 635	11 944

The adjustments made on the values of changes in inventories are data validation, conceptual and balancing. Data validation refers to a correction in goods for resale in the trade industries after an expert assessment. Conceptual adjustments reflect the revaluation of changes in inventories from replacement cost or net sales value to quarterly averages prices. This is the holding gains/losses and the steps to exclude this item are described in section 5.11.2 *Valuation principles*. The balancing adjustments are done due to imbalances in the use or production of product groups by the other factors in the aggregated demand and supply.

#### 5.11.4 Methods and sources for calculation used by industry

##### *Agriculture*

Data on inventories in agriculture are produced by the Swedish Board of Agriculture. Separate records are made for cereal, animals raised for slaughter and field crops. In agriculture, supplies of bread cereals are mainly stored by the farmers' organizations are therefore recorded as inventories in the industry Wholesale and retail trade. Smaller quantities are stored on farms and changes in inventories are recorded at the end of every year. In the output calculations the value of crop production is spread evenly over the year. The reason for this procedure is that production activities are carried on during most of the year, whereas deliveries in the form of sales of crops are concentrated to the second half of the year. The difference between production evenly distributed and farm deliveries is treated as production building up inventories. The sum over a year is zero, while inventories are built up in the first and second quarters and correspondingly reduced in the third and fourth quarters.

##### *Forestry*

In the forestry industry, changes in inventories are recorded for net growing of standing timber and felled timber. Inventories consist of the change in coniferous sawlogs and pulpwood. This item only includes the timber felling enterprises' own forest-based inventories of timber. Inventories of timber for intermediate consumption by the processing industries or which remains in the forest but have been bought by and belong to the industry, are not part in the inventories in the forestry industry. These inventories are instead intermediate consumption inventories of manufacturing industry.

The inventories of forestry also consist of net growing of standing timber (see description of output in forestry, chapter 3.7). The source behind these inventories and the appropriate price indices are provided by The Swedish Forest Agency and Statistics Sweden; that is Inventory of coniferous sawlogs, pulpwood and chips and average prices of pulpwood of spruce, pine and birch and delivery logs.

### *Mining and manufacturing*

In the national accounts the industrial inventories survey is the source for the total change in inventories of the mining, quarrying and manufacturing industries. The industrial inventories survey is also used to allocate the change in inventories in different subcategories of inventory types into several manufacturing industries and into product groups.<sup>20</sup> As noted in table A, these categories are not the same as listed in ESA 2010 manual, they are however consistent with §3.148 in the European System of National and Regional Accounts (ESA 2010). Inventories are collected and compiled in four different inventory types:

- *Inputs used in the manufacturing industry:* Raw materials, semi-finished products, components, and other items required for the production and distribution of the finished product.
- *Work in progress products in the manufacturing industry* (including work in progress on account of another person): Products whose processing in the unit has been commenced but not yet completed.
- *Finished products of own manufacturing firm in the manufacturing industry:* Products which have been processed in the unit and which, regardless of the degree of processing, are ready for sale to customers or are supplied to another unit (possibly in the same enterprise).
- *Finished products not produced in own manufacturing firm in the manufacturing industry* (goods for resale): Products that have been purchased for resale without further processing in the unit.

No part of the annual and quarterly total changes in inventories of the mining and manufacturing industries is calculated as a residual. Inventories in services are not collected in the industrial inventories survey and thus not covered in the national accounts estimation of inventories. The exception is inventories in services in SNI 26.300, apparatus for line telephony and line telegraphy, which is collected through collection of data direct from large corporations.

Information is collected separately on the costs of production and on the supplement (addition) made in order to get the basic price of inventories at the beginning and at the end of each period. If the value reported reflects only the costs of production it is adjusted in order to reflect the basic price.

For work-in-progress, valuation is according to the cost of production by the producer. A mark-up based on information from the annual SBS is then added by Statistics Sweden. Production estimates are also adjusted in order to reach consistency.

Changes in inventories are calculated as the differences between the stocks of inventories held at the end and the beginning of the period respectively. Opening and closing stocks are revaluated to the average prices, both related to the current year and to the previous year. In the revaluation care has been taken to type of inventory and average time stored. If the average prices refer to the current year, the value corresponds to volume changes in inventories in current prices. If the average prices refer to the previous year, the value corresponds to the volume changes in inventories at constant prices. Appropriate price indices are used in the calculations in accordance to the table below.

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<sup>20</sup> SPIN 2007 – Swedish product classification 2007 (svensk produktindelning 2007).

**Table 5.11.4 Used price indices by inventory type**

Changes in inventories	
Inventory type	PRICE INDEX
Inputs used in the manufacturing industry	INPI <sup>21</sup>
Work-in-progress in the manufacturing industry	PPI <sup>22</sup>
Finished goods in the manufacturing industry	PPI
Goods for resale in the manufacturing industry	PPI

For finished goods, goods for resale and work-in-progress the deflator is the industrial producer price index (PPI) by product group. For input goods special price index series are created by using appropriate price index from the domestic supply index.

#### *Electricity, gas and water*

Inventories in electricity, gas and water comprise investment in private, central government and local government corporations and central and local government enterprises classified in the industries Electricity generating plants, Gasworks, Heat generating plants and Waterworks. They also include inventories from corresponding activities in departments and agencies of local government. Inventories as a whole are made up of 5 different types of fuel. The stock figures in quantities are collected in the Statistics Sweden's energy statistics on a quarterly basis.

#### *Electricity, gas and water*

Inventories in electricity, gas and water comprise stock investment in private, central government and local government corporations and central and local government enterprises classified in the industries Electricity generating plants, Gasworks, Heat generating plants and Waterworks. They also include inventories from corresponding activities in departments and agencies of local government. Inventories as a whole are made up of 5 different types of fuel. The stock figures in quantities are collected in the Statistics Sweden's energy statistics on a quarterly basis.

#### *Construction*

Inventories comprise inventories of goods (inputs). The source is the annual SBS. There is no breakdown of these inventories in product groups in the available sources. Other construction inventories (sale of real estate etc.) are recorded as gross fixed capital formation. Work in progress is reflected in production estimates.

#### *Wholesale and retail trade*

The inventories of wholesale and retail trade industries include calculations for the wholesale trade, the retail trade and the motor trade (including spare parts and accessories). Inventories do not include stocks of second-hand goods. Trade, which on resale generates a trade margin, is not counted as inventories but as output in the trade. The survey does not cover inventories other than goods for resale.

The source for wholesale, retail and motor trade inventories is a quarterly business survey of approximately 2 000 enterprises. The enterprises are asked about opening and closing stocks. Stocks

<sup>21</sup> Intermediate goods price index (InsatsvaruPrisIndex)

<sup>22</sup> Producer price index (Producentprisindex)

are divided into 17 groups of goods and valued at acquisition cost. Changes in inventories are calculated as the differences between the stocks of inventories held at the end and at the beginning of the period respectively. Opening and closing stocks are revaluated to the average prices, both related to the current year and to the previous year in the similar way as goods for resale in mining and manufacturing industries. The acquisition costs reported by the enterprises are recalculated to average replacement cost applicable for the period. Care has been taken to type of inventory and average time inventories are stored. Price indices from the CPI and PPI, appropriate for each product group, are used in the calculations.

The oil companies are excluded in the survey on Inventories in trade and services. These figures are instead collected in the Monthly fuel, gas and inventory statistics, produced by Statistics Sweden. The information collected is quantities of fuel and gas (m<sup>3</sup> and ton). By using appropriate prices per m<sup>3</sup>/ton, the values of the inventories are calculated in constant prices. When dividing these constant prices with appropriate price indices, values in current prices are obtained.

Inventories in *departments and agencies of central government* (so-called contingency stocks) are recorded together with those of the wholesale trade for confidentiality reasons. Inventories consist mainly of the Swedish Armed Forces contingency stocks (ammunition, etc.) and all other governmental institutions materials and supplies..

#### *Service industries excluding trade*

Inventories in service industries excluding trade are based on SBS yearly estimates and consist of inventories of the type work in progress. The stocks in these industries are small compared to the stocks in manufacturing and trade. A quarterly survey was launched a few years ago. The quality is now considered to be good enough, and in 2016 the results from this source will be incorporated in quarterly national accounts as well.

## 5.12 Acquisitions less disposals of valuables

According to ESA 2010 (§ 3.154), valuables are non-financial goods that are not used for production or consumption, and are not depreciated over time like other capital formation. They represent material assets, but are not calculated as *fixed* capital formation, since they do not meet the relevant definition and purpose. The purpose of this acquisition and/or disposal is to "increase value", or at least "to retain value". This distinguishes this heading from consumption and/or gross fixed capital formation in various products.

Valuables comprise the following types of goods:

- Precious stones and metals, such as diamonds, non-monetary gold, platinum, silver, etc
- Antiques and other art objects, such as paintings, sculptures, etc
- Other valuables, such as jewellery fashioned out of precious stones and metals and collectors' items.

The Swedish method relies on calculating assets on the basis of data on new Swedish output, imports, exports and trade margins.

Swedish output of new art, has been calculated with the aid of data from the survey "Artists' incomes", carried out by SCB for the government agency *The Swedish Arts Grants Committee* in 2005. The survey is full census. A previous investigation was made by SCB ten years before. It was published in SOU 19978:190. From these reports average artistic income in the 'visual and graphic artists' group and the number of performers in the group was collected. An output value for 2005 was received. This benchmark is extrapolated with annual grow rate of the NACE-industry in question.

The data provided on trade consists of information from the 23 largest Swedish enterprises in the industry 'Antique dealers and art dealers', NACE code 47790. These enterprises provide services for

trading on the types of goods mentioned above. The types of goods are not separated in the data provided, and there is no distribution for the types of goods. The trade margin is adjusted downwards to take account of, that a certain share of the objects is exported, estimated at around 20 percent.

A total value for assets in the form of valuables is obtained by aggregating the trade margin, imports and the Swedish output. The use is exports and gross capital formation. Gross capital formation is the residual item in the balance. The data on external trade come from the foreign trade statistics. In the foreign trade CN system, these include antiques, 97060000, paintings, 9701100, collectors' pieces, 97050000 and stamps etc., 97040000. According to foreign trade statistics, the highest value belongs to paintings, the second highest is antiques followed by collection objects and stamps.

Finally, VAT is added for Swedish production and trade to get purchasers' prices for the GFCF-estimate

The total value of SEK 890 million for 2011 is distributed according to the following:

**Table 5.12.1 Valuables broken down on component**

	<b>SEK million</b>
Swedish new production	87
Imports	176
Exports	-175
Trade margins	791
VAT	11
<b>Total</b>	<b>890</b>

### 5.13 Exports of goods

The table below shows total exports of goods divided into intra-EU and extra-EU. The main sources for the estimates in national accounts are Intrastat and Extrastat where information by country is collected. Other data sources do not have that information. Hence to divide this data in intra EU and Extra EU the shares from Extrastat and Intrastat are used.

**Table 5.13.1 Intra-EU and extra-EU exports of goods, SEK million**

<b>Export of goods</b>	<b>INTRA EU</b>	<b>EXTRA EU</b>
<b>1 265 493</b>	<b>709 498</b>	<b>555 995</b>

Table 5.13.2 shows the sources and adjustments of exports of goods in the Swedish national accounts.

**Table 5.13.2: Excerpt from Process Tables – Exports of goods, SEK million**

			Export
Basis for NA Figures	Surveys & Censuses		677 463
	Administrative Records		532 345
	Combined Data		62 320
	Extrapolation and Models	Benchmark extrapolations	
		Commodity Flow Model	
		CFC(PIM)	
		Dwellings - stratification method	
		FISIM	
		Other E&M	133
	Total Extrap+Models		133
	Other		
	Total (sources)		1 272 261
Adjustments	Data validation		-6 768
	Conceptual	Allocation of FISIM	
		Other conceptual	
		Total conceptual	0
	Exhaustiveness	N1	
		N2	
		N3	
		N4	
		N5	
		N6	
		N7	
	Total exhaustiveness		0
	Balancing		
	Total (adjustments)		-6 768
Final estimate			1 265 493

### 5.13.1 Surveys, censuses and administrative records

The main source is international trade in goods statistics (ITGS). ITGS consists of Intrastat and Extrastat. Extrastat is a census of total record from Swedish Customs and Intrastat is a survey processed at Statistics Sweden. The extra-European trade data is obtained from the customs office on monthly basis with practically no delay. For the extra-European trade, non-response is not a significant issue (practically non-existent except for criminal movements, i.e. smuggling). Intrastat is a census with cut-off value based on the value of arrivals/dispatches from/to other EU countries. Data are collected from all enterprises with total exports of goods to other EU countries or imports of goods from other EU countries to a minimum value of SEK 4 500 000. According to the EU legislation, the survey has to cover at least 97 percent of the dispatch value and 95 percent of the arrival value. The surveyed population is determined through the use of the VAT Register of the Swedish Tax Agency. During 2011, approximately 14 000 companies were obliged to provide information to Intrastat, approximately 8 400 companies for arrivals and 5 600 for dispatch. For the intra-EU trade, the non-response in terms of value is normally a few percent whereas non-response expressed in number of non-respondents is around 8 or 9 percent at the very first dissemination round. Under-coverage and non-response are continuously adjusted for by supplementing data from EU VAT declarations and historical Intrastat data (see section 10.3 on International trade statistics in goods)

Data for both Extrastat and Intrastat are collected according to the Combined Nomenclature (CN) and linked to the product classification applied in the national accounts product accounts.

Some specific goods are included in ITGS even though they do not follow the principle of physically moving between Sweden and other EU countries, for example vessels and aircrafts which follow the rule of ownership. Since international trade in goods statistics only partly cover trade that is not crossing the border, in some minor cases complementary sources are used in NA. There are also some other alterations of ITGS data when it is used in NA. These differences are described below.

#### *Reclassification of products*

Some products that are captured in international trade in services statistics are treated as goods in the NA and are moved from services to goods. The products are shown in the table below. There are also some CN numbers that are recorded on this basis as exports of services, see section 5.14.

**Table 5.13.3 Products registered as goods in NA but services in the Trade in service statistics**

Code	Product	SEK million
A016A	Agricultural and animal husbandry services (except veterinary services)	27
B09	Mining support services	14
E382	Services treatment and disposal services	929

#### *Treatment of repairs*

Repairs are to be treated as goods in NA. Since the ITGS does not capture repairs, data from international trade in services statistics are used instead.

#### *Steps taken to record exports on a change of ownership basis*

ITGS is collecting data regarding goods crossing the frontier while the NA is to record exports of goods at change of economic ownership irrespective of corresponding physical movements of goods across frontiers. In ESA 2010 the following examples for exports and imports of goods are listed:

- (a) goods produced by resident units operating in international waters sold directly to non-residents in foreign countries.
- (b) transportation equipment or other movable equipment not tied to a fixed location;



(c) goods after changing ownership, which are lost or destroyed before they have crossed the frontier of the exporting country;

(d) merchanting (only exports)

Regarding point (a) a small addition is made regarding fish that is exported without crossing the Swedish frontier, based on data from the Swedish Agency for Marine and Water Management. Data is collected from the yearly report “Swedish sea-fisheries during year t”. Data on “Landings of sea fisheries by coastal district in year t” is used to calculate the addition made in the NA for fish that is exported directly without crossing the Swedish border.

Transportation equipment such as aircrafts and vessels not tied to a fixed location (b) are captured in Specific Movements of Goods in Intrastat. Goods that after changing ownership are lost or destroyed before they have crossed the frontier of the exporting country (c) are not captured on a regular basis. For the largest companies this type of information would generally be captured by the Coordination and Corporate Affairs unit and be taken into account. In practice the problems with goods lost or destroyed before crossing the frontier have not been encountered.

Regarding merchanting separate calculations based on the SBS is carried out to cover this item (see section combined data). Data on merchanting are collected both by the ITSS and SBS. The data on merchanting from these sources are validated in order to ensure consistency between them. The data are then recorded in the national accounts as positive exports (merchanting income) and negative exports (merchanting expenses) and as a trade margin in the valuation of the output of the corresponding industry. The table below shows the positive and negative exports corresponding to merchanting broken down by product according to 2-digit NACE I million SEK 2011.

Product	Exports	Negative exports	Margins
<b>Total</b>	<b>287 553</b>	<b>-225 233</b>	<b>62 320</b>

Deliveries between affiliated enterprises are captured in the ITGS irrespective of whether there has been a change in the economic ownership or not, based on when the goods are crossing the frontier. In order to follow the change of ownership principle, adjustments are made for goods sent abroad for processing and merchanting.

### *Goods sent abroad for processing*

Another difference between the ITGS and NA is the treatment of goods sent abroad for processing that are recorded on a gross basis in the ITGS and on a net basis in NA and hence an adjustment is made in NA. There are basically three methods used for recording of goods sent for processing transactions:

- 1) Goods sent abroad for processing where goods leave the country and come back. For these cases the ITGS is used based on the procedural codes that identify when the goods is sent abroad before and come back after processing.. Imports of goods after processing minus exports of goods before processing are then calculated and recorded as imports at net basis in NA. Exports of goods after processing minus imports of goods before processing are recorded as exports at a net basis.
- 2) Goods are sold directly after processing and do not come back to Sweden. For these transactions information from the SBS and Production of Commodities and Industrial Services (IVP) used. These transactions are mainly recorded on net basis that is as merchanting. Goods sent abroad for processing is recorded for one large company. Work is ongoing to delineate between merchanting and goods for processing and to change the recording where necessary. However, whether the transactions are recorded as merchanting (net) or goods sent abroad for processing (gross) does not affect the GNI.
- 3) Foreign enterprises process goods in Sweden and sell the goods in Sweden. There are no trade flows recorded in the foreign trade statistics when Swedish companies perform contract

processing where a foreign company owns the raw material and the finished products are sold within the borders of Sweden instead of being sent back to the client country. These goods should be recorded as imports to Sweden but since the goods do not cross the border they are not captured in the ITGS. This phenomenon has been detected in certain products. When this occurs corrections are made based on data from Statistics Production of commodities and industrial services (Industrins varuproduktion, IVP). If the companies state in IVP that the contract processing is for a foreign company adjustments are made to record the goods as imports and intermediate consumption and the production as the total value of output.

The table below shows the value of the exports and import of the processing fee (service) in connection with goods sent abroad for processing.

	Value in million SEK
Product/CPA	Export
C1	563
C2	20 666
C3	153
E3	-1 340

A consistent treatment in relation to output and intermediate consumption is ensured through the reporting of processing fees in the IVP statistics for *inward processing*. The value of the output for these companies equals the production of an industrial service (the processing fee) and not the value of the final processed good. Concerning *outward processing* the value of the imported processing fee is included in the estimation of the intermediate consumption from the SBS.

### *Valuation of trade in goods at invoiced values*

According to ESA 2010 imports and exports of goods are to be valued free on board at the border of the exporting country (FOB) at a global level. For the individual product groups imports of goods should be valued at the cost-insurance-freight (CIF) price at the border of the importing country.

However, in the Swedish NA both imports and exports of goods are valued at invoice values. This approach also affects the calculation of trade in freight services (see sections 5.14 and 5.16). Theoretically a valuation at invoice value give the same net exports as a FOB/FOB valuation or CIF/FOB valuation, only the division between goods and services of the balance is affected. The reason for using invoice values is that estimates from the Intrastat survey cannot provide the required adjustments for valuing exports fob and imports cif. During 1998 and 2006, calculations according to the fob/cif principles were performed, but the results turned out to be unreliable.

Both Intrastat and transport data in the Trade in Services Survey are collected at invoice values. This means that freight services and insurance costs are included in the goods value in Intrastat if these costs are included in the terms of delivery according to the invoice, otherwise these costs are not included in the reported value. In the Trade in Service Survey the data collected are freight services that are invoiced separate from the goods that are traded. Extrastat, which represents 1/3 of the total foreign trade, is nevertheless collected at statistical values (FOB for exports and c.i.f. for imports). Therefore an adjustment has to be made to the Extrastat data and information to use to be able to do this is collected in a survey every fifth year<sup>23</sup>. Still, by using invoice values a smaller part of international trade is affected by adjustments than if a c.i.f./f.o.b valuation was carried out.

<sup>23</sup> In the document - <http://www.scb.se/contentassets/72dba35a990e4a3b999fcd4ee4e3257c/survey-on-statistical-value-2013.pdf>, the method for estimating statistical values in Intrastat in the ITGS is described. The same information is used to recalculate Extrastat data to invoice value in the national accounts.

Given the approach where the data collected are valued according to different principles there are difficulties to record trade in goods where exports are strictly valued f.o.b. and imports strictly valued at c.i.f. The use of invoice values gives the following advantages:

- Other model based solutions, based on estimated data at statistical values, are reduced which eliminates sources of error in the calculation of the balance of trade.
- The valuation of the export-import estimates becomes more consistent with the valuation of production, intermediate consumption and final uses, since these transactions also are valued including freights if the freight services are not invoiced separately
- Greater consistency with price indices used in the calculation of constant prices.
- Data at invoice values is available in the companies' accounts and are easy to collect with good quality compared with the statistical value which often has to be estimated by the companies.

#### *Confrontation of data*

A number of studies have been conducted over the years to analyse asymmetries in ITGS with trading partners. In 2008, 2009 and 2010 studies were done with Denmark and in 2011 and 2012 with Finland. In these studies a number of large absolute asymmetries were selected and investigated.

Sweden conducts so called Reconciliation Rounds initiated by Eurostat on a regular basis (2009, 2011, 2013 and 2015/2016). Eurostat compiles and supplies data with the largest asymmetries to the Member States and MS chooses which CN8-codes and partner countries they wish to investigate.

A comparison to VAT is also performed.

### **5.13.2 Combined data**

The combined data refers to supplements made to the ITGS regarding merchanting since the ITGS does not include merchanting. For these transactions information from SBS is used. The data is not classified in products and hence the values are allocated after the enterprises main production. In case of trading companies, the exports and imports from ITGS are used to determine what product to use.

### **5.13.3 Other E&M**

An addition is made for a transport company regarding fuel and repairs sold to foreign companies on Swedish territory. The data are received from the company and are processed by the Coordination and Corporate Affairs unit, who has a special responsibility for the activities of large companies. This data is not included in ITGS since there is no cross border flows.

### **5.13.4 Data validation**

To cover goods that are exported in parts to be assembled in another country and then exported to a third country, an addition is made with help from data from the Coordination and Corporate Affairs unit. This phenomenon was discovered when production and exports were compared.

Regarding products that are delivered directly to vessels and aircrafts, the data from ITGS are replaced. It refers mainly to energy products and instead of ITGS, data from Monthly fuel, gas and inventory statistics from the Swedish Energy Agency, is used which is considered to be a better source.

A company specific correction was made due to a major structural change in one of our larger companies which the primary statistics sources did not catch. The company restructured and moved their goods production abroad. The new chain of production led them to import goods from their new production site, which was caught in the import statistics. When the goods were received in Sweden they added some services to the goods and the finalised good was then exported. The final good had in our statistic been collected as exports of goods, when it in fact was a combination of the import good and the added service. This adjustment was only needed for 2011 and 2012, from 2013 and onwards the change has been incorporated into the primary data source.

Product adjustments are made yearly as a part of the reconciliation process to balance the supply and use side. These adjustments are included in *Data validation* and differ from time to time depending on where the inconsistencies occur.

### 5.13.5 Certain items to include and exclude

In ESA 2010 §3.165 and § 3.166 a number of items to include and exclude are listed to clarify the scope of exports and imports of goods. The items are listed and commented on how they are captured in the tables below.

**Table 5.13.4: Steps taken to ensure the correct scope of exports of goods with respect to the inclusion of the cases listed in ESA 2010 §3.165**

3.165	a)	non-monetary gold	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	b)	silver bullion, diamonds and other precious metals and stones included	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	c)	paper money and coins not in circulation and unissued securities (valued as goods, not at face value)	Included in ITGS if passing the frontier . no adjustments are made to the ITGS data in the NA
	d)	electricity, gas and watergas	Gas is being collected through Specific Movements of Goods and export data regarding electricity comes from Svenska Kraftnät
	e)	livestock driven across frontiers	This is not covered in the ITGS and no adjustment are made in the NA.
	f)	parcel post	Post is included in Extrastat and included in Intrastat if a parcel is sent from an enterprise but not from a private person.
	g)	government exports including goods financed by grants and loans	The goods is covered by the ITGS if it is crossing the borders. However it is not possible to distinguish if it is financed by grants or loans. No adjustments are made to the ITGS data in the NA
	h)	goods transferred to or from the ownership of a buffer stock organisation	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	i)	goods delivered by a resident enterprise to its non-resident affiliates, except for goods for processing	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	j)	goods received by a resident enterprise from its non-resident affiliates, except for goods for processing	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	k)	smuggled goods or products not reported for taxes like import duties and VAT	Not included in ITGS. Included in foreign trade in service statistics as money is exchanged into Swedish currency, then the value of the smuggled goods are caught in the travel item
	l)	other unrecorded shipments, such as gifts and those of less than a stated minimum value	These goods are not covered in the ITGS no adjustment are made in the NA.

**Table 5.13.5: Steps taken to ensure the correct scope of exports and imports of goods with respect to the exclusion of all the cases listed in ESA 2010 §3.166**

3.166	a)	goods in transit through a country	Goods in transit should not be included since the destination country are to be reported but if the goods are declared in Sweden and then sent to another EU-country the exports and imports will be included
	b)	goods shipped to or from a country's own embassies, military bases or other enclaves inside the national frontiers of another country	<p>Not included in Intrastat. However, some deliveries to embassies in Sweden are included in the data on imports in Extrastat:</p> <ul style="list-style-type: none"> <li>- goods that an embassy in Sweden purchase from its corresponding country or other countries through standard shipping are included</li> <li>- goods between the embassy and it's corresponding country through diplomatic mail or couriers is not included.</li> </ul> <p>Regarding exported goods in Extrastat, customs declarations are usually not submitted for these transactions.</p> <p>No adjustment are made to the ITGS data in the NA.</p>
	c)	transportation equipment and other movable kinds of equipment which leave a country temporarily, without any change of economic ownership, e.g. construction equipment for installation or construction purposes abroad	<p>Goods imported or exported temporarily with the following conditions are not included in the ITGS:</p> <ul style="list-style-type: none"> <li>- The temporarily movement of the good is not expected to exceed 24 hours</li> <li>- The good is not to be declared as a purchase or sale in the VAT declaration</li> </ul> <p>No adjustment are made to the ITGS data in the NA.</p>
	d)	equipment and other goods which are sent abroad for processing, maintenance, servicing or repair; this applies also to goods processed to order abroad when a substantial physical change in the goods is involved	Included in ITGS but excluded in the NA (for processing see discussion under section <i>Goods sent abroad for processing</i> )
	e)	other goods which leave a country temporarily, being generally returned within a year in their original state and without change of economic ownership	Not included in ITGS.
	f)	goods on consignment lost or destroyed after crossing a frontier before change of ownership occurs	Included in ITGS, no source to exclude in the NA.

## 5.14 Exports of Services

The primary data source is the trade in services survey which is published through the Balance of Payments current external balance. The table below is an excerpt from the process table showing the distribution of data by different sources of origin.

**Table 5.14.1 Excerpt from Process Tables – Exports of services, SEK million**

### Exports of services

Basis for NA Figures	Surveys & Censuses	405 657
	FISIM	3 042
	Other E&M	7 467
	<b>Total (sources)</b>	<b>416 166</b>
Adjustments	Data validation	25 467
	Balancing	-130
<b>Final estimate</b>		<b>441 503</b>
<b>Export Intra EU</b>		<b>223 685</b>
<b>Export Extra EU</b>		<b>217 818</b>

### 5.14.1 Surveys and censuses

#### 5.14.1.1 Trade in Service survey

The national account uses the estimates obtained from the trade in services survey and the complementary calculations that the Swedish central bank, (Riksbank) is responsible for. The survey is done by Statistics Sweden on assignment from the bank. The survey is the basis for the Balance of Payments Statistics and is published quarterly through the current external balance.

The statistics is collected according to Balance of payment manual 6 on close to 50 different types of services which are then keyed into national accounts product groups. Some information is available by country breakdown and this data is used for the distribution of the total population by intra and extra EU-countries. Out of the 6100 organisations that take part in the survey, 1500 break down the transactions on receiving country.

The extended balance of payments product classification of services, EBOPS, and the correspondence table between EBOPS and CPA is used to get products according to CPA

Transactions are recorded when they are entered into the respective company's accounts. According to ESA the time of recording should be when the services are rendered which is also the time when the services are produced. Most of the time the export and import of services are recorded in the company accounts at the quarter when they are produced. Some of the services could be recorded after they were rendered and when information about such occurrences is available, adjustments are made.

#### *Reclassification of products*

As noted above in the section regarding exports of goods, certain CN numbers are treated as services. Hence they are moved from statistics on goods to services. The following items are reclassified.

Code	Product group	SEK million
J581	Publishing services of books, periodicals and other publishing services	3 336
J582	Software publishing services	2 854
J591	Motion picture, video and television programme services	1 893
J592	Sound recording and music publishing services	366
M7111	Architectural services	21
R90	Creative, arts and entertainment services	174
R91	Library, archive, museum and other cultural services	77
S9602	Hairdressing and other beauty treatment services	0
Total		8 721

#### *Treatment of specific items*

In ESA 2010 a number of items are listed to ensure the correct scope of exports of services and their treatment is described below.

#### *Construction services*

For construction services in Sweden, exports refers to services sold by a resident institutional unit to a non-resident counterpart active in Sweden. Imports refers to services bought by a resident institutional unit from a non-resident counterpart active in Sweden.

For construction services abroad exports refers to services sold by a Swedish institutional unit active abroad to a counterpart resident in the compiling economy. Imports refers to services bought by a Swedish institutional unit active abroad from a counterpart resident in the compiling economy.

The criteria for residency, ESA 2.09, is not explicitly monitored for the construction services. Implicitly that the rule stated in BMP6 (10.103) applies, that a large-scale construction projects that takes a year or more to complete will usually give rise to a resident branch.

#### *Insurance and pension services*

In regards to exports of insurance and pension services for the non-insurance corporations the costs are estimated as the premiums and the income as compensations. For the different insurance types redistribution is made so that all compensations become transfers. The compensations are divided into transfers and services according to a pre-set division based on data from Insurance Sweden<sup>24</sup>. For the collection of computer services, royalties and license fees, the companies surveyed by foreign trade service statistics are given an extensive set of definitions on what is regarded as payment for royalties, license fees, computer services and software so that they can report the correct service transactions.

#### *Goods for processing*

Information about goods for processing can be found in the previous section about exports of goods. The source of this data is the survey on international trade in goods statistics

#### *Freight services*

Exports are valued at invoice pricing. Shifting from statistical values to invoice values result in freight services being included in invoice values. See previous section for more information about this. This entails that Sweden does not follow the manual when it comes to the calculation of transportation as stated in ESA 2010 §§3.174 a-c. However, this does not affect total net exports only the distribution between goods and services.

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<sup>24</sup> Insurance Sweden is the industry organization for insurance companies, which account for more than 90 per cent of the Swedish insurance market

*Installation of equipment abroad when a project is of limited duration by its nature*

This is gathered in the Balance of payment statistics and the data is used in the compilation of the national accounts. This includes both installation and construction that has a limited duration.

*Services of owner-occupied holidays homes*

This is discussed in chapter eight.

*Expenditure by non-resident tourists and business travellers*

Information regarding expenditure by non-resident is gathered via notes, checks and card transactions from banks, exchange offices and card companies. These are not divided into component products with the exception of health and education services. However, in the tourism satellite account a breakdown is provided on tourism expenditures. The data is collected in the following way:

- from banks - covering Swedish notes and checks sold to the public and Swedish notes sold to banks abroad.
- from exchange offices - covering Swedish notes sold to the public.
- some travel related services that are invoiced by travel agencies are collected through the ITSS-survey.
- transactions made with credit cards are collected from the card companies.

*Software*

In regards to the GNI committee (CPNB/313 and GNIC 015-Rev.1) on software measurement, the software content of the relevant CN codes is not separately identified in the foreign trade statistics. The exports of software goods are being valued in full and not only of the value of the product. The data is gathered according to the BPM6 manual and the transactions are identified and categorised accordingly.

*FISIM*

This is discussed in more detail in the separate section about FISIM, see section 3.17.

**5.14.2 Other E&M**

A transport company with multinational ownership is excluded from the data from the current external balance of services since only the Swedish part of the export is to be captured. It is replaced by model based export data with help from the unit Coordination and Corporate Affairs, who keeps special records of the large Swedish companies.

Data on exports of port and navigation services are calculated on the basis of statistics covering ships entering and leaving ports etc. The basis for this is the trade in services survey.

**5.14.3 Data validation**

There are a number of corrections made under the data validation adjustment headline. Most of them are adjustments that are made every year.

For the chosen year, a company specific correction was made due to a major structural change in one of our larger companies. This structural change was not correctly reported in the trade in service survey. From 2013 and onwards the change has been incorporated into the source data.



Adjustments were made relating to international companies foreign branches. Their sales of services should not be considered Swedish exports of services but is included in the trade in service statistics.

In Balance of payments exports of tour operators are recorded net, which is not consistent with ESA. In the national accounts these transactions should be recorded gross and adjustments are made to the source data to comply with the manual.

Lastly, some minor adjustments due to the fact that the sources used in the compilation of exports of services does not capture the following items. They constituted 0.2 percent of the total value of the service exports in 2011.

- Services incidental to water transportation- this is not captured in the primary data source. Data from the annual report from the Swedish maritime administration is used to extrapolate the variable from the level set by the previous source in 2003.
- Rental services of passenger air transport equipment with operator- this variable existed in the previous data source used until 2003, which was bank settlements. The variable was close to 2 percent of the total product of passenger air transport services and this relation is used to approximate a value.
- Warehousing and storage services are not gathered in the current data source, but it was included in the bank settlements statistics. The value is approximated by extrapolating the data from 2003 with the turnover statistics for the industry warehousing and storage.

#### 5.14.4 Balancing

Product adjustments are made yearly as a part of the reconciliation process to balance the supply and use side. These adjustments are caused by product balancing and differ from time to time depending on where the inconsistencies occur.

#### 5.14.5 Certain items to include and exclude

In ESA 2010 §3.173 and § 3.174 a number of items to include and exclude are listed to clarify the scope of exports and imports of services. The items are listed and commented on how they are captured in the tables below.

**Table 5.14.5: Steps taken to ensure the correct scope of exports and imports of services with respect to the exclusion of all the cases listed in ESA 2010 §3.173, 3.174, 3.176**

3.173	Exports of services include the following cases:	
a)	transportation of exported goods after they have left the frontier of the exporting country when provided by a resident carrier	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics (see section Valuation of trade in goods at invoiced values under 5.13 Exports of goods).
b)	(b) transportation of imported goods by a resident carrier: (1) up to the frontier of the exporting country when goods are valued FOB to offset the transportation value included in the FOB-value (2) up to the frontier of the importing country when goods are valued CIF to offset the transportation value included in the CIF-value	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
c)	transportation of goods by residents on behalf of non-residents which does not involve imports or exports of the goods (e.g. the transport of goods that do not leave the country as	Included as transport services in the ITSS and NA

	exports or the transport of goods outside the domestic territory);	
d)	passenger transportation on behalf of non-residents by resident carriers	Included in the data from the ITSS
e)	processing and repair activities on behalf of non-residents; these activities are to be recorded net, i.e. as an export of services excluding the value of the goods processed or repaired;	Included in the adjustment of the processing fees (see discussion on <i>Goods sent abroad for processing</i> )
f)	installation of equipment abroad when a project is of limited duration by its nature;	Included in the data from the ITSS
g)	financial services provided by residents to non-residents including both the explicit and implicit service charge, like FISIM;	Included, FISIM model in NA
h)	insurance services provided by residents to non-residents by the amount of the implicit service charge;	Included, estimations according to data from ITSS
i)	expenditure by non-resident tourists and business travellers. The expenditure is classified as services; for the purposes of the supply and use and symmetric input-output tables, a breakdown by component products is necessary	Included, however we do not have any information to break down by component product.
j)	expenditure by non-residents on health and education services provided by residents; this includes the provision of these services on the domestic territory as well as abroad;	The data from ITSS separates these products from the aggregated item for expenditure by non-residents abroad
k)	services of owner-occupied holidays homes of non-residents	Not included
l)	royalties and license fees, receipts of which are associated with the authorised use of intellectual property rights, such as patents, copyrights, trademarks, industrial processes, franchises, etc., and with the use through licensing agreements of produced originals or prototypes, such as manuscripts, paintings, etc. paid by non-residents to residents	Included in the data from the ITSS
3.174	There is an equivalent import of service as a mirror image of the list of exports of services in paragraph 3.173,	See, 3.173
3.175	Imports of transport services include the following examples:	
a)	transportation of exported goods up to the frontier of the exporting country when provided by a non-resident carrier to offset the transportation value included in the FOB-value of the exported goods	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
b)	transportation of imported goods by a non-resident carrier: (1) from the frontier of the exporting country as a separate transportation service when imported goods are valued FOB (cases 4 and 5 FOB in Table 3.4); (2) from the frontier of the importing country as a separate transportation service when imported goods are valued CIF (in this case the value of the transportation service between the frontiers of the exporting and the importing country is already included in the CIF-value of the good;	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
c)	transportation of goods by non-residents on behalf of residents which does not involve imports or exports of goods (e.g. transport of goods in transit or transport outside the domestic territory);	Included as transport services in the ITSS and NA

d)	international or national passenger transportation on behalf of residents by non-resident carriers.	Included as transport services in the ITSS and NA
3.176	Imports in respect of direct purchases abroad by residents cover all purchases of goods and services made by residents while travelling abroad Transactions in products and non-produced assets for business or personal purposes. Two categories must be distinguished because they require different treatment:	
a)	all business related expenditure by business travellers are intermediate consumption;	Included in the data from ITSS
b)	all other expenditure, whether by business travellers or other travellers, are household final consumption expenditure.	Included in the data from ITSS

### 5.15 Imports of goods

The table below shows the imports divided into intra-EU and extra-EU. The main sources are Intrastat and Extrastat which give information by country. The rest of the sources and the adjustments do not have that information. Hence to divide this data in intra EU and Extra EU the shares from Extrastat and Intrastat are used.

**Table 5.15.1: Intra-EU and extra-EU imports of goods**

Import of goods	INTRA EU	EXTRA EU
<b>1 140 901</b>	<b>781 964</b>	<b>358 937</b>

Table 5.15.2 shows the sources and adjustments of imports of goods in the Swedish national accounts.

**Table 5.15.2: Excerpt from Process Tables – Imports of goods**

			Import
<b>Basis for NA Figures</b>	<b>Surveys &amp; Censuses</b>		781 414
	<b>Administrative Records</b>		355 133
	<b>Combined Data</b>		
	<b>Extrapolation and Models</b>	<b>Benchmark extrapolations</b>	
		<b>Commodity Flow Model</b>	
		<b>CFC(PIM)</b>	
		<b>Dwellings - stratification method</b>	
		<b>FISIM</b>	
		<b>Other E&amp;M</b>	1 100
		<b>Total Extrap+Models</b>	1 100
	<b>Other</b>		
	<b>Total (sources)</b>		1 137 647
<b>Adjustments</b>	<b>Data validation</b>		3 254
	<b>Conceptual</b>	<b>Allocation of FISIM</b>	
		<b>Other conceptual</b>	
		<b>Total conceptual</b>	0
	<b>Exhaustiveness</b>	<b>N1</b>	
		<b>N2</b>	
		<b>N3</b>	
		<b>N4</b>	
		<b>N5</b>	
		<b>N6</b>	
		<b>N7</b>	
		<b>Total exhaustiveness</b>	0
	<b>Balancing</b>		
	<b>Total (adjustments)</b>		3 254
<b>Final estimate</b>			1 140 901

### 5.15.1 Surveys, censuses and administrative records

The main source is international trade in goods statistics (ITGS). ITGS consists of Intrastat and Extrastat. Extrastat is a census of total records from the Swedish Customs and Intrastat is a survey processed at Statistics Sweden. The extra-European trade data is obtained from the customs office on monthly basis with practically no delay. For the extra-European trade, non-response is not a significant issue (practically non-existent except for criminal movements, i.e. smuggling. Intrastat is a census with cut-off value based on the value of arrivals/dispatch from/to other EU countries. Data are collected from all enterprises with total exports of goods to other EU countries or imports of goods from other EU countries to a minimum value of SEK 4 500 000. According to the EU legislation, the survey has to cover at least 97 percent of the dispatch value and 95 percent of the arrival value. The surveyed population is determined through the use of the VAT Register of the Swedish Tax Agency. During 2011, approximately 14 000 companies were obliged to provide information to Intrastat, approximately 8 400 companies for arrivals and 5 600 for dispatches. For the intra-EU trade, the non-response in terms of value is normally a few percent whereas non-response expressed in number of non-respondents is around 8 or 9 percent at the very first dissemination round. Under-coverage and non-response are continuously adjusted for by supplementing data from EU VAT declarations and historical Intrastat data (see section 10.3 on International trade statistics in goods).

Data are collected by Combined Nomenclature (CN) and are linked to the product classification applied in the national accounts product accounts

Some specific goods are included in ITGS even though they do not follow the principle of physically moving between Sweden and other EU countries, for example vessels and aircrafts which follow the rule of ownership. Since international trade in goods statistics only partly cover trade that is not crossing the border, in some minor cases complementary sources are used in NA. There are also some other alterations of ITGS data when it is used in NA. These differences are described below.

*Reclassification of products*

Some products that are captured in international trade in services statistics are treated as goods in the NA and are moved from services to goods. The products are shown in the table below. Some CN numbers are recorded on this basis as imports of services, see section 5.16 imports of services.

**Table 5.15.3 Products that are registered as goods in NA but services in the Trade in service statistics**

Code	Product	SEK million
A016A	Agricultural and animal husbandry services (except veterinary services)	196
B09	Mining support services	349
E382	Services treatment and disposal services	333

*Treatment of repairs*

Repairs are to be treated as goods. Since the international trade in goods statistics does not capture repairs, data from international trade in services statistics are used instead.

*Steps taken to record imports on a change of ownership basis*

ITGS is collecting data regarding goods crossing the frontier while the NA is to record imports of goods at change of economic ownership irrespective of corresponding physical movements of goods across frontiers. In ESA 2010 the following examples for exports and imports of goods are listed:

- (a) goods produced by resident units operating in international waters sold directly to non-residents in foreign countries.
- (b) transportation equipment or other movable equipment not tied to a fixed location;
- (c) goods after changing ownership, which are lost or destroyed before they have crossed the frontier of the exporting country;
- (d) merchanting (only exports)

Regarding point (a) a small addition is made regarding procurement of fuel by Swedish vessels, further described below under *Data validation*. Regarding goods for processing an adjustment is made, separately commented below.

Transportation equipment such as aircrafts and vessels not tied to a fixed location (b) are captured in Specific Movements of Goods in Intrastat. Goods that after changing ownership are lost or destroyed before they have crossed the frontier of the exporting country (c) are not captured on a regular basis. For the largest companies this type of information would generally be captured by the Coordination and Corporate Affairs unit corrections concerning the larger companies the information would be taken into account. In practice the problems with goods lost or destroyed before crossing the frontier have not been encountered.

Goods that after changing ownership are lost or destroyed before they have crossed the frontier of the exporting country are not captured on a regular basis. For the largest companies this type of information would generally be captured by the Coordination and Corporate Affairs unit corrections concerning the larger companies the information would be taken into account.

Deliveries between affiliated enterprises are captured in the ITGS irrespective of whether there has been a change in the economic ownership or not, based on when the goods are crossing the frontier. In order to follow the change of ownership principle, adjustments are made for goods sent abroad for processing.

*Goods sent abroad for processing*

Another difference between the ITGS and NA is the treatment of goods sent abroad for processing that are recorded on a gross basis in the ITGS and on a net basis in NA and hence an adjustment is made in NA. There are basically three methods used for recording of goods sent for processing transactions:

- 1) Goods sent abroad for processing where goods leave the country and come back. For these cases the ITGS is used based on the procedural codes that identify when the goods is sent abroad before and come back after processing.. Imports of goods after processing minus exports of goods before processing are then calculated and recorded as imports at net basis in NA. Exports of goods after processing minus imports of goods before processing are recorded as exports at a net basis.
- 2) Goods are sold directly after processing and do not come back to Sweden. For these transactions information from the SBS and Production of Commodities and Industrial Services (IVP) used. These transactions are mainly recorded on net basis that is as merchanting. Goods sent abroad for processing is recorded for one large company. Work is ongoing to delineate between merchanting and goods for processing and to change the recording where necessary. However, whether the transactions are recorded as merchanting (net) or goods sent abroad for processing (gross) does not affect the GNI.
- 3) Foreign enterprises process goods in Sweden and sell the goods in Sweden. There are no trade flows recorded in the foreign trade statistics when Swedish companies perform contract processing where a foreign company owns the raw material and the finished products are sold within the borders of Sweden instead of being sent back to the client country. These goods should be recorded as imports to Sweden but since the goods do not cross the border they are not captured in the ITGS. This phenomenon has been detected in certain products. When this occurs corrections are made based on data from Statistics Production of commodities and industrial services (Industrins varuproduktion, IVP). If the companies state in IVP that the contract processing is for a foreign company adjustments are made to record the goods as imports and intermediate consumption and the production as the total value of output.

The table below shows the value of the exports and import of the processing fee (service) in connection with goods sent abroad for processing.

	Value in million SEK
Product/CPA	Import
C1	668
C2	8 362
C3	92
E3	-481

A consistent treatment in relation to output and intermediate consumption is ensured through the reporting of processing fees in the IVP statistics for *inward processing*. The value of the output for these companies equals the production of an industrial service (the processing fee) and not the value of the final processed good. Concerning *outward processing* the value of the imported processing fee is included in the estimation of the intermediate consumption from the SBS.

*Valuation of trade in goods at invoiced values*

According to ESA 2010 imports and exports of goods are to be valued free on board at the border of the exporting country (FOB) at a global level. For the individual product groups imports of goods should be valued at the cost-insurance-freight (CIF) price at the border of the importing country.

However, in the Swedish NA both imports and exports of goods are valued at invoice values. This approach also affects the calculation of trade in freight services (see sections 5.14 and 5.16).

Theoretically a valuation at invoice value give the same net exports as a FOB/FOB valuation or a CIF/FOB valuation, only the division between goods and services of the balance is affected. The reason for using invoice values is that estimates from the Intrastat survey cannot provide the required adjustments for valuing exports fob and imports cif. During 1998 and 2006, calculations according to the fob/cif principles were performed, but the results turned out to be unreliable.

Both Intrastat and transport data in the Trade in Services Survey are collected at invoice values. This means that freight services and insurance costs are included in the goods value in Intrastat if these costs are included in the terms of delivery according to the invoice, otherwise these costs are not included in the reported value. In the Trade in Service Survey the data collected are freight services that are invoiced separately from the goods that are traded. Extrastat, which represents 1/3 of the total foreign trade, is nevertheless collected at statistical values (FOB for exports and CIF for imports). Therefore an adjustment has to be made to the Extrastat data and information to use to be able to do this is collected in a survey every fifth year. Still, by using invoice values a smaller part of international trade is affected by adjustments than if a CIF/FOB valuation was carried out.

Given the approach where the data collected are valued according to different principles there are difficulties to record trade in goods where exports are strictly valued f.o.b. and imports strictly valued at c.i.f. The use of invoice values gives the following advantages:

- Other model based solutions, based on estimated data at statistical values, are reduced which eliminates sources of error in the calculation of the balance of trade.
- The valuation of the export-import estimates becomes more consistent with the valuation of production, intermediate consumption and final uses, since these transactions also are valued including freights if the freight services are not invoiced separately
- Greater consistency with price indices used in the calculation of constant prices.
- Data at invoice values is available in the companies' accounts and are easy to collect with good quality compared with the statistical value which often has to be estimated by the companies.

#### *Confrontation of data*

A number of studies have been conducted over the years to analyse asymmetries in ITGS with trading partners. In 2008, 2009 and 2010 studies were done with Denmark and in 2011 and 2012 with Finland. In these studies a number of large absolute asymmetries were selected and investigated.

Sweden conducts so called Reconciliation Rounds initiated by Eurostat on a regular basis (2009, 2011, 2013 and 2015/2016). Eurostat compiles and supplies data with the largest asymmetries to the Member States and MS chooses which CN8-codes and partner countries they wish to investigate.

A comparison to VAT is also performed.

#### **5.15.2 Other E&M**

An addition is made for a transport company regarding fuel and repairs that is bought abroad. The data are received from the company and are processed by the Coordination and Corporate Affairs unit, who has a special responsibility for large companies.

#### **5.15.3 Data validation**

To cover for purchases of fuel by Swedish vessels and supplies abroad an addition is made. The levels based on shipping companies' intermediate consumption are extrapolated with index of service production of Water transport services.

Product adjustments are made yearly as a part of the reconciliation process to balance the supply and use side. These adjustments are included in *Data validation* and differ from time to time depending on where the inconsistencies occur.

#### 5.15.4 Certain items to include and exclude

In ESA 2010 §3.165 and § 3.166 a number of items to include and exclude are listed to clarify the scope of exports and imports of goods. The items are listed and commented in the tables below.

**Table 5.15.4: Steps taken to ensure the correct scope of exports and imports of goods with respect to inclusion of the listed cases in ESA 2010 §3.165**

3.165	a)	non-monetary gold	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	b)	silver bullion, diamonds and other precious metals and stones included	Included in ITGS if passing the frontier. No adjustments are made to the ITGSS data in the NA.
	c)	paper money and coins not in circulation and unissued securities (valued as goods, not at face value)	Included in ITGS if passing the frontier . no adjustments are made to the ITGS data in the NA
	d)	electricity, gas and watergas	Gas is being collected through Specific Movements of Goods and export data regarding electricity comes from Svenska Kraftnät
	e)	livestock driven across frontiers	This is not covered in the ITGS and no adjustment are made in the NA.
	f)	parcel post	Post is included in Extrastat and included in Intrastat if a parcel is sent from an enterprise but not from a private person.
	g)	government exports including goods financed by grants and loans	The goods is covered by the ITGS if it is crossing the borders. However it is not possible to distinguish if it is financed by grants or loans. No adjustments are made to the ITGS data in the NA
	h)	goods transferred to or from the ownership of a buffer stock organisation	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	i)	goods delivered by a resident enterprise to its non-resident affiliates, except for goods for processing	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	j)	goods received by a resident enterprise from its non-resident affiliates, except for goods for processing	Included in ITGS if passing the frontier. No adjustments are made to the ITGS data in the NA.
	k)	smuggled goods or products not reported for taxes like import duties and VAT	Not included in ITGS. Included in foreign trade in service statistics as money is exchanged into Swedish currency, then the value of the smuggled goods are caught in the travel item
	l)	other unrecorded shipments, such as gifts and those of less than a stated minimum value	These goods are not covered in the ITGS no adjustment are made in the NA.



**Table 5.15.5: Steps taken to ensure the correct scope of exports and imports of goods with respect to the exclusion of all the cases listed in ESA 2010 §3.166**

3.166	a)	goods in transit through a country	Goods in transit should not be included since the destination country are to be reported but if the goods are declared in Sweden and then sent to another EU-country the exports and imports will be included
	b)	goods shipped to or from a country's own embassies, military bases or other enclaves inside the national frontiers of another country	<p>Not included in Intrastat. However, some deliveries to embassies in Sweden are included in the data on imports in Extrastat:</p> <ul style="list-style-type: none"> <li>- goods that an embassy in Sweden purchase from its corresponding country or other countries through standard shipping are included</li> <li>- goods between the embassy and it's corresponding country through diplomatic mail or couriers is not included.</li> </ul> <p>Regarding exported goods in Extrastat, customs declarations are usually not submitted for these transactions.</p> <p>No adjustment are made to the ITGS data in the NA.</p>
	c)	transportation equipment and other movable kinds of equipment which leave a country temporarily, without any change of economic ownership, e.g. construction equipment for installation or construction purposes abroad	<p>Goods imported or exported temporarily with the following conditions are not included in the ITGS:</p> <ul style="list-style-type: none"> <li>- The temporarily movement of the good is not expected to exceed 24 hours</li> <li>- The good is not to be declared as a purchase or sale in the VAT declaration</li> </ul> <p>No adjustment are made to the ITGS data in the NA.</p>
	d)	equipment and other goods which are sent abroad for processing, maintenance, servicing or repair; this applies also to goods processed to order abroad when a substantial physical change in the goods is involved	Included in ITGS but excluded in the NA (for processing see discussion under section <i>Goods sent abroad for processing</i> )
	e)	other goods which leave a country temporarily, being generally returned within a year in their original state and without change of economic ownership	Not included in ITGS.
	f)	goods on consignment lost or destroyed after crossing a frontier before change of ownership occurs	Included in ITGS, no source to exclude in the NA.

## 5.16 Import of Services

The table below show the origin of data of service imports in the Swedish national accounts. The primary source is the trade in service survey which is published through the current external balance.

**Table 5.16.1 Excerpt from Process Tables – Imports of services SEK million**

### Imports of services

Basis for NA Figures	Surveys & Censuses	378 084
	FISIM	2 293
	Other E&M	4 746
	<b>Total (sources)</b>	<b>385 123</b>
Adjustments	Data validation	6 111
	Balancing	2 846
<b>Final estimate</b>		<b>394 080</b>
<b>Import Intra EU</b>		215 585
<b>Import Extra EU</b>		178 495

### 5.16.1 Surveys and censuses

#### 5.16.1.1 Trade in Service survey

The national account uses the estimates obtained from the trade in services survey and the complementary calculations that the Swedish central bank, (Riksbank) is responsible for. The survey is done by Statistics Sweden on assignment from the bank. The survey is the basis for the Balance of Payments Statistics and is published quarterly through the current external balance. For more information in regards to the source, see section 5.14 above about exports of services.

Transactions are recorded when they are entered into the respective company's accounts. According to ESA the time of recording should be when the services are rendered which is also the time when the services are produced. Most of the time the export and import of services are recorded in the company accounts at the quarter when they are produced. Some of the services could be recorded after they were rendered and when information about such occurrences is available, adjustments are made.

#### *Reclassification of goods to services*

As was noted above in the section regarding imports of goods, certain CN numbers are treated as services. They are reclassified from goods to services. The services in question are the following

Code	Product group	SEK million
J581	Publishing services of books, periodicals and other publishing services	3 571
J582	Software publishing services	2 257
J591	Motion picture, video and television programme services	1 960
J592	Sound recording and music publishing services	383
M7111	Architectural services	4
M742	Photographic services	7
R90	Creative, arts and entertainment services	133
R91	Library, archive, museum and other cultural services	108
S9602	Hairdressing and other beauty treatment services	1
Total		8 424

*Treatment of specific items*

In ESA 2010 a number of items are listed to ensure the correct scope of exports of services and their treatment is described below.

*Construction services*

For construction services in Sweden, exports refers to services sold by a resident institutional unit to a non-resident counterpart active in Sweden. Imports refers to services bought by a resident institutional unit from a non-resident counterpart active in Sweden.

For construction services abroad exports refers to services sold by a Swedish institutional unit active abroad to a counterpart resident in the compiling economy. Imports refers to services bought by a Swedish institutional unit active abroad from a counterpart resident in the compiling economy.

The criteria for residency, ESA 2.09, is not explicitly monitored for the construction services. Implicitly that the rule stated in BMP6 (10.103) applies, that a large-scale construction projects that takes a year or more to complete will usually give rise to a resident branch.

*Insurance and pension services*

In regards to imports of insurance and pension services for the non-insurance corporations the costs are estimated as the premiums and the income as compensations. For the different insurance types redistribution is made so that all compensations become transfers. The compensations are divided into transfers and services according to a pre-set division based on data from insurance Sweden. For the collection of computer services, royalties and license fees, the companies surveyed by foreign trade service statistics are given an extensive set of definitions on what is regarded as payment for royalties, license fees, computer services and software so that they can report the correct service transactions.

*Freight services*

Imports are valued at invoice pricing. Shifting from statistical values to invoice values result in freight services being included in invoice values. See previous section for more information about this. This entails that Sweden does not follow the manual when it comes to the calculation of transportation as stated in ESA 2010 §§3.174 a-c.

*Installation of equipment abroad when a project is of limited duration by its nature*

This is gathered in the Balance of payment statistics and the data is used in the compilation of the national accounts. This includes both installation and building that has a limited duration.

*Services of owner-occupied holidays homes*

This is discussed in chapter eight.

*Expenditure by residents abroad*

Information regarding expenditure by residents abroad is gathered via notes, checks and card transactions from banks, exchange offices and card companies. This information is not divided into component products with the exception of health and education services. The data is collected in the following way:

- from banks - covering Swedish notes and checks sold to the public and Swedish notes sold to banks abroad.

- from exchange offices - covering Swedish notes sold to the public.
- some travel related services that are invoiced by travel agencies are collected through the ITSS-survey.
- transactions made with credit cards are collected from the card companies.

The total amount of the above is divided into personal and business travel based on data from the tourist database (TDB), which was lastly released in 2014.

### *Software*

In regards to the GNI committee (CPNB/313 and GNIC 015-Rev.1) on software measurement, the software content of the relevant CN codes is not separately identified in the foreign trade statistics. The imports of software goods are being valued in full and not only of the value of the product. The data is gathered according to the BPM6 manual and the transactions are identified and categorised accordingly.

### *FISIM*

This is discussed in more detail in the separate section about FISIM, see section 3.17.

## **5.16.2 Other E&M**

A transport company with multinational ownership is excluded from the data from the current external balance of services since only the Swedish part of the import is to be captured. It is replaced by a model agreed on by the involved countries and based on data reported directly from the company.

Data on imports of port and navigation services are calculated on the basis of statistics covering ships entering and leaving ports etc. The source of this is the current external balance statistics.

## **5.16.3 Data validation**

Adjustments are made relating to international companies foreign branches. Their sales of services should not be considered as Swedish imports of services but is included in the trade in service statistics.

In balance of payments data, imports of tour operators are recorded net which is not consistent with ESA. In the national accounts these transactions should be recorded gross and adjustments are made to comply with the manual.

An adjustment is made to the import of air travel due to underreporting from companies in the travel agency, tour operator and other reservation service section. In a large study between the years 2002-2004 it was found that imports of flights between mother and daughter companies were reported too low and an approximation of the value was put in place which is now being extrapolated using the change in travel expenditure.

Some minor adjustments due to the fact that the sources now used in the compilation of imports of services do not include these as was the case with the previous source, bank settlements. They constituted 0.4 percent of the total value of the service import in 2011.

Rental services of passenger air transport equipment with operator- this variable existed in the previous data source used until 2003. This variable was close to 3 percent of the total product and this relation is used to compile annual estimates.

The expense of catering on airplanes for a major airline is not included in the travel variable- The data is extrapolated from data given by the organisation in survey from 2004, using the turnover statistics for the section air transport.

Cargo handling services are compiled by extrapolating the data from 2006 with the turnover statistics for the section warehousing and storage.

#### 5.16.4 Balancing

Product adjustments are made yearly as a part of the reconciliation process. These adjustments are caused by product balancing and differ from time to time depending on where the inconsistencies occur.

#### 5.16.5 Certain items to include and exclude

In ESA 2010 §3.173 and § 3.174 a number of items to include and exclude are listed to clarify the scope of exports and imports of services. The items are listed and commented on how they are captured in the tables below.

**Table 5.16.5: Steps taken to ensure the correct scope of exports and imports of services with respect to the exclusion of all the cases listed in ESA 2010 §3.173, 3.174, 3.176**

3.173	Exports of services include the following cases:	
a)	transportation of exported goods after they have left the frontier of the exporting country when provided by a resident carrier	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics (see section Valuation of trade in goods at invoiced values under 5.13 Exports of goods).
b)	(b) transportation of imported goods by a resident carrier: (1) up to the frontier of the exporting country when goods are valued FOB to offset the transportation value included in the FOB-value (2) up to the frontier of the importing country when goods are valued CIF to offset the transportation value included in the CIF-value	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
c)	transportation of goods by residents on behalf of non-residents which does not involve imports or exports of the goods (e.g. the transport of goods that do not leave the country as exports or the transport of goods outside the domestic territory);	Included as transport services in the ITSS and NA
d)	passenger transportation on behalf of non-residents by resident carriers	Included in the data from the ITSS
e)	processing and repair activities on behalf of non-residents; these activities are to be recorded net, i.e. as an export of services excluding the value of the goods processed or repaired;	Included in the adjustment of the processing fees (see discussion on <i>Goods sent abroad for processing</i> )
f)	installation of equipment abroad when a project is of limited duration by its nature;	Included in the data from the ITSS
g)	financial services provided by residents to non-residents including both the explicit and implicit service charge, like FISIM;	Included, FISIM model in NA
h)	insurance services provided by residents to non-residents by the amount of the implicit service charge;	Included, estimations according to data from ITSS
i)	expenditure by non-resident tourists and business travellers. The expenditure is classified as services; for the purposes of the supply and use and symmetric input-output tables, a breakdown by component products is necessary	Included, however we do not have any information to break down by component product.
j)	expenditure by non-residents on health and education services provided by residents; this includes the provision	The data from ITSS separates these products from the aggregated item for expenditure by non-residents abroad

	of these services on the domestic territory as well as abroad;	
k)	services of owner-occupied holidays homes of non-residents	Not included
l)	royalties and license fees, receipts of which are associated with the authorised use of intellectual property rights, such as patents, copyrights, trademarks, industrial processes, franchises, etc., and with the use through licensing agreements of produced originals or prototypes, such as manuscripts, paintings, etc. paid by non-residents to residents	Included in the data from the ITSS
3.174	There is an equivalent import of service as a mirror image of the list of exports of services in paragraph 3.173,	See, 3.173
3.175	Imports of transport services include the following examples:	
a)	transportation of exported goods up to the frontier of the exporting country when provided by a non-resident carrier to offset the transportation value included in the FOB-value of the exported goods	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
b)	transportation of imported goods by a non-resident carrier: (1) from the frontier of the exporting country as a separate transportation service when imported goods are valued FOB (cases 4 and 5 FOB in Table 3.4); (2) from the frontier of the importing country as a separate transportation service when imported goods are valued CIF (in this case the value of the transportation service between the frontiers of the exporting and the importing country is already included in the CIF-value of the good;	Invoiced based approach. Included as transport services in the ITSS and NA if separately invoiced otherwise in the goods value in the trade of goods statistics.
c)	transportation of goods by non-residents on behalf of residents which does not involve imports or exports of goods (e.g. transport of goods in transit or transport outside the domestic territory);	Included as transport services in the ITSS and NA
d)	international or national passenger transportation on behalf of residents by non-resident carriers.	Included as transport services in the ITSS and NA
3.176	Imports in respect of direct purchases abroad by residents cover all purchases of goods and services made by residents while travelling abroad Transactions in products and non-produced assets for business or personal purposes. Two categories must be distinguished because they require different treatment:	
a)	all business related expenditure by business travellers are intermediate consumption;	Included in the data from ITSS
b)	all other expenditure, whether by business travellers or other travellers, are household final consumption expenditure.	Included in the data from ITSS

## Chapter 6 The balancing or integration procedure, and validating the estimates

### 6.1 GDP balancing procedure

#### 6.1.1 Introduction and overview

The annual calculations of GDP from the production side and the expenditure side are carried out in a system of supply and use tables (SUT). The SUT are basic tables which can be further processed into symmetric input-output tables. The supply and use tables are produced in both current and constant prices simultaneously, and the constant price calculation is carried out in a consistent price index system, which enables the double indicator method (double deflation method) to be applied. Analysis of the trend in constant prices can affect the current price reconciliation.

The balancing procedure, or balancing process, can be divided into two stages:

- the manual balancing of supply and use of individual product groups with the help of SUT
- the final, mechanical (automatic) balancing performed with the RAS method

The first stage consists of manual balancing of supply and use of 400 individual product groups with the help of supply and use tables. This manual balancing aims at balancing the supply and use for every product group by making adjustments on main variables on both the supply side and the use side. Adjustments on one product group affect other product groups resulting in a process of continuous interaction. When the manual balancing is finished the residuals between supply and use of individual products should be substantially reduced, but not eliminated. The manual balancing lasts for roughly two months.

The second stage consists of a final, mechanical (or automatic) balancing which is performed with the use of the RAS method, a well-established iterative procedure. The aim of the final, mechanical balancing is to eliminate the residual of every product group, and thus also the total residual. This final balancing is a relatively quick procedure, performed in less than a day.

In the manual balancing the information on price changes and volume changes for the different components of supply and use play important parts. SUT cover several years and a time series approach to price changes and volume changes is often fruitful in order to detect strange occurrences in the estimates. Gathering information from alternative sources, e.g. from the VAT register or from trade organizations, and comparing them with the results of the SUT is another important aspect of manual balancing. General government is considered to have exhaustive statistical sources and is therefore not affected by any kind of balancing.

Looking at the GDP production approach, the levels of manual balancing are approximately -23 SEK billion on output of goods and services and -36 SEK billion on intermediate consumption, resulting in an impact of +13 SEK billion on gross value added. These figures can be found in the Process Table, in the column “Data validation”.

The GDP expenditure approach also involves a considerable amount of manual balancing, which is evident if you look further down in the Process Table, in the column “Data validation”. The levels of manual balancing are approximately +3 SEK billion on total final consumption expenditure (all of it on household final consumption expenditure), -4 SEK billion on gross capital formation (-6 SEK billion on gross fixed capital formation and +2 SEK billion on changes in inventories), +19 SEK billion on exports of goods and services and +12 SEK billion on imports of goods and services. The total impact of manual balancing on the expenditure approach gross domestic product amounts to +5 SEK billion.

**Manual balancing, production approach and expenditure approach**

<b>Production approach</b>	<b>SEK billion</b>	<b>Expenditure approach</b>	<b>SEK billion</b>
Output ( + )	-23	Final consumption expenditure ( + )	+3
Intermediate consumption ( - )	-36	Gross capital formation ( + )	-4
		Exports ( + )	+19
		Imports ( - )	+12
<b>Total</b>	<b>+13</b>	<b>Total</b>	<b>+5</b>

**Manual balancing on the supply side and use side**

<b>Supply</b>	<b>SEK billion</b>	<b>Use</b>	<b>SEK billion</b>
Output ( + )	-23	Intermediate consumption ( + )	-36
Imports ( + )	+12	Final consumption expenditure ( + )	+3
		Gross capital formation ( + )	-4
		Exports ( + )	+19
<b>Total</b>	<b>-11</b>	<b>Total</b>	<b>-18</b>

Of the manual balancing (Data validation) of -36 SEK billion on intermediate consumption, -55 SEK billion derive from industry G. In a strict sense these -55 SEK billion should not be seen as a part of the manual balancing, since they stem from the calculation model used in NA regarding trade margins and output in industry G. Output is based on the approach of calculating trade margins by product. To stay in line with value added in industry G according to the SBS, adjustments are made on intermediate consumption in industry G. For more information, see section 3.13 in the GNI inventory.

The automatic balancing, RAS balancing, occurs only on the production side. The level of automatic balancing is approximately +25 SEK billion on intermediate consumption. (Only the intermediate consumption of market producers and producers for own final use is affected.) Since no automatic balancing is performed on output of goods and services, the impact on gross value added is -25 SEK billion. These figures can also be found in the Process Table, in the column “Balancing”.

The production approach to GDP and the expenditure approach to GDP are calculated independently. The income approach to GDP is not independently calculated.

In the annual calculations of GDP predominance is given to the expenditure approach, i.e. the final stage of automatic balancing occurs on the production side. This is illustrated in table 6.1 below, where the residuals between the GDP production approach and the GDP expenditure approach for the years 2008-2013 are shown on the production side.

The unusually large residuals in 2010 and 2011 are explained by very large and very late revisions in the primary statistics. These revisions led to sharp increases in the residuals, and if they had occurred a little earlier they would have been taken care of in the manual balancing within the framework of the supply and use tables. But since these revisions happened at such a late stage in the balancing process the new, larger residuals had to be handled in the final, automatic, balancing (the RAS balancing).



**Table 6.1 Overview table of the three GDP approaches and before RAS residuals 2008-2013**

	2008	2009	2010	2011	2012	2013
<b>GDP Production approach</b>						
before balancing	3 401 096	3 295 771	3 554 826	3 681 595	3 682 351	3 758 115
residual	13 497	7 262	34 832	25 018	-2 449	-11 794
after balancing	3 387 599	3 288 509	3 519 994	3 656 577	3 684 800	3 769 909
<b>GDP Expenditure approach</b>						
before balancing	3 387 599	3 288 509	3 519 994	3 656 577	3 684 800	3 769 909
after balancing	3 387 599	3 288 509	3 519 994	3 656 577	3 684 800	3 769 909
<b>GDP Income approach</b>						
before balancing	3 387 599	3 288 509	3 519 994	3 656 577	3 684 800	3 769 909
after balancing	3 387 599	3 288 509	3 519 994	3 656 577	3 684 800	3 769 909
<i>Current prices, million SEK</i>						
<i>Years 2008-2013 according to NACE 2007 and ESA 2010</i>						

**Table 6.2 Balancing adjustments on intermediate consumption by industry 2008-2013**

	<i>Current prices, million SEK</i>					
<b>NACE Rev.2 Section</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
A (Agriculture, forestry, fishing)	193	114	523	377	-37	-191
B (Mining and quarrying)	64	37	213	179	-17	-88
C (Manufacturing)	5 871	2 850	14 045	10 137	-950	-4 520
D (Electricity, gas, steam, air conditioning)	208	125	659	424	-42	-208
E (Water supply, sewerage, waste, remediation)	139	81	395	311	-30	-151
F (Construction)	928	511	2 378	1 698	-163	-842
G (Wholesale and retail trade etc)	940	493	2 463	1 753	-176	-750
H (Transportation and storage)	1 277	703	3 271	2 351	-229	-1 145
I (Accommodation and food service)	259	158	765	546	-54	-299
J (Information and communication)	837	497	2 201	1 596	-160	-767
K (Financial and insurance activities)	317	180	846	553	-57	-261
L (Real estate activities)	924	604	2 904	2 061	-207	-1 009
M (Professional, scientific and technical activities)	777	448	2 054	1 465	-159	-748
N (Administrative and support service activities)	386	214	1 000	747	-76	-374
O (Public administration, defence etc)	0	0	0	0	0	0
P (Education)	68	43	202	150	-15	-77
Q (Human health and social work activities)	115	80	356	273	-38	-163
R (Arts, entertainment and recreation)	115	76	339	240	-24	-124
S (Other service activities)	79	48	218	157	-15	-77
T (Activities of households as employers etc)	0	0	0	0	0	0
U (Activities of extraterritorial organisations and bodies)	0	0	0	0	0	0
<b>Total</b>	<b>13 497</b>	<b>7 262</b>	<b>34 832</b>	<b>25 018</b>	<b>-2 449</b>	<b>-11 794</b>

NACE Rev.2 Section	2008 in %	2009 in %	2010 in %	2011 in %	2012 in %	2013 in %
A (Agriculture, forestry, fishing)	1	2	2	2	2	2
B (Mining and quarrying)	0	1	1	1	1	1
C (Manufacturing)	43	39	40	41	39	38
D (Electricity, gas, steam, air conditioning)	2	2	2	2	2	2
E (Water supply, sewerage, waste, remediation)	1	1	1	1	1	1
F (Construction)	7	7	7	7	7	7
G (Wholesale and retail trade etc)	7	7	7	7	7	6
H (Transportation and storage)	9	10	9	9	9	10
I (Accommodation and food service)	2	2	2	2	2	3
J (Information and communication)	6	7	6	6	7	7
K (Financial and insurance activities)	2	2	2	2	2	2
L (Real estate activities)	7	8	8	8	8	9
M (Professional, scientific and technical activities)	6	6	6	6	6	6
N (Administrative and support service activities)	3	3	3	3	3	3
O (Public administration, defence etc)	0	0	0	0	0	0
P (Education)	1	1	1	1	1	1
Q (Human health and social work activities)	1	1	1	1	2	1
R (Arts, entertainment and recreation)	1	1	1	1	1	1
S (Other service activities)	1	1	1	1	1	1
T (Activities of households as employers etc)	0	0	0	0	0	0
U (Activities of extraterritorial organisations and bodies)	0	0	0	0	0	0
<b>Total</b>	<b>100</b>	<b>101</b>	<b>100</b>	<b>101</b>	<b>101</b>	<b>101</b>

As mentioned the RAS balancing occurs on the production side. In general, the only component affected by the RAS balancing is intermediate consumption by market producers and producers for own final use. Table 6.2 illustrates which industries received the largest balancing adjustments in the years 2008-2013, i.e. balancing adjustments on intermediate consumption in the GDP production approach.

In the lower part of table 6.2 the RAS balancing adjustments by industry are shown as percentages of the total adjustment (residual). The manufacturing industry harbors around 40 percent of the total RAS balancing adjustment. The percentage distribution of the RAS balancing adjustments by industry is very stable over the period 2008-2013. This reflects that the RAS balancing methods have been applied in a similar manner over the whole period.

Within the supply and use tables conceptually balanced items are treated as fully balanced. The conceptual adjustments, and also the exhaustiveness adjustments, are introduced at an earlier stage in the compilation process, before the balancing in the supply and use tables has started properly. For more information on conceptual adjustment, see section 3.4. For more information on exhaustiveness adjustments, see chapter 7.

To clarify further, conceptually balanced items are not specifically handled within the supply and use tables or in the balancing procedure. Instead they have already been handled in the calculation process (described in chapter 3 and 5) preceding the balancing procedure. For instance, FISIM and insurance have already been fully balanced within the calculation process, and consequently there is no need to deal with them in the balancing procedure.

The final estimates of GDP are totally independent of the preliminary and semi-definitive estimates published previously.

### 6.1.2 Production and balancing of supply and use tables

GDP and GNI are calculated and compiled in the part of the national accounts system known as the goods and services accounts. The annual calculations are carried out in a system of supply and use tables (SUT). The SUT are the basic tables which can be further processed into symmetric input-output tables. The annual calculations of GDP also include calculations of employment such as average numbers of employees and hours worked per industry/purpose as well as calculations of wages and salaries. The calculation and balancing is carried out both in a product and industry dimension.

The level of detail for products and uses in the Swedish system is as follows

- About 400 product groups (SPIN/CPA)
- About 100 industries for market producers and producers for own final use (SPIN/NACE)
- 156 purposes for household consumption expenditures (COICOP)
- About 76 uses for government consumption expenditures per sector, industries and functions (COFOG)
- About 150 uses for gross fixed capital formation, per sector, industries and functions

Sources and calculation methods for the basic calculations, i.e. the calculations that precede the balancing procedure, are described in chapters 3-5.

In the process of finalizing the annual national accounts estimates the supply and use tables are continuously updated and are fully integrated in the entire balancing process. The SUT are extremely important tools in the balancing procedure. When analyzing and reconciling the SUT, all available sources in the national accounts system are used, and the source data is subject to detailed analysis. As mentioned above, the compilation and balancing are performed at a level of detail of more than 400 product groups.

The final version of the supply and use tables are delivered to Eurostat shortly after the publishing of the annual estimates, which is actually 15 months earlier than Eurostat demands.

### 6.1.3 The supply side

All supply is valued at basic price.

In the calculation of a year, firstly all basic calculations are performed as described in the previous chapters. Supply, in the form of production and sales, is calculated, classified by industry and product group (COFOG and product group for sales) and valued at basic price. Imports are classified by product group. Customs duties and other import taxes on product groups are included in supply. All values are calculated in both current prices and constant prices of the previous year (t-1) using relevant price indices for the calculations of constant prices.

### 6.1.4 The use side

All use is valued at purchaser's price.

*Household final consumption expenditure (HFCE)* is calculated and classified according to product group and COICOP. Hence several product groups can be included in one COICOP purpose.

*Government consumption (GFCE)* is calculated as the output value (i.e. the total costs of production less payments for non-market output less own account capital formation less market output by non-market producers). For more information, see section 5.9. Government consumption is classified according to purpose (COFOG).

For *intermediate consumption and gross fixed capital formation*, totals are calculated by industries and purposes (COFOG) at current prices on the basis of primary statistics, as described in chapters 3 and 5, and what is known as direct/special information in certain cells (“known” values as described below).

For *changes in inventories* there is information on inventory types and stockholding industries, but very limited information by product. Allocation to product groups is undertaken under the assumption that inventories of work in progress and finished products consist of products typical of the industry. Product allocation of inventories of materials and supplies is assumed to be proportionate to the structure of intermediate consumption in the industry concerned. In that case account is taken of the fact that certain products are not suitable for storage. Allocation to product groups is carried out in the first instance on a relatively undifferentiated level. Further allocation to detailed product groups is carried out in the balancing process. For trade inventories, in which information is also available with a breakdown by industries, intermittent information on the composition of the product range is used for a rough product allocation.

*Exports (like imports) of goods* are allocated to products in accordance with the Combined Nomenclature in the primary statistics. Bridge tables link them to the product groups used in the national accounts. *Exports (and imports) of services* are recorded in the balance of payments statistics according to a certain nomenclature, which is converted to the product groups used in the national accounts.

Each use has linked to it a trade margin rate and the VAT rate applicable. Taxes on products and subsidies on products are also allocated to use. Trade margins are calculated from the use side and are balanced against the production of trade margins (see section 3.13). Taxes on products and subsidies on products are balanced against the corresponding income and expenditure of General government.

### 6.1.5 Complete balances and “known” values

For some product groups special calculations of complete balances are carried out with all supply and use within that balance. The figures from these balances are then treated in the system as “known” values and are not affected by balancing adjustments except after special consideration and verification. The reason for such a special treatment of a product group is either the access to very detailed source information on the supply and/or use or that there is a substantial interest for the product group in question.

Such special balances are calculated for energy products, 16 balances, of which most are calculated in both values and quantities. In addition, complete balances are also calculated, for example, for construction activity, FISIM, research and development and for software produced on own account.

A number of other “known” values are also specified in the system. In some cases these constitute large parts of balances, for example motor vehicles or purchased software investment. In other cases they may be small parts of intermediate consumption, or investment, in an industry/purpose. Known values are calculated in both current and constant prices and are not affected by general balancing adjustments.

### 6.1.6 The calculation procedure

#### 6.1.6.1 Introduction

In the calculation of an annual sequence all data are calculated in accordance with the sources and methods described. These constitute the basis for the supply and use tables. All reconciliations are carried out in the SUT system. The supply and use tables are calculated and balanced at both current and constant prices (t-1) simultaneously.

In order to cover changes in relative prices, all uses are reflat and deflated using a price index for domestic supply derived by product (inhemsk tillgång, IHT). The price index for domestic supply is derived as follows: output + imports + sales by departments and agencies of government and NPISHs

+ customs duties and other import taxes – exports. The calculation is performed at both current and constant prices and the price index is derived implicitly. The IHT index does not cover changes in tax and margin rates. After reflatting/deflating, therefore, corrections are made for changes in taxes on products and subsidies. Such changes affect use at purchasers' prices and thus mean that the IHT index is implicitly adjusted.

#### *6.1.6.2 Calculation of intermediate consumption and gross fixed capital formation*

For those parts in which data on exact product allocation is not available each year, i.e. intermediate consumption and gross fixed capital formation in machinery and equipment, the structure of product allocation from the previous year is used as a starting point.

Source data with full identification regarding both product and use, are calculated at both current and constant prices. This applies to household consumption expenditure and exports and to the “known” values.

#### *6.1.6.3 Adjustment to calculated totals at current prices*

The SUT are adjusted to the calculated totals according to the statistical sources for intermediate consumption and gross fixed capital formation per industry/sector/COFOG. The difference between the initial estimates in the SUT and the calculated totals per use affect each product proportionally.

### **6.1.7 Product balancing**

#### *6.1.7.1 General information*

When the first version of the supply and use tables have been produced at both current and constant prices, the actual analysis and reconciliation work is undertaken. During the calculation of a definitive year each product has one person who is responsible for the balancing procedure of that product. The person is chosen after his competence about the product/business area. Analysis is done in both current and constant prices simultaneously. If there is a residual between the supply and use, among other things a comparison of the growth rates and price index is done. A comparison of how the supply and use side has developed during the year is also made. If there are big differences between them a comparison of the different sources for the supply and use side takes place to determine which one of the sources is the more reliable. Information from other sources is collected in order to get more input and broader knowledge.

The practical work is an ongoing process with each of the 400 product groups until the system is completely balanced. The evaluation of supply and use starts for many products before all basic information is completely entered into the system. For example some information on HFCE for certain products like petrol, insurance, rentals may be added at a somewhat later date than other estimates. So instead of waiting until all information is available evaluation of balances that contain sufficient information starts as early as possible. Throughout the balancing process updated versions of supply and use tables are stored when changes are made. This makes it possible to compare the data at different stages of the process.

The evaluation procedure involves examination and quality checking of the estimates from the supply side (production, sales of non-market producers, imports, taxes, subsidies on products) and from the use side (intermediate consumption, HFCE, GFCF, changes in inventories, exports) in order to make the most appropriate reconciliation between supply and use. Investigations are made to establish if there is consistency between different sources, going back to the primary statistics to conduct verification and cross checking of the material. For instance, it is useful to check that exports of a product do not exceed production, and to detect if some products have very volatile changes etc. As

this procedure is made simultaneously in current and constant prices with a time series perspective we can also register strange movements in price and volume indices.

Any additional information on changed structures is incorporated and applied. Such new information generally consists of data from intermittent inquiries. An example is the annual inquiry on intermediate consumption by product in the manufacturing industry. This inquiry covers one-third of the industries every year, with industries chosen from year to year on a rotating basis. A similar annual inquiry on intermediate consumption by product in the service industries was launched in 2010.

Product reconciliation is now undertaken for the over 400 product balances. At the early stages of the process of product reconciliation residuals between the supply and use sides will appear in various product balances. A few product balances are defined and calculated in such a way that residuals should not arise by definition. If a residual turns up in one of these product balances it is the result of an error of some kind.

Changes in inventories are entered in conjunction with the product reconciliation. The allocation of changes in inventories to detailed product groups is made in accordance with the product information from the calculations on changes in inventories.

The product reconciliations include a verification of the calculations and structures contained within the system. Working from the supply side, input and investment structures are adjusted according to the product structure of the supply unless no other specific information is available. Trade margins may also be subject to adjustment after plausibility assessments.

The adjustments mean that discrepancies may arise between the totals of the system for intermediate consumption and investment industries with respect to the totals originally calculated. Adjustment to bring back the totals for intermediate consumption and GFCF in machinery and equipment to the levels originally calculated is carried out continuously during the entire balancing procedure. The discrepancies are distributed on a proportionate basis.

#### *6.1.7.2 Balancing at current and constant prices*

Since the reconciliations are carried out simultaneously in current and constant prices, a decision must be made whether a particular adjustment should be allowed to affect values both in current and constant prices, or just one of the two. A common procedure is to make proportionally similar adjustments of the values in current and constant prices, i.e. change the volume growth but not the price index. An alternative is, of course, to allow the adjustment to affect *either* the current or the constant price value, hence affect the price index and/or the volume growth. The third alternative is to allow the adjustment to affect both the current and constant price values, but not in a proportionate manner, hence change both the volume growth and the price index.

#### *6.1.7.3 Industry balancing*

At a relatively early stage in the balancing process, analysis by industry with variables such as output, intermediate consumption and value added at current and constant prices is also performed. Other variables in the generation of income account, compensation of employees and other taxes on production and subsidies are analyzed simultaneously at current prices.

#### *6.1.7.4 Simultaneous balancing of industries and products*

Thus, in the analysis and reconciliation work, products and industries, supply and use, prices and volumes – in which considerable importance is attributed to time-series aspects – are assessed simultaneously in both current and constant prices.

In the balancing process all variables may be affected. However, it is only in exceptional cases that the variables included in general government consumption at current prices are changed. Product allocation may be adjusted, but total intermediate consumption or production is seldom adjusted. Clearly the balancing work may lead to the detection and correction of errors or anomalies in the basic material, but corrections on grounds of balancing proper rarely arise. The reason is that the calculations are based on comprehensive and detailed material that can hardly be called into question. The material for the general government sectors is also complete in so far as it covers total transactions for the sectors, which provides good verification possibilities in several ways.

As previously noted, the main approach in the calculations is somewhat geared to the expenditure side. The basic statistics are on the whole well developed and detailed. Output calculations are generally more difficult to verify with regard to both coverage and definitions. Much of the output statistics is based on data from business accounting. Clearly there are a number of reasons why such data can be misleading. Companies, at least the smaller ones, may have reason to, e.g., underreport their output and over report their intermediate consumption. The findings of the 2006 report from the Tax Agency of hidden income supports this. Difficulties can sometimes also arise in making adjustments which are necessary in order to comply with the national accounts definitions. Having said all this, it must be pointed out that a lot of work is carried out to cover underreported areas of output, e.g. the creation of calculation models for hidden activities and illegal activities. Intermediate consumption has been adjusted downwards for several industries.

The end result is that, when all other checks, plausibility assessments and corrections have been made, the final reconciliations (the RAS balancing) involve an adjustment of intermediate consumption in the various industries.

#### *6.1.7.5 Residual items*

At the end of the reconciliation/balancing process, when the automatic (RAS) balancing has been performed, all the supply and use tables are fully balanced, i.e. they do not contain any residuals.

## **6.2 Other approaches used to validate GDP**

### **6.2.1 Labour input, productivity trends, trends in earnings**

Labour input calculations constitute an integral part of the national accounts and serves as an extra control of the accuracy of the estimates. Data are calculated using the same industrial breakdown and classification as the output calculations. The calculations cover average numbers of employees and hours worked, with a breakdown by business operators and employees. These data are combined with data on output, intermediate consumption, value added, wages and salaries etc., and the industry analysis referred to above is supplemented by an analysis of industry labour productivity trends and trends in earnings for time series. These key estimates are important tools for checking that estimates and developments over time are reasonable. Analysis result in an adjustment of any of the constituent variables. In the course of the analysis discussions are held with representatives of various primary statistics producers regarding the content and quality of the statistics. The national accounts may also examine data from individual enterprises in order to be in a better position to interpret the statistics. The analysis carried out by the national accounts often leads to errors being detected in the primary statistics.

### **6.2.2 Sector accounts**

The Swedish National Accounts are complete in the sense that they comprise both the goods and services accounts and sector accounts. The goods and services accounts precede the sector accounts in the calculation process, but the calculation of an annual sequence is not final until also the sector accounts are completed. As explained in Chapter 4, the calculation of the institutional sectors is not

entirely dissociated from the product accounts calculation. Total income is determined from GDP. This means that the trend in incomes and their allocation to sectors is an interesting analysis variable, in the same way as the allocation of net lending to sectors. Also savings and the connection to household and government expenditure add to the quality of the estimates. Large unexplained changes in the household savings rate indicate errors in the estimates of income and/or consumption and/or gross fixed capital formation. In this way the sector accounts act as a support to the overall assessment of the national accounts.

### 6.2.3 Financial accounts

The Swedish National Accounts division also produces financial accounts, which measure the net lending of sectors. At present, the compilation of the non-financial national accounts (product and sector accounts) and financial accounts is not fully harmonized. This means that comparisons between net lending calculated from the real (non-financial) and financial sides, respectively, cannot provide a support to the balancing process for all sectors. Regarding sources and methods, reconciliation of non-financial and financial accounts is only viable for government sectors.

### 6.2.4 Various other approaches to increase quality

*Coordination and Cooperate Affairs unit:* A unit within Statistics Sweden has been set up to keep special records of the 50 main companies in the country. Their reporting in various surveys is of very high importance for the quality of the national accounts estimates. This unit has made a large contribution to increased quality both in source statistics and in national accounts.

*Service level agreements (SLA):* To formalize the cooperation between the National Accounts Division and producers of primary statistics the concept of the service level agreement (SLA) has been established. The SLA is a document, set up between National Accounts Division and suppliers of data, describing the coming delivery of statistics in terms of content, quality and timing (date of delivery). The contents of the various surveys are assessed to a special scale according to a check list. Meetings are held with the National Accounts Division and the producers of statistics where questions are cleared out and feedback is given.

*Meetings and seminars:* In connection with every quarterly release of NA data the National Accounts Division holds seminars with the most important users of the NA, mainly government authorities. The users of the NA statistics then give their views on the material and also criticize and question the estimates produced. Discussions are held with trade organizations, which often produce their own statistics and also have ideas on the development in their areas/industries.

*EDP, WAR, Satellite accounts and Regional accounts* contain national accounts data broken down on a more disaggregate level than the original NA. These compilations then help to verify and check the national estimates. The work with all the details in the excessive deficit procedure (EDP) and the work with compilations of the weighted average tax rate (WAR) contribute to increased knowledge and quality in other parts of the NA.

*Major revisions of time series* are made when new information has been supplied or mistakes in used sources or models are detected. *Quality management, internal and external quality checks:* Statistics Sweden has a long tradition of working with quality issues. Quality reports have been produced for a number of years for all statistical products. Statistics Sweden continuously works towards the standardization of working methods, IT support and methods that serve to increase quality assurance and quality control. The overall guidelines for the work on quality are described in Statistics Sweden's Quality Policy.

Since 2008 Statistics Sweden uses the (EFQM) Excellence Model for Quality Management and operations development. In 2014 Statistics Sweden achieved certification according to the international standard ISO 20252, which is proof that an external evaluator has confirmed that Statistics Sweden's statistical production meets the quality requirements of the standard. Furthermore,



the National Accounts Division of Statistics Sweden has been audited and quality checked by the IMF, the European Court of Auditors, the GNI auditors of Eurostat and the Swedish National Audit Office. This helps to establish that the Swedish National Accounts are calculated in accordance with the international guidelines and that the methods and sources used are documented in a satisfactory way. Apart from these external audits, Statistics Sweden has launched a system of internal audits.

## Chapter 7 Overview of the allowances for exhaustiveness

### 7.0 Introduction

#### 7.0.1 Geographical coverage

The Swedish national economy consists of units, which have a centre of economic interest located within the economic territory of Sweden. The Swedish economic territory comprises the area lying within Sweden's borders with the addition of Swedish ships and aeroplanes in international traffic, Swedish fishing boats fishing in international waters and Sweden's embassies and consulates abroad. In 2010 Sweden had fairly 100 authorities abroad. They include embassies, representatives, delegations and consulates. Conversely the representations of foreign countries in Sweden are counted as foreign territory. They constitute about 160 representations.

The representation of the European Union in Sweden consists of a local office for the European Commission's Representation and an information bureau for the European Parliament. Since 2005 also The European Centre of Disease Prevention and Control (ECDC) is established in Stockholm. The coverage of GDP and hence GNI, is in accordance with Commission Regulation (EC) No 109/2005 and ESA 2010. The units need not have the same nationality as the country itself. They may but need not be legal entities. They need not be present within the economic territory of the country at the time they execute a transaction. A unit has a centre of economic interest in Sweden if it is located within the economic territory of Sweden and engages in economic activities and transactions to a significant extent over a period of at least one year.

ESA 2010 chapter 2 § 11 states that:

"All units, in their capacity as owners of land and/or buildings forming part of the economic territory, are resident units or notional resident units of the country in which that land or those buildings in question are located."

Sweden has no extractable oil or natural gas deposits.

Almost 10 million people live in Sweden. The total land area, including lakes, is a little under 450 000 km<sup>2</sup>. Hence Sweden is the third largest country in the EU in terms of land area. In terms of number of inhabitants, however, Sweden takes number fourteen.

#### 7.0.2 General approach to exhaustiveness

Statistics Sweden's Business Register has an important role in the context of exhaustiveness. It contains all production units relevant for the economic statistics by industry and sector. There are no income or VAT thresholds in the business register, but all units are included. They are all identified by a unique organization number. The register is updated weekly with information from the Tax Agency registrations and annually from surveys to major industries. Also information from any other survey or personal contact with companies is used for updating purposes.

Statistics Sweden also has a unit named Coordination and Corporate Affairs, who has a special responsibility to continuously stay in touch with the 50 largest companies and supply information to relevant departments of statistics. The Coordination and Corporate unit also compares and analyses data delivered to Statistics Sweden in different investigations and surveys. Administrative registers, e.g. of VAT and official annual reports are also used in this work.

The largest companies are very dominant in the economy and in some industries. They are also multinational to a large extent. Therefore it is important to follow their activities closely and to have the best possible recording of their activities relevant for the Swedish economy. In the Swedish economy the 50 largest enterprises represent at least 25 percent of Gross Value Added.

### **The main approach**

The main approach to calculating GDP in Sweden is to compile the best estimates possible based on production and expenditure approaches within the economy. All kinds of information are used in order to produce a GDP measure as comprehensive as possible. In the balancing of GDP, the results of the production and expenditure approaches, which are initially estimated independently of each other, are analysed and assessed in the context of the whole economy. The balancing, which is somewhat geared to the expenditure approach, also leads to an inclusion of sales in the production approach that are not reported to the fiscal authorities. From the production approach, despite many additions in the course of checking for data gaps, it is still possible to understate some estimates. One such example is when VAT has been charged but has not been reported to the fiscal instances. In such cases GVA and product taxes will be too low. Upward adjustments then should be added, but it is impossible to check the absolute value for this.

The expenditure approach has not these difficulties and it is therefore realistic that the estimates on the expenditure side are more complete than other approaches. The detailed data from the supply and use tables, broken down into about 400 product groups, are used as a means of cross-checking the estimates at a more detailed level from the different approaches. Also employment data with average numbers of employees and hours worked are included in the system and used for plausibility assessments. Key figures like productivity estimates and hourly wages are used in confronting data sets.

Estimates from the expenditure approach catch – if they have a good coverage – also production not shown in statistics from production and income sides. Most of the activities in the NA are to a large extent based on material collected in the SBS, in which data is collected from official company book-keeping.

### **VAT gap and fraud**

In the National Accounts a theoretical amount of VAT that should have been collected on all the taxable transactions in the economy is calculated. Most of the VAT revenues come from final consumption expenditure in the household sector. Since there are three different VAT rates, revenues are not only affected by the level of consumption but also by the composition of final consumption expenditure in the household sector. In addition, the VAT tax base consists of intermediate consumption and investments in businesses that are not liable to VAT and therefore cannot deduct VAT paid on inputs.

The theoretically calculated VAT amount is compared with the amount of VAT actually returned to the Tax Agency. The difference between the two is an estimate of overall VAT gap or VAT evasion. The Swedish Tax Agency supplies information on allocation of tax payments so that taxes are recorded on an accrual basis in the correct period.

This covers VAT evasion both with complicity and without complicity. VAT evasion with complicity involves cases where the parties to a transaction jointly agree to avoid paying VAT. VAT evasion without complicity occurs when traders actually collect VAT from their clients but never forward it to the Tax Agency. This latter element is the part of VAT fraud that must be included in GNI.

The adjustment for evasion without complicity is calculated by deducting the amount of VAT fraud with complicity from the estimate for total VAT evasion. It is assumed that traders that collect VAT, whether or not it is subsequently declared in their tax returns, have to issue an invoice containing a VAT number so they need to be registered with the Tax Agency.

Calculations of the VAT gap in Sweden have been presented on some occasions.

*2000-2006: The EU states Reckon's study*

In order to improve knowledge of the conditions in the different countries, the EU Commission commissioned an English consultancy firm (Reckon LLP) to calculate the VAT gap in the member states. The study covers the period 2000-2006. In certain parts of the calculations, Reckon have made general and not country-specific assumptions, i.e. the percentage of deductible VAT within the financial sector. These general assumptions may have affected the extent of the member states' VAT discrepancy in different ways. According to Reckon's calculations, Sweden had in 2006 a VAT discrepancy of 3 per cent. Reckon's study shows that the VAT discrepancy in Sweden decreased during the period, from 6 per cent in 2000 to 3 per cent in 2006.

*Revised 2000–2006 and new computation for 2007–2010: The EU states – CASE-study*

In the autumn of 2012 the EU Commission ordered a new study to quantify and analyse the VAT discrepancy in EU member states. The new study, was led by the Polish research institute CASE (Center for Social and Economic Research). The aim of the EU's new study is to better understand the latest trend within VAT fraud by updating the calculations for 2000-2006 and producing new estimations of the VAT gap for the period 2007-2011.

The method used in the new study was, in principal, the same as that used in the previous Reckon study, but the data was obtained from other sources and the computations were better adapted to the conditions in the respective country, e.g., more specific assumptions for financial companies.

In the previous Reckon study, the final year for computations was 2006. Sweden's VAT discrepancy during this year was calculated to approximately 3 per cent of the theoretical VAT. In the CASE computation, the discrepancy for the same year is 5 per cent. The difference arises firstly because the actual VAT revenues have been revised, secondly because certain general revisions have been made to the composition of consumption. Moreover, the VAT calculation for financial companies has been better adapted to country-specific conditions in the new computation.

In the new computations, Sweden has the lowest VAT discrepancy of the 26 EU states included in the study, with a steady downward trend.

*2000-2013, NA's internal calculations*

The most recent calculation of the discrepancy done by the NA is based on data from the latest update in accordance with ESA 2010 and published in September 2014. As with the CASE study, the internal calculations of the NA indicate a clear reduction in the discrepancy from 2008. This reduction actually occurred already in 2007, but can only be captured from 2008 because of difficulties in correcting the actual VAT for the periodization effects that arose in the construction industry with the introduction of reversed VAT-charge on construction services. For the years 2000 - 2007, the discrepancy averages approximately SEK 11 billion, or approximately 4.5 percent of the theoretical VAT. For the years 2008-2013, the discrepancy averages approximately SEK 4.2 billion, or 1.3 percent of the theoretical VAT.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Diff theoretical/collected VAT	-10 312	-10 715	-11 447	-11 183	-13 695	-12 301	-3 443	-5 587	-2 866	-6 722	-4 724	-2 344
Discrepancy of theoretical VAT	-4,6	-4,5	-4,7	-4,3	-4,9	-4,2	-1,1	-1,8	-0,9	-2,0	-1,4	-0,7

**Confronting the Business Register as a basis for SBS with other sources**

The Business Register is continuously updated with information from several administrative sources,

the main ones being the Swedish Tax Agency, the Swedish Companies Registration Office and the national change of address recording service. In addition, there is the annual BR survey to multiple establishment enterprises. The November version of the Swedish Business Register is serving as the main sampling frame for annual statistics. This frame contains the enterprises that are active in November the reference year and is used by for example the SBS. Since the target population of the SBS is all enterprises, which have been active during the reference year, adjustments are made to cover those enterprises which are not active in November, but have been active during other periods of the reference year. Checks are made in relation to the tax data population and the VAT registrations. However, the number of objects dealt with in this way is limited.

#### *Coverage in the BR and SBS*

A number of studies have been carried out evaluating coverage problems in the BR as well as in the SBS. The basic approach in these studies is to use other administrative sources available in order to determine whether or not a unit is active during the year and should be part of the statistical frame in BR and in the SBS population.

In 2012 Laitila, Wallgren and Wallgren made a study on behalf of the European Commission 7<sup>th</sup> frame work programme (Quality Assessment of Administrative Data Source Quality). In this study methods to detect coverage issues in the BR was discussed, among other things. The register “Gross pay and preliminary tax” based on statements of income was used to look at the under coverage in the BR for November 2009. The results showed that the under coverage in the Business Register as fractions of gross annual pay was 0.7 percent.

**Table 7.0.1 Under coverage and over coverage in the Business Register, non-financial enterprises**

	Undercoverage	Total gross pay	
	SEK millions	SEK millions	Undercoverage %
Non-financial enterprises	5 872	816 939	0.7

In the same study the coverage in SBS was also investigated using the register Gross pay and preliminary tax (YGD) as well as the Gross pay, payroll taxes and preliminary tax from employers' monthly tax returns. The conclusion was that the SBS survey suffers from both over coverage and under coverage. There were 21 392 legal units with gross pay equal to SEK 5.4 billion that were not in the SBS and 145 993 units in the SBS that had no gross pay according to YGD, equal to SEK 3.4 billion, and were over coverage in the SBS. The net effect in terms of gross pay was 0.7 per cent. These coverage errors in the SBS arise because the population for SBS 2009 was created during November 2009 and the YGP 2009 is based on more complete information in September 2010.

**Table 7.0.2 Undercoverage and overcoverage in the SBS**

Legal units that are employers in SBS or YGP			Gross Pay, SEK billion 2009	
SBS	In YGP	Legal units	SBS	YGP
Not in SBS	Yes	21 392	0.0	5.4
SBS=YID	No	76 137	2.0	0.0
SBS=YID	Yes	246 806	543.8	542.0
SBS imputed	No	145 993	3.4	0.0
SBS imputed	Yes	17 805	21.7	19.6
All		508 133	570.9	567.0

In another study by Britt and Anders Wallgren 2007 (Bakgrundsfakta 2007:6, Registerbaserad ekonomisk statistik med ett FDB-NR register) the Business Register was confronted with a population containing all enterprises that showed economic activity during the year according to a number of administrative sources. The comparison was made for the reference year, 2004, and compared with the statistical frame based on the November version of the BR. The results showed both undercoverage and over coverage in the BR and the net effect was an undercoverage of 2.1 per cent measured in terms of Turnover.

Stefan Berg 2006 (Addressing coverage and measurement errors using multiple administrative data sources) concluded that the net effect of over coverage and under coverage in SBS, in terms of turnover, was estimated to SEK 14 billion,  $5\,646 - 28 + 42 = 5\,660$  SEK billion, or 0.25 per cent of total turnover for the year 2005. The approach in the study was similar to the ones described above. The SBS population was compared with a population that had shown activity during the year according to other register data from the VAT payments, the VAT register, "Gross pay and preliminary tax based on statements of income (LSUM)" and "Gross pay, payroll taxes and preliminary tax from employers monthly tax returns (LAPS)".

**Table 7.0.3 Estimation of the coverage errors in SBS 2005**

Subset	No. of enterprises	Turnover, SEK billion
Population used for actual SBS estimates	824 389	5645
Over coverage	61 191	28
Under coverage	105 813	42

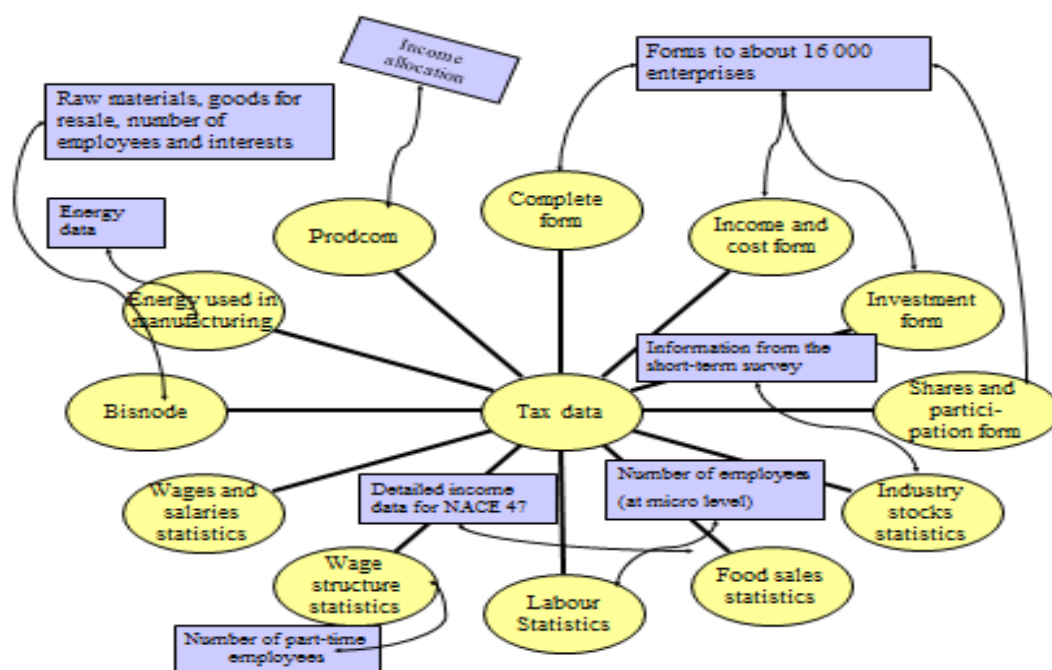
#### *Total survey error in SBS*

Another study was made on 2011 data in the SBS in connection to the ASPIRE project, mentioned in chapter 1 (Stefan Berg, Statistics Sweden). This study tried to measure the Total Survey Error regarding Value Added. The value added is almost entirely based on the tax data register except for the 600 largest enterprises that are surveyed. The error components taken into account in the estimate were the *standard error* from *Non-response* in the tax data and *bias* from over coverage in the SBS population. To calculate the bias from over coverage in the SBS population the method from Berg 2006 was used. The result indicates an overall total Relative Mean Squared Error of about one percent, which must be considered a small error.

### Data collection

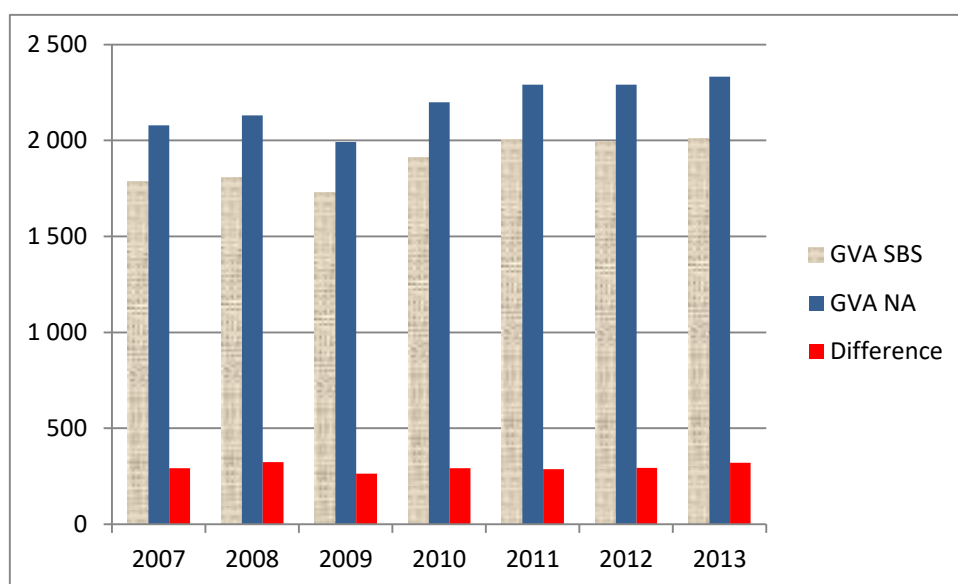
Improvements of the data reporting process are continuously introduced, i.e. it is now possible for respondents to upload a standard file from the book-keeping system in order to fill in the questionnaire. A book-keeping system normally has an export facility, in which a file according to an agreed structure with a standard content can be drawn. Statistics Sweden can transform the contents of the file into variables according to SBS. This means that i.e. the specification on expenditures is to a large extent automatically filled in by this procedure, while other specifications may have to be more manually completed before they are delivered to Statistics Sweden.”

### Swedish SBS



The Swedish SBS is a result of a combination of many surveys and information from administrative registers in order to collect and disaggregate as much information as possible within one and the same roof. It is a unique collection and integration of data which contains detailed information by enterprises. Information is structured by industry and sector as all institutional codes are collected from the Business Register. The inclusion of employment and wage estimates also makes possible checks of some key figures like productivity and earnings per hour. As the SBS has been in production since 1997, long time series comparisons and trends have become an invaluable tool for the national accounts analysis.

The chart below shows the difference in value added between the SBS (FEK) and the NA market producers with some exceptions of financial and dwelling services. All conceptual differences between NA and book-keeping estimates are not corrected for here. As can be seen from this chart, several additions are made to the production value sources.

**Difference in value added between SBS and NA market producers, SEK billion 2011*****Audits by the Swedish Tax Agency***

Over the years, the NA is revised and updated. The STA and other authorities e.g. The Swedish National Council for Crime Prevention, (Brottsförebyggande rådet), Swedish Customs cooperate and on their initiatives new regulations and laws may be proposed and introduced by the Government. This is the case for example regarding claims on staff registers and cash receipts in activities with widely-spread cash payments.

Reverse tax payment obligation has been introduced within construction (from 2007), waste activities (from 2013) and for transactions with foreign countries. This means that the buyer instead of the seller is obliged to pay VAT and any other duties. The aim is to obstruct misuse of the VAT-system in cheating and economic crimes. The results of these new regulations are continuously followed up and new available information is incorporated into the NA estimates. The NA has a continuous cooperation and exchange of information especially with the STA.

Materials produced by the Swedish Tax Agency in various audits, analyses, investigations and information campaigns are used to a large extent. The discrepancies that occur in the compilations are analysed and remedied as far as possible. Then also explicit additions are made to account for hidden activities in the different industries.

In many cases exhaustiveness is handled by separate investigations for different activities. But intermittent investigations where one method covers different types of exhaustiveness also take place.

***Comprehensive audit study, STA report 2006:4***

Information from fiscal audits has been used in the national accounts to increase exhaustiveness. The latest comprehensive study was published in 2006 by the STA. This study covered audits in respect of income tax during the period 1995-2003. The audits were stratified by 25 different business activities, by 3 enterprise sizes and by 8 groups of enterprise types/sectors. The aim was to measure underreported work, i.e. hidden income from work. The calculations therefore cover the changes revealed in respect of income from employment and income from personal business (self-employed).

The estimation of hidden income from work represents 770 000 active enterprises in the STA register at the time when the audits took place. The results indicate a strong concentration of underreported

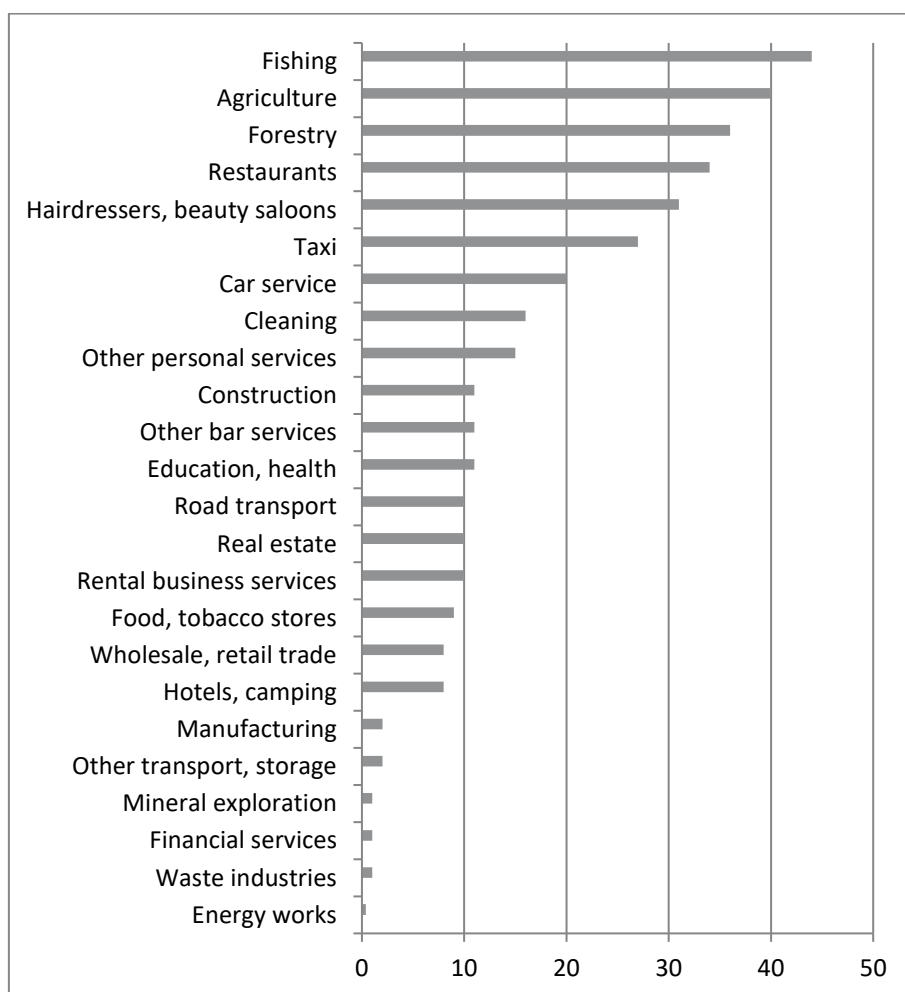


income from work to small enterprises. Self-employed and enterprises with total reported salaries of less than SEK one billion are responsible for 9 percent of the reported income from work and for 85 percent of the calculated underreporting in the study. Medium-sized limited enterprises with total salaries between SEK 1-5 million are responsible for 10 percent of the reported income from employment and for 11 percent of the calculated underreporting. Limited companies with total salaries exceeding SEK 5 million and the other sectors represent 81 percent of the reported income from employment and are responsible for four percent of the calculated underreporting in this study.

Calculations on the relative hidden income, i.e. as an addition to the declared income from work were also performed. They show that an addition exceeding 15 percent were found in activities of fishing, agriculture, forestry, restaurants, hairdressers, taxis, car service, building maintenance, construction and other personal services.

Very small shares were found in manufacturing, mining, credit institutes and energy production. A strong positive connection was found between the proportion of small companies in a trade and the proportion of underreported income. The correlation was 0.86. For larger companies it seems more difficult to keep income hidden as they have more automatic procedures for reporting, registration and audits so it may be more difficult to hide compensation for black work.

The following relations were compiled by the STA between hidden income and white+hidden income in percent by some industry groups.



Where appropriate, the results from the STA have been used in the national accounts estimates. For each business activity additions have been made based on the audit results but also with consideration to other investigations and compilation methods used. For instance regarding agriculture, forestry, construction, financial services the STA findings have not been used. In some activities the grossing up procedures in the STA material was not stratified on different enterprise size groups. Hence, the results were not really accurate, as it turned out that large companies had not the same share of unreported income as small companies had.

Within agriculture, the NA production estimates are based on detailed compilations of agricultural products in accordance with the Economic Accounts of Agriculture, delivered by the Board of Agriculture. Therefore, hidden income within agriculture is mainly related to secondary production, e.g. tourism, direct sales of products, snow cleaning and other income from entrepreneur activities.

Forestry production in the NA is also compiled at a detailed level from the output of sawn timber, pulpwood and chips based on measurement statistics for different products. Additions for secondary production have been made for fuel wood and sawn timber sold via other channels and also for berries, mushrooms, etc.

In the NA construction activities are compiled from the expenditure approach. Completed and under construction works of houses and all other structures are used to get a comprehensive estimate of all activities within this area. Explicit additions for work performed by house-owners are made.

The STA also performed a number of other studies in connection with the above described audit investigation. The aim was to check whether the audit results were valid when compared with results from other methods based on comparisons between entrepreneurs and employees. They showed indications of the following kinds

Established self-employed business owners compared with employees in the same business have considerably lower white declared income.

Other living standard indicators, including home size and car and boat ownerships show that entrepreneurs have a standard of living that is commensurate with a considerably higher income than is officially declared.

An estimate of expenditures in entrepreneur households, compared with that for wage earners based on food-stuff consumption, provides results in respect of under-declaration among business owners that is comparable with the auditing method.

Some interview surveys were also performed. They contained questions on purchases of black goods and services split into three categories. They were work done on private homes, services purchased directly by the household and work done for companies. Questions were also posed on if the work was compensated by money or by an exchange of services. As this was a survey of private individuals, it is not possible to say how much of the work done for companies was covered for in the audit study. Other surveys were about attitudes to black work and concealing activities. These attitude studies were compared to previous surveys in order to try to find any trends and changes in attitudes over time. However, it was not possible to give a clear answer to this question.

#### ***Other actions taken by the Swedish Tax Agency***

The STA continuously works with audits of certain activities. They are often based on where hidden activities are believed or proved to be found. Special checks are also made in areas where certain tax reductions are in effect. This concerns e.g. reconstruction works and household services up to a specified expenditure level. The results referred to of the projects and studies below are all taken from various reports and press releases published by the Swedish Tax Agency, see webpage

<https://www.skatteverket.se/funktioner/sok/sok.4.64a656d113f4c7597011b3.html?query=rapporter>

### ***The requirement for staff registers***

The requirement on companies in certain industries to use staff registers came into effect 1 January 2007. The proposal was initially restricted to restaurants and hairdressers. Since 1 April 2013, the requirement also applies to launderettes and from 1 January 2016 construction activities are also included. The new regulations imply that the companies in question are obliged to register information on a daily basis on individuals working for the company including the exact time that each person start and finish work. The reform also authorised the STA to use a new control instrument – check visits.

The aim of the new regulations was to reduce tax evasion by making it more difficult to use unregistered labour. An evaluation investigated both the initial effect of the new rules during the months following their introduction, and the long-term effects, a couple of years later. The conclusion was that the requirement for staff registers had had a significant effect on wage reporting in restaurants. The results also suggested that the effect had increased gradually over the first two years following the introduction of the requirement. All in all, the investigation assessed that the long-term effect on reported wages in the industry was an increase of between 5 and 11 percent, i.e. between 3 000 and 6 000 annual work units. Based on certain assumptions regarding average monthly wage and current tax rates this corresponds to a reduction in the tax gap of between SEK 400 million and SEK 700 million. For the hairdressing sector, the effect was an increase of between 2 and 7 percent of the reported wages.

### ***The requirement for cash registers***

The requirement for cash registers in the cash trading industries took effect on 1 January 2010. The requirements imply that firms selling goods or services for payment in cash must have a certified cash register and report the cash register to the STA.

A follow-up was made during spring 2015 and the results show that reported turnover increased by almost 10 percent on average for all firms in the months after they had reported their possession of a cash register to the STA compared to the months before. Wages increased by around 6 percent for the same population.

### ***Reduced VAT for restaurants and catering***

On 1 January 2012, VAT on restaurant and catering services was reduced from 25 to 12 per cent. Prior to the VAT reduction, meals served in the restaurant were taxed with the normal 25 percent tax rate, whilst take-away was taxed as foodstuffs, at a rate of 12 percent. Prior to the reform, restaurant and catering businesses reported 33 per cent of their total turnover at 12 per cent VAT. After the reduced VAT was introduced, a questionnaire survey was sent to a random selection of 400 restaurants. Based on the responses to this question, take-away food was estimated to account for about 26 per cent of total sales. This means that about 7 percent of turnover previously has been declared with only 12 percent VAT and SEK 700 million per year have been lost in tax payments.

### ***International exchange of information and information campaigns***

Transactions with actors abroad and with so called tax paradises are also checked up. The Swedish Tax Agency exchange information according to tax treaties with foreign countries and new treaties have continuously been negotiated. As of 2016 Sweden has agreements with all tax paradises on openness of bank accounts in these countries. The STA has made it possible to self-report and reveal to the Tax Authority previously hidden savings abroad.

About SEK 7 million have been self-reported and revealed for taxation. Only the latest five years are open for taxation. 9 800 persons have made self-corrections and this has contributed to an extra SEK 1.8 million of wealth taxes paid. The NA has distributed these amounts on the years in question.

The STA every year announces which activities they will check that year. This has a preventive effect. In 2013 e.g. the following list was communicated:

Web shops, Poker games, Internet traffic, Real Estate Agents, Dentists, Forest sales, Sales of properties and cooperative dwellings, Rentals of secondary dwellings, Taxis, Illegal trade with alcohol and tobacco, Unregistered workers, Cooperation activities between different authorities, e.g. sick leave, unemployment compensations, other social compensations.

In 2015 emphasis was laid on cash trading industries, health and social care activities, VAT fraud in connection with border transactions, preferably within electronic trade and construction and repairs of dwellings and certain home service activities with special tax reductions.

## 7.1 Allowances for exhaustiveness in the production approach

### 7.1.1 Identification of types of non-exhaustiveness (for which adjustments are needed)

As estimates and sources for the production approach to a large degree are based on SBS, which in turn is based on income statements and financial reports from enterprises, it is necessary to cover up for hidden and illegal activities in the economy.

Please note that hidden and illegal activities refer to both additions to production and deductions of over-reported intermediate consumption. Therefore the columns reported and hidden, illegal do not sum up to the value added shown in the total column.

**Table 7.1.1. Hidden and illegal economy**

Explicit additions for hidden and illegal economy in 2011, SEK million			
Activity	Value added		
	Reported	Hidden, Illegal	Total
A01-03 Agriculture, forestry and fishing	46 920	5 629	52 549
B05-09 Utvinning av mineral	27 845	93	27 938
C10-33 Manufacturing	583 799	4 753	588 552
D35 Provision of electricity, gas, heating and refrigeration	87 314	0	87 314
E36-39 Provision of water; sewage treatment, waste management and sanitation	19 364	1 152	20 516
F41-43 Construction	166 748	19 073	185 821
G45-47 Trade: motor vehicle and motorcycle repair	341 266	8 740	350 006
H49-53 Transport and warehousing	168 714	10 981	146 946
I 55-56 Hotels and restaurants	44 128	5 389	49 517
J58-63 Information and communication	170 032	6 201	176 233
K64-66 Finance and insurance	131 220	355	131 450
L68 Real estate	385 345	4 680	274 847
M69-75 Activities within law, economy, science and technology	215 067	8 649	178 452
N77-82 Rental, property services, travel services and other support services	103 675	6 366	109 802
P85 Education	174 271	2 371	30 932
Q86-88 Care and healthcare: social services	335 700	3 502	77 777
R90-93 Culture, entertainment and leisure	37 810	3 757	21 200
S94-96 Other services	43 575	8 472	25 831
T97-98 Domestic gainful employment; domestic production of various goods and services for own use	742	408	1 150
<b>Value added at basic price, market producers and producers for own final use</b>	<b>3 083 535</b>	<b>100 571</b>	<b>2 536 833</b>
Value added at basic price in public authorities			642 277
Value added at basic price in non-profit institutions serving households (NPISH)			43 821
<b>Total value added at basic price</b>			<b>3 222 931</b>
<b>GDP at market price</b>			<b>3 656 577</b>
<b>Hidden value added as a proportion of:</b>			
Value added at basic price, market producers and producers for own final use			4,0%
Value added at basic price in the entire economy			3,1%
GDP at market price			2,8%

Below hidden and illegal activities are described in terms of tabular approach.

### 7.1.2 Adjustments made for the different types of non-exhaustiveness

	prostitution	drugs smuggling	gambling	dwelling construction	over/under reporting	Total SEK million
<b>OUTPUT</b>						
N2, illegal activities	572	2 215	774	1 029		4 590
N6, Under/overreporting					80 449	80 449
<b>INTERMEDIATE CONSUMPTION</b>						
N3, Dwellings construction				-1 442		-1 442
N6, Under/overreporting					16 974	16 974
<b>GROSS VALUE ADDED</b>						
N2, illegal activities	572	2 215	774	1 029		4 590
N3, Dwellings construction				-1 442		-1 442
N6, Under/overreporting					97 423	97 423
<b>TOTAL</b>						<b>100 571</b>

The table shows that most exhaustiveness adjustments are made to Output.

#### *N1. Producers obliged to register*

No explicit adjustments are made in the accounts for producers that are obliged to register.

#### *N2. Illegal activities*

The methods for setting the benchmarks that were introduced in the in the accounts in 2007 as well as the methods for extrapolation are described in the section below, *N2 illegal methods*. The 2011 values for each item and a summary of the methods and sources used for updating the benchmark values are presented in the table below.

**Table 7.1.3 Illegal activities 2011 by item and methods for exptrapolation**

Coicop	Industry	Item	Value	Methods for updating the benchmark estimates	Source
02112	G47	Smuggling, Liqour	113	Extrapolation based on consumption per person, $V = C/P$	SoRAD/CAN
02122	G47	Smuggling, vine	14	Extrapolation based on consumption per person, $V = C/P$	SoRAD/CAN
021312	G47	Smuggling, strong beer	290	Extrapolation based on consumption per person, $V = C/P$	SoRAD/CAN
02202	G47	Smuggling, tobacco	240	Extrapolation based on consumption per person, $V = C/P$	SoRAD/CAN
0230	G47	Narcotics	2215	Updating the model with information on prices, import prices and street prices by type of drug.	UNDOC/CAN
1220	S96	Prostitution	572	Extrapolation with price movement (no volume change)	CPI
02113	C11	Liquour, home produced	117	Extrapolation based on consumption per person, $V = C/P$	SoRAD/CAN
0943	R90_92	Gambling, illicit	1029	Extrapolation based on legal gambling	Legal gambling
		<b>Total</b>	<b>4590</b>		

$V$  = value,  $C$  = consumption per person (15 years and older) of smuggled alcohol,  $P$  = price index for relevant product

#### *N3. Under-/over-reporting*

The value recorded under N3, dwelling construction, refers to intermediate consumption in the production for own final use in the owner occupied dwellings. The intermediate consumption is calculated by applying the input ratio for the construction industry to the output for own final use.

#### *N.4/N.5 Registered legal persons and entrepreneurs*

Adjustments for under coverage of registered legal person and entrepreneurs are mainly done in the

source statistics and commented in chapter 10 in the Inventory under each source. Concerning administrative data the SBS would be the most important source with respect to coverage of total gross value added since it covers most industries and is based on administrative data for the whole target population. Issues of on coverage in the SBS is briefly discussed in the section *Coverage in the BR and SBS*, above.

#### ***N6. Under-/over-reporting***

The underreporting of turnover and the over reporting of intermediate consumption are the main contributors of exhaustiveness items in the Swedish economy. . The current levels of under- and over-reporting adjustments (N6) in the Swedish national accounts is mainly based on the report that the Swedish Tax Authority published 2006 named “Svartköp och svartjobb I Sverige”, *described above under the heading Comprehensive audit study, STA report 2006:4*. For the years after the benchmark estimates from 2007 the main method for extrapolating the benchmarks have been to use the same trend as for the reported/non-hidden output for the relevant products.

Apart from persons engaged in illegal activities, there are no studies which give indications of any producers who are not included in the Business Register. The register is updated every week and there are no thresholds below which to hide. Hence all the exhaustiveness items refer to already included legal persons, who deliberately misreport their activities.

#### ***N2. Illegal activities, methods***

Under the ESA regulation, illegal activities must be included in the national accounts. Illegal activities that fit the characteristics of transactions – particularly that there is mutual agreement between the parties – should be treated the same way as legal activities. Certain illegal activities do contribute to output and income in the economy and as such they should be registered accordingly.

The main part of illegal production is trade margins of NACE G47, Retail trade. This is the case for smuggling and narcotic drugs. (In table 7.1.2 data for smuggling include 117 million SEK homemade liquor which is added to NACE C11 Manufacture of beverages.) The trade margins are estimated as the difference between vales estimated based on purchasers prices and values based on price data from the countries from which the merchandise has been purchased and brought to Sweden. The values for prostitution and gambling are added to NACE S96 Other personal service activities and 09.43 Creative, arts, entertainment, libraries, archives, museums, other cultural, gambling and sports activities respectively. Intermediate consumption for illegal activities is considered to be of negligible value and inseparable from household consumption and is therefore not recorded.

The following description of calculations, sources and methods of illegal estimates in the Swedish national accounts are mainly a summary of the report “Illegal activities” describing the methods used for setting the benchmarks for the different activities. The report in full is available on Statistics Sweden’s website: [https://www.scb.se/en\\_/Finding-statistics/Publishing-calendar/Show-detailed-information/?publobjid=18835](https://www.scb.se/en_/Finding-statistics/Publishing-calendar/Show-detailed-information/?publobjid=18835) .

After the publishing of the first experimental compilations of illegal activities in April 2005, the report was made public on the internet and also sent to a number of people having knowledge within the area. No reactions were received on revising the first compiled estimates. As normal statistical information does not exist, estimates within this area contain a large proportion of uncertainty. As no better information has been revealed the benchmarks from the previous investigations are used.

#### ***Prostitution***

##### ***Legislation***

On 1 January 1999, the Law prohibiting the purchase of sexual services was adopted in Sweden. The prohibition applies everywhere, irrespective of whether the purchase occurs on the street, in dwellings,

in restaurants, in brothels or via the Internet. Law 1998:401. The law makes prostitution a criminal offence only for the purchaser and the offence is deemed to begin as soon as the purchaser contacts the seller/prostitute, e.g. on the street, and offers payment for sexual services. The government has asked the National Board of Health and Welfare, *inter alia*, to constantly monitor and collect information on the scope and development of prostitution.

#### *Sources*

Quite a few official investigations have been made within this area over the years. The report *Prostitution in Sweden (Kännedom om prostitution) 1998-1999* gives an initial description of the situation before and after the adoption of the law. The report is based on information collected via surveys of all police authorities and police sectors, all municipalities and a sample of restaurants, hotels and similar businesses as well as the local offices of RFSL. Internet sites linked to prostitution were also identified and interviews were conducted with key informants including, *inter alia*, the police, social and health services, and a number of purchasers of sex. A follow-up to this report, *Prostitution in Sweden 2003*, is based primarily on interviews with approximately 35 persons whose work places them in close contact with prostitutes. This report presents their knowledge of prostitution – or rather their perceptions and assessments. In spring 2015 a new follow-up report was published<sup>25</sup>

In the preliminary work on *SOU 1995:15* [SOU = *Statens offentliga utredningar* (Reports of official commissions of inquiry)] it was estimated that the total number engaged in prostitution in Sweden was about 2 500, of which approximately 650 were engaged in street prostitution. Estimates made after the adoption of the law indicate a total of 425 engaged in street prostitution in 2003. However, it is much more difficult to get a clear view of indoor prostitution. Access to mobile phones and the Internet means that contacts between purchaser and seller can take place in secret. There is information that contacts are initiated at certain restaurants, hotels and dance halls, in connection with conferences and private parties, as well as on the Sweden/Finland ferries. However, this activity is among the most difficult to survey and for this reason no estimate could be made. Experienced analysts of this activity consider that it takes place on a very small scale. In the case of the Internet, estimates vary, the same person may appear in different contexts and the advertisements may be out of date. However, there are a number of reports which indicate that there were about 100 people in Sweden selling sexual services via the Internet in the beginning of the 2000s.

The national police force estimates that there are between 400 and 600 female victims of trafficking each year in Sweden. Most are from the Baltic countries, Eastern Europe or Russia but there are even women from Thailand. These women become prostitutes in brothels and in sex clubs and are isolated from the rest of society. The women are guarded by pimps who often appropriate most of their earnings. The women do not know the language and have no permit to be in the country, so pimps have almost complete control over them. Sexual services are sought primarily via the Internet. Figures for trafficking are not explicitly included in the NA calculations with reference to that these women do not enter into a voluntary agreement regarding the services which they must perform. As mutual agreement is a prerequisite for inclusion figures for such activities should consequently not be included in the national accounts. However, since the Internet is used as a channel for selling sexual services, it is difficult to say if they are totally excluded or not.

#### *Demand – estimating the output value of prostitution*

A potential and very rough effort has been made to estimate demand on the basis of data from an interview survey conducted by the Swedish National Institute of Public Health in 1996, according to

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<sup>25</sup> Prostitutionen i Sverige 2014, en omfattningskartläggning, ISBN 978-91-7281-636-7.

which one in eight men in Sweden purchases sex on some occasion during his life. This means that almost 14 per cent of Swedish men have paid for sexual services at some time. This is equivalent to more than 430 000 men over the age of 18. For the majority, it was limited to one or very few occasions, while a smaller group had had more than 20 contacts with prostitutes. Since the survey concerns the number of purchases during a respondent's life, it is in fact not possible to calculate an annual value on the basis of these data.

#### *Street prostitution*

According to the National Board of Health and Welfare report "Prostitution in Sweden 2003", there is street prostitution in Stockholm, Gothenburg and Malmö. Estimations made by the social services prostitution groups in these towns indicated the following involvement as reported in 2003.

Street prostitution in Stockholm: approximately 190 (1998: 280 individuals)

In Gothenburg: fewer than 100 (1998: 286 individuals)

In Malmö: just under 135 (1998: 160 individuals)

This gives a total of approximately 425 individuals.

According to data from informants, those who are active in street prostitution have lived in Sweden for a long time and are not casual visitors. Another statement from the report was that many of the prostitutes were heroin addicts. Based on this information, an effort was made to calculate the level of income necessary to finance an individual's substance abuse. The report SOU 1998:18, Utredningen om tullens verksamhet [Report on customs' operations] contains calculations based on various scenarios of what volume of drugs is consumed in Sweden and what quantities are consumed by different consumer groups.

According to the scenarios shown, average consumption by a heavy substance-abuser is approximately 134 grams/year. The price of a gram of brown or white heroin is between SEK 900 and SEK 1 300, and of a gram of amphetamines approximately SEK 190. On this basis, own-consumption of heroin costs between SEK 120 000 and SEK 174 000 per year, and own-consumption of amphetamines approximately SEK 25 000 per year.

In another study *SOU 1981:71*, an attempt was made to calculate gross income for the persons engaged in street prostitution at that time. The average income was calculated to approximately almost SEK 45 000. Calculated at 2004 values on the basis of the Consumer Price Index, this is equivalent to an average income of just under SEK 124 000.

Added to this tentative amounts for financing drug abuse are average living costs, which on the basis of various calculations are estimated at between SEK 50 000 and SEK 60 000 per year for a single woman. However, these calculations do not include the costs of rent and holidays. A reasonable assumption is that such expenditure can be a further SEK 100 000 per year. In such a situation, an income of between SEK 125 000 and SEK 274 000 per year would be necessary. This corresponds well with the illegal earnings of between SEK 10 000 and SEK 20 000 per month that are offered when trying to attract new prostitutes.

#### **Street prostitution as of 2003**

Average income per prostitute per year	200 000
Number of prostitutes in street prostitution	425
Total output	<b>85 000 000</b>
(this thus requires 200 occasions per year at SEK 1000).	

#### *Internet*

Prostitution activity via the Internet is substantially more difficult to estimate than street prostitution. Sven-Axel Månsson and Peder Söderlind, who have done considerable research on sexual exploitation on the Internet and have also published the book "*Sexindustrin på nätet*" (The sex industry on the net), report that at least 80-100 women market themselves on Swedish websites. The newspaper



*Aftonbladet* conducted a survey in 2000 and found that 106 women sold sexual services on the Internet. The prices indicated on the websites varied for different services and in February 2005 ranged between SEK 1 000 and SEK 4 000. An average price of SEK 2 500 for 100 women who have 500 contacts per year amounts to a turnover of SEK 125 million annually, equivalent to SEK 1.25 million per woman.

### **Internet prostitution as of 2003**

Average income per prostitute and occasion	2500
Number of prostitutes via Internet	100
Number of contacts per year per person (assumed)	500
Total output	125 000 000

(Equivalent to an average income per year of SEK 1.25 million per person)

However, this category also includes active women who have spent less than one year in Sweden. Their income should not be included in Swedish output, but it is very difficult to estimate the scale. These women generally have somebody who organises their activities, and who takes a share of the income. Probably the organisers have lived for longer than one year in Sweden in order to create a contact network, and in that case those persons' incomes should be included.

### *Sex clubs*

In 1998, the National Commission on Sex Crimes [*Sexualbrottskommitté*](2001:14) conducted surveys to the national police authorities and social services in Stockholm, Gothenburg, Malmö and Norrköping in order to obtain information, *inter alia*, on the activity and scope of sex clubs. The surveys related to the situation in the spring of 1999. Replies were supplemented by interviews with representatives of the social services, the public prosecutor's office and police authorities, and by study visits to sex clubs. All the material indicated that there were a total of 13 sex clubs in Sweden.

The visible portion of activities consists of striptease performances on stage, private/personal posing and also the sale, rental and showing of pornographic films. Also in some of the Stockholm clubs there were special rooms for massage and bubble pools, where the client is allowed to bathe together with the woman. Generally there is a price list for the various services offered. Prices varied between SEK 300 and 15 000 depending on activities chosen.

Representatives for sex clubs have been accused for financial crimes and the businesses named in the rulings from the Court of Appeal are included in NACE 96 in the Business Register. It was also shown that many customers had paid for their expenses with business cards. Consequently some activities are already included in the national accounts, at least as over-reported costs.

### *Prostitution contacts formed in sex clubs*

In connection with the investigation of the sex clubs, it emerged that in one of the smaller clubs the owner might sell prostitution services for SEK 1 000. In another small club it might be possible to pay a total of SEK 1 200 for entrance to the club premises, access to nude performances on stage and for the services of a prostitute who was waiting in an apartment or hotel room. Via contacts with women who have experience of working in sex clubs, the prostitution teams have obtained information that certain women offer prostitution services. The services are provided outside the club's premises, since the club owners take care that prostitution does not take place in the actual club.

### *Wages and working conditions*

*SOU 2001:14* reports that it is reasonable to assume that the total number of women working in sex clubs is at least 500. The majority are active in Stockholm and Gothenburg. A rough calculation gives the following estimate:

**Prostitution in connection with sex clubs as of 2003**

Average income per prostitute and occasion	5000
Number active in sex clubs	500
Number of contacts per year per person (assumed)	150
Total output	<b>375 000 000</b>
(Gives an average income per year of SEK 750 000 per person)	

**Summary**

To sum up, this very rough estimate would mean that turnover on prostitution is about SEK 585 million in 2004. However, as pointed out earlier, some of this money probably accrues to people who reside in Sweden for less than one year.

**Overview of data****Number of prostitutes**

Street	425
Internet	100
Clubs	500
	1025

**Average number of contacts per prostitute and year**

Street	250
Internet	500
Clubs	150

**Average price per occasion**

Street	1000
Internet	2500
Clubs	5000

**Average turnover per prostitute: SEK 571 000 per year**

**Total turnover: SEK 585 000 000**

Prostitutes working in the context of clubs and via the Internet incur certain expenses for premises, travel and working clothes. These could however already be included in some way, although in a different context. With reference also to the total uncertainty of the compilations, no reduction has been made for this.

In *SOU 1981:71*, gross income from prostitution in Sweden was calculated. The total income added up to SEK 120 million. Indexed in line with the CPI at 2004 values, this is equivalent to SEK 334 million. The number of prostitutes was estimated at just under 2 000.

**Recent information**

An official investigation published in 2015<sup>26</sup> states that there are no notable changes concerning the number of prostitutes. The number of street prostitutes has been reduced somewhat but the number of internet ads have increased. However a large number of double registrations of ads have been found. The NA volume estimates have therefore not been changed but prices are indexed with the total CPI-

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<sup>26</sup> **Prostitutionen i Sverige 2014**, En omfattningskartläggning

change. Various surveys have been performed in 1996, 2008, 2011 and 2014. The share of men who say that they have paid for sexual services show 12.7, 7.6, 10.2 and 7.5 percent in these studies. So perhaps a small decrease can be seen, but the number of respondents is very small. Interviews with some females indicate that they have an average of 10 to 15 customers per month.

### *Estimates of production and trafficking of drugs*

#### *Narcotics*

Sweden has a very restrictive policy towards illicit drugs. All handling and possession of narcotics for private use is forbidden by law.<sup>27</sup> Drug use prevention programs, interventions aimed at vulnerable groups, information campaigns and participation in a number of international anti-drug fora, are some of the on-going activities. The Swedish National Institute of Public Health coordinates drug preventive efforts. Various private organizations are also active in drug abuse prevention and public information programs. Under Swedish law, individuals who abuse drugs can be sentenced to drug treatment.

#### *Estimation model*

The basic premise is that all narcotics used are consumed by households. Efforts have, in various reports, been made to estimate total consumption<sup>28</sup>. These estimates are based primarily on assumptions regarding the number of addicts and their average consumption. A similar model will be adopted here, with data on the number of addicts, prices, average dose and days of abuse as input. The model is constructed as follows:

Household final consumption expenditure per substance = Price (SEK/gram) x number of addicts x average dose (grams per day of abuse) x number of days of abuse.

The calculation of drug consumption is done separately for six types of drugs: cannabis, heroin, cocaine, amphetamines, ecstasy and narcotic medicines. This is obviously a simplification of the reality and implies, for example, the omission of GHB and khat consumption. However, the market for these is small in Sweden. Cocaine abuse has increased in recent years and has become established as a recreational drug, especially in the cities. Ecstasy abuse occurs primarily at rave parties and in club and restaurant circles.

Drug abuse encompasses everything from brief or on-off experiments to daily abuse. In calculating household final consumption expenditure on drugs it is therefore relevant to make a distinction between heavy abuse and other abuse. "Heavy abuse" is, in this context, defined as including all abuse via injection, irrespective of the substance and frequency, and all daily or almost daily use of drugs, irrespective of the method of intake. In the case of heavy abuse, a number of surveys and estimates have been made of the number of abusers and their consumption.

The category "other abuse" covers all abuse which is not classified as heavy, i.e. everything from brief/experimental use to more regular use which is not daily or almost daily. Various interview and questionnaire surveys provide some data on this group. In the following, estimates are calculated separately for these two groups of users.

#### **Heavy abusers and their consumption**

It is the heavy users, i.e. the more regular abusers, who account for the major portion of drug consumption. To estimate the consumption of this group, data is needed on the number of heavy

<sup>27</sup> SFS 1968:64, Act on Penal Law on Narcotics.

<sup>28</sup> *SOU 1998:18*, *Ds 1999:46* and report of Swedish Customs etc. "Att mäta samhällsnyttan av myndigheternas insatser" (Measuring the social benefit of public sector activities), 2000. The National Criminal Investigation Department and Swedish Custom report "The illegal drug situation in Sweden 2007"

abusers, the prices of different drugs, information on which substances are consumed and how often the abuse occurs, i.e. the number of days of active abuse.

#### *Number of heavy addicts*

National surveys of heavy addicts were conducted in three different studies for the years 1979, 1992 and 1998<sup>29</sup>. In these surveys, respondents with knowledge of narcotics abuse reported the number of addicts known to them. A number was then calculated and added for unreported cases, i.e. the number of addicts unknown to the authorities, using a special statistical method (case-finding method). The 1979 survey was a total survey, while the two others were based on a sample of municipalities. In Granath, Svensson and Lindström's (2003) report, the number of heavy addicts was estimated for the years 1997–2001. The report is based on medical data, and the number of heavy addicts was estimated at 26 000 in 1998<sup>30</sup>. It was estimated that the number of addicts rose thereafter to approximately 28 000 in 2001 (between 27 640 and 28 870). After that the number of addicts is believed to have fallen and at present the number is approximately 26 000<sup>31</sup>.

#### *Prices*

Street prices are available from 1988 for hashish and to some extent marijuana, amphetamines, cocaine and heroin. From the year 2000, price data is also collected for ecstasy, khat, LSD and GHB. Import prices for 2001–2003 are based on information from The National Criminal Investigation Department. For other years prices are assumed to develop in the same way as street prices.

Data have been streamlined so that the number of abusers in 2001 is broken down only by amphetamines (central stimulants are assumed to consist primarily of amphetamines), heroin (opiates are assumed to consist primarily of heroin), cannabis and narcotic medicines (tablets are assumed to consist primarily of narcotic classified medicines).

Among narcotic medicines, substances which contain benzodiazepines are the most common. Within this group, rohypnol is the most common medicine available on the illegal market<sup>32</sup>. Medicines classified as drugs are used separately or in combination with other substances in order to increase the effect of the drug in question.

According to Olsson, Adamsson Wahren and Byqvist (2001), for 1 783 addicts central stimulants were the dominant substance, for 1 524 opiates, for 447 cannabis and for 164 tablets. Calculated as a percentage this gives the following breakdown 46% central stimulants (here interpreted as amphetamines), 39% opiates (here interpreted as heroin), 11% cannabis and 4% tablets (here interpreted as narcotic medicines). This breakdown applies to the number of abusers in 2001.

Substance	Abusers	Proportion
Amphetamines	12 742	46%
Heroin	10 891	39%
Cannabis	3 195	11%
Narc. Medicines.	1 172	4%
Total	28 000	100%

#### *Calculation of consumption by user/abuser of respective drug*

There is a relatively large degree of uncertainty regarding the level of annual consumption of the respective substances. Certain assumptions must, however, be made in order to estimate total

<sup>29</sup> Olsson, Adamsson Wahren, Byqvist, 2001.

<sup>30</sup> Olsson, Adamsson Wahren, Byqvist (2001) also arrived at an estimate of 26 000 heavy drug addicts in 1998.

<sup>31</sup> The national policy drug coordinator yearly report 2006

<sup>32</sup> The National Criminal Investigation Department and Swedish Customs report "Drug situation in Sweden", 2003".

consumption. The annual consumption per abuser is assumed to be 160 grams for amphetamines, 160 grams for heroin and 300 grams for cannabis and 1000 tablets of narcotic medicines. For other abusers the assumption is 10 grams for amphetamines (25 days of use per year with a dose of 0,4 gram), 12, 5 grams for cannabis and 5, 2 grams for cocaine. In the case of ecstasy and narcotic medicines, the assumption is a consumption of 75 tablets per year. This data is based on the National Institute of Public Health's scenarios as published in the SOU report 1998:18. The National Institute of Public Health's data include an assumption regarding combined abuse, where the number of abusers is broken down by dominant substance. Annual consumption by these abusers should lie in the upper end of the National Institute of Public Health's range. For medicines classified as narcotics a dose of 5 tablets per occasion is assumed (based on discussions with the National Criminal Investigation Department), the number of active days of abuse per year is estimated at 200 days, giving an annual consumption of 1 000 tablets.

On the basis of the above assumptions regarding the substances used, the annual consumption and the street prices arrived at by CAN, total consumption by heavy abusers is estimated at around SEK 2.7 billion in 2001. Consumption expenditure per abuser is substantially higher for heroin than for other substances. Heroin is also the drug where quitting is most difficult.

Consumption of drugs 2001 broken down by types of substances

Substance	Number of users	Annual consumption g/person (1)	Annual consumption. Kg (1)	Price SEK/g (1)	Annual consumption SEK '000 /person	Annual consumption SEK million
Amphetamines	12 742	160	2 039	250	40	510
Heroin	10 891	160	1 743	1 200	192	2091
Cannabis	3 195	300	959	79	24	76
Narcotic medicines	1 172	1000	1 172 000	18	18	21
Total	28 000					2 698

(1) Narcotic medicines: number of tablets and price per tablet.

Source: Own calculation. Annual consumption Kg = (number of abusers x annual consumption gram/pers)/1 000. Annual consumption SEK million = (number of abusers x annual consumption gram/pers x price SEK/gram)/1 000 000. Prices: With the exception of narcotic medicines, the prices are based on CAN's median value prices. For cannabis, a weighted price between hashish (90%) and marijuana (10%) is used. The weights are based on Swedish Customs and police seizures in 2004. For heroin, a weighted price between brown heroin (80%) and white heroin (20%) is used. The weights are taken from the "World drug report 2004" of the United Nations Office on Drugs and Crime. Narcotic medicines are based on the National Criminal Investigation Department and Swedish Customs price data for rohypnol (Drug situation in Sweden, 2001). The unit price on the street is SEK 25-30. For larger quantities, e.g. about 500 tablets, the price falls to SEK 10 per unit. Here a price of SEK 18 per unit is assumed.

#### *Other users/abusers*

The group denoted "other users/abusers" consist of users who are not classified as being heavy ones. This includes in part those who engage in occasional/experimental use and in part those who are at a stage between occasional use and heavy abuse. The information available in this area comes from various interview and questionnaire surveys. Since 1971, annual surveys have been conducted among school children in grade 9 (aged 15), as well as among recruits for military service. Starting in 2004,

annual surveys are also conducted among high-school students. Certain information is also obtained in interview surveys with young people aged 16–24 years, as well as with the total population.<sup>33</sup>

To calculate drug consumption by other users/abusers, some assumptions need to be made. It is assumed here that the direct interviews of the total population reflect use which is not classified as heavy abuse. The assumption of the calculation of drug abuse by other users than heavy is that slightly more than 1% of the people aged between 15–75 years had used drugs in the previous year. In the report *SOU 1998:18*, the National Institute of Public Health estimated drug and it was assumed that small-scale cannabis users smoke around 0.5 grams per week. Here it is assumed that every user consumes 0.5 grams on 25 occasions per year.

In the following table, consumption is calculated by combining the above assumptions regarding the number of small-scale consumers, dose sizes, days of use and prices. As can be seen, consumption by small-scale consumers is minor compared with heavy users/abusers and the assumptions made regarding dose sizes and number of days in the case of narcotic medicines, amphetamines and ecstasy do not influence the outcome to any great extent.

### Drug consumption by other users/abusers, 2001

Substance	Number users	g/dose (1)	Number doses/yr	Annual consumption Kg (1)	Price SEK/gramme (1)	Annual consumption SEK million
Amphetamines	1 310	0,4	25	13	250	3
Cannabis	62 205	0,5	25	778	79	61
Cocaine	13 780	0,2	25	69	1000	69
Narcotic medicines	654	3	25	49 050	18	0,9
Ecstasy	1 310	3	25	98 250	150	15
Total	79 259					149

(1) Ecstasy and narcotic medicines, number of tablets and price per tablet.

Consumption kg = (Number users x g/dose x number doses/year)/1 000

Consumption SEK million = (number users x g/dose x number doses/year x price SEK/g)/1 000 000

Prices: The prices are based on CAN's data, but in the case of narcotic medicines the price quoted by the National Criminal Investigation Department is used. In the case of cannabis, a weighted price between hashish (90%) and marijuana (10%) is used.

### Summary – total final consumption expenditure

Household final consumption expenditure consists of the combined consumption of heavy users and other users. Above, the consumption of heavy users was estimated at SEK 2 698 million and consumption by other users at SEK 149 million. The total final consumption expenditure of households was estimated at SEK 2 847 million in 2001.

### Output and intermediate consumption

#### Output

Output arises through both domestic output and through the trade margins on imported quantities which are sold to consumers. In the case of heroin and cocaine, there is no indication that they are manufactured in Sweden. There is a certain degree of limited home cultivation of cannabis plants for own consumption, but the effect on total supply is considered very marginal. In the case of synthetic drugs, the manufacture of ecstasy is considered almost non-existent and the manufacture of amphetamines as very small.

<sup>33</sup> The surveys are discussed *inter alia* in CAN's report "Drug trends in Sweden".

Output is therefore calculated as Trade margins = (street price – import price) x quantity. Corrections have to be made in the above formula since the degree of purity of the substance can differ at the import and/or street stage. The National Criminal Investigation Department estimates the wholesale price<sup>34</sup>. This price is the price which the Swedish wholesalers pay for the drug.

#### Wholesale price for different drugs in 2001 and 2003, SEK '000 per kg

	2001	2003
Amphetamines	60-100	50-100
Heroin	280-400	280-400
Cannabis	30-40	25-40
Cocaine	300-400	300-400
Narcotic medicines(1)	10	10
Ecstasy(1)	40	40

(1) The price for ecstasy and rohypnol is the price per tablet when purchasing 1 000 ecstasy tablets or 500 rohypnol tablets.

Source: National Criminal Investigation Department and Swedish Customs report "Drug situation in Sweden, 2001 and 2003". The price for heroin is a weighting between brown heroin (80%) and white heroin (20%). For narcotic medicines, the price for rohypnol is used.

Presumably, some transport costs up to the Swedish border are included in the above prices. The import price is thus assumed to be equal to the higher level in the range. However, for cannabis the average is used since the wholesale price for marijuana is not available. The street price for marijuana is somewhat lower, which is why it is assumed that the wholesale prices for hashish and marijuana are also somewhat lower.

Of the various drugs, only heroin, amphetamines and cocaine are diluted. Tests carried out on seized drugs show that cocaine is diluted 2.4 times, heroin 2.2 times and amphetamines 2.5 times<sup>35</sup>. For cocaine recent tests of larger seizures show that the cocaine may already be diluted upon arrival<sup>36</sup>. In this case more information is needed. If the quantity of drugs consumed at street level is corrected for the dilution, the following quantities of imported drugs are received.

#### Imported quantity of drugs 2001

Substance	Quantity at street level kg (1)	Diluted	Quantity imported Kg (1)
Amphetamines	2 052	2.5	821
Heroin	1 743	2.2	792
Cannabis	1 736	No	1 736
Cocaine	69	2.4	29
Narcotic medicines	1 221 050	No	1 221 050
Ecstasy	98 250	No	98 250

In the following table, the trade margins are calculated for the respective substances. As can be seen, the margins are very high. Heroin, cocaine and amphetamines have the highest margins. The total trade margins are calculated at SEK 2 363 million, which is equivalent to

<sup>34</sup> The National Criminal Investigation Department and Swedish Customs annual report "The drug situation in Sweden".

<sup>35</sup> Swedish Customs etc., "Measuring the social benefit of public sector activities", 2000.

<sup>36</sup> *Rikskriminalpolisen och Tullverket* (2005)

83 percent of the street value. For the purpose of comparison, it can be mentioned that the trade margins for drugs in the United Kingdom have been estimated at 70 percent<sup>37</sup>.

### Trade margins for different substances, 2001

Substance	Import price SEK '000/kg (1)	Import Kg (1)	Import value SEK million	Street value SEK million	Trade margin SEK million	% (margin/street stage)
Amphetamines	100	821	82	513	431	84%
Heroin	400	792	317	2091	1774	85%
Cannabis	35	1 736	61	137	76	56%
Cocaine	300	29	9	69	61	88%
Narcotic medicines	101	221 050	12	22	10	44%
Ecstasy	40	98 250	4	15	11	73%
Total			484	2 847	2 363	83%

(1) For ecstasy and narcotic medicines price per tablet and number of tablets.

Trade margin = (street price - import price) x quantity in terms of purity = street value - import value (the street value is based on the above calculations regarding heavy users and other users)

### Intermediate consumption

Since domestic output consists only of the trade margins which accrue before the drug reaches the final consumer, intermediate consumption should be very low. Any intermediate consumption may consist of e.g. rental cost of premises, telephone costs and transport costs. However, it is probable that these costs are already included in part in the national accounts, although they may be in the wrong sector. Therefore no estimate of intermediate consumption is made.

### Imports

Above, imports are estimated by using import prices and the estimated amount of drugs consumed, corrected for differences in the degree of purity. Another way to calculate imports is to base the calculation on the quantities seized coupled with an assumption of what share of the total quantity has been seized. However, it is difficult to use statistics on seizures to calculate imports of drugs since the quantities seized can vary sharply from one year to the next. However, some commentators<sup>38</sup> consider seizure statistics a relatively good indicator of market changes if longer time-series are used. But it is probable that seizures are affected in the short term by the level of resources, working methods, priorities etc. of national control bodies. For example, drug consumption itself became a criminal offence in 1988, and in 1999 and in 1993 stricter penalties were imposed for this crime, giving police the right to take blood and urine samples in the case of suspected own consumption. The number of full-time police staff dealing with drugs increased between 1990 and 1997, and numbers have remained unchanged since then<sup>39</sup>. Between 1997 and 2001, the number of hours spent by the customs authorities on drug tasks rose by about 25 percent<sup>40</sup>.

Some of the drugs seized by Swedish Customs and police are intended for markets other than the Swedish one. Such transits should not be included in the national accounts. How large this share might be is not known, but it has been established that certain large seizures could not have been intended for

<sup>37</sup> Office of National Statistics (ONS), "Developing a Methodology for Measuring Illegal Activity for the UK National Accounts", 1998.

<sup>38</sup> United Nations Office on Drugs and Crime, 2004. Swedish National Council for Crime Prevention "Police efforts to combat drug crime – scope, character and effects", report 2003:12.

<sup>39</sup> Granath, Svensson and Lindström, 2003.

<sup>40</sup> Carlsson I and Goede C 2002.



the Swedish market only. For example, in the case of large seizures of heroin and cocaine, it was established that the lots were intended for another country<sup>41</sup>. Even the reverse can occur, i.e. seizures in other countries of drugs intended for the Swedish market

In the following table, estimated consumption is compared on the basis of Customs seizures. According to this comparison, cannabis seizures account for 15 percent, amphetamines 4 percent and heroin 1 percent of the total quantity. In total for these three substances, the proportion represented by seizures is about 7 percent. For ecstasy it is 19 percent. The proportions of cocaine, ecstasy and cannabis seized are relatively high. In the case of ecstasy and cocaine this can partly be explained by the fact that even heavy users use a certain amount of the substance. For cocaine more information is needed about the dose and if the drug is diluted (it is hard to believe that the seizures are in almost the same level as the consumption). Recently test of larger seizures shows that the cocaine already is diluted. However, the value of cocaine and ecstasy is marginal. In the case of cannabis 15 percent seems very high. Heavy addicts often use cannabis combined with other drugs and the consumption of cannabis are therefore difficult to measure.

#### Comparison between estimated quantity of different substances and seizures by Customs, 2001

Substance	Customs seizure Kg (1)	Customs seizure corr. (1)	Estimated consumption Kg (1)	Seizure %	Seizure corr. %
Amphetamines	89	223	2 052	4%	11%
Heroin	22	48	1 743	1%	3%
Cannabis	259	259	1 736	15%	15%
Cocaine	28	67	69	41%	97%
Narcotic medicines	85 080	85 080	1 221 050	7%	7%
Ecstasy	18 788	18 788	98 250	19%	19%

(1) Narcotic medicines and ecstasy refer to the number of tablets.

Source: Own calculation. Estimated consumption is based on consumption by heavy and/or other users. "Customs seizure corr." is customs seizure corrected for dilution.

It would be desirable to be able to estimate output, imports and consumption separately and then reconcile availability and use of drugs, in accordance with the usual method of compiling the national accounts. However, owing to the high uncertainty of the basic data, especially in the case of imports, it has been impossible to estimate supply in a satisfactory manner. Imports are therefore estimated by using import prices and the estimated quantity of drugs consumed, corrected for dilution.

#### *Consequences of implementing the estimates*

It has been assumed that some intermediate consumption is already included in the national accounts. This applies to imports as well through the item "foreign exchange for travel", which includes all currency conversions. Conversions to foreign currency by households are recorded as Swedish household consumption abroad and conversion to Swedish currency are recorded as foreign consumption in Sweden. These items are included when calculating the total consumption expenditure of households, with Swedish household consumption abroad thus contributing positively to total consumption, while foreign consumption in Sweden is excluded. There is inadequate knowledge of how transactions are arranged when importing drugs, but for the moment it is assumed that all imports are covered by foreign exchange for travel. Introduction of drugs into the Swedish national accounts therefore have an impact only on households consumption expenditures and on output from the margins on resale.

Narcotic medicines reach the illegal market either through import from other countries or through theft or the prescription of medicines at national level. Imports from other countries consist of both illegally

<sup>41</sup> SOU 1998:18.

and legally manufactured medicines. The domestic supply can result for instance from theft, prescription of medicines by less careful doctors, or from the user having the medicine prescribed by several different doctors. Such cases may involve consumption both for own use as well as with intent to sell. Domestic supply, apart from the margins on resale, was included in the national accounts, but the majority of the narcotic medicines which are consumed are presumably imported, which is why no correction is made in this case.

### **Summary of the 2001 estimates**

On the basis of assumptions regarding the number of users, their average annual consumption and prices, consumption expenditure of households is estimated at SEK 2 847 million in 2001.

Consumption by heavy users is estimated at SEK 2 698 million and by other users at SEK 149 million. Consumption has been broken down into six different substances: amphetamines, heroin, cannabis, cocaine, narcotic medicines and ecstasy. Of these substances, heroin weighs most heavily in consumption.

Output from domestic production of drugs is very marginal. However, output arises through the trade margins levied in the sales chain, from the time the drugs are imported until they reach the final consumer. Trade margins are estimated at SEK 2 363 million. Imports are estimated on the basis of import prices and the volume of drugs consumed, corrected for the dilution of drugs carried out at street level. Imports are estimated at SEK 484 million

Owing to the calculation methods used to compile the national accounts, purchases of drugs abroad by Swedes are currently already included. These purchases are included in foreign exchange for travel, which is calculated on the basis of data from foreign exchange and credit-card transactions.

Introducing drugs into the Swedish national accounts will therefore have an impact only on the consumption expenditure of households and on output and value added.

### *Updated information*

According to report 144 on drug trends in Sweden 2014 from CAN, there are no new investigations that give any sure information about changes in drug trends. Surveys of school children may indicate that a little higher percentage has used drugs more than 20 times a year during the latest years. Another indicator is an increase in the number of persons treated for misuse of drugs. However, it is pointed out that this can only be seen as indicators and not actual studies. The method for estimating output, and consumption for recent years has been to update the model with the prevailing import prices and street prices based on information from UNDOC and CAN by type of drug.

### ***Estimates of smuggling of alcohol and tobacco products***

#### ***Background***

Alcohol and tobacco smuggling is an illegal activity in Sweden. However, it is legal to import specified amounts of alcohol and tobacco for personal use into Sweden and also additional amounts if the items are declared and taxes are paid. It is also legal to use alcohol and tobacco – in contrast to drugs, for example.

Alcohol and tobacco smuggling is probably rather wide-spread in Sweden since the taxes are high (excise duties and VAT) and consequently the prices too. If prices are significantly lower in, for instance, Finland or Poland, it can be quite profitable for a smuggler, who would presumably have a high margin but low transport costs, to choose adjacent countries for smuggling to – e.g. Sweden.

Home-production of spirits is illegal and an attempt to calculate the economic value of illegal own-production of alcohol is also made.

The Centre for Social Research on Alcohol and Drugs, SoRAD at Stockholm University was established in 1999 as a national centre to strengthen social research on alcohol and drugs in Sweden.

SoRAD conducts a monthly survey directed at the adult section of the Swedish population. These surveys include questions on travel imports, smuggling and home-production of spirits, wine and beer. Since 2001, questions have covered alcohol consumption and as of 2003 questions have also been introduced on the consumption and import of tobacco products. The surveys are conducted at the end of each month and in each case 1 500 persons are interviewed. These surveys<sup>42</sup> can provide data on quantities relating to household consumption. Annual and quarterly changes of consumption are also presented. It should be added that in SoRAD's surveys, a distinction is made between registered alcohol consumption which is covered by statistics and taxed in Sweden and unregistered consumption, which is not covered by any other statistics and not taxed in Sweden.

The purchase of alcohol at *Systembolaget*<sup>43</sup>, in restaurants and food stores constitutes registered quantities, while travel imports, smuggling and home-production are unregistered. From the table below it appears that unregistered consumption accounts for 10 percent of total consumption.

**Total consumption of alcohol in 2003 by way of acquisition, 100 percent alcohol**

Systembolaget	49
Restaurants	11
Food stores (light/medium beer)	8
Travel imports	22
Smuggling	6
Home-production	4
Total consumption	100

*The principles governing the calculations*

Calculations are made separately for spirits, wine, beer and cigarettes. The year 2003 is chosen as a bench-mark. Estimates are calculated for final consumption of households, imports and value added respectively. In the national accounts, the supply side has to be in balance with the demand side. The consumption expenditures of households are calculated as: street price x quantity purchased.

**Smuggled alcohol**

The calculations are broken down into spirits, wine and beer, but also by country of origin. According to a report from the National Criminal Investigation and Swedish Customs<sup>44</sup>, the major share of alcohol smuggled to Sweden and to Skåne, the most southern part of Sweden, originates in Germany and Denmark. This also coincides with the picture of travel imports presented by SoRAD.

By using the country breakdown of the origin of alcohol at the time of purchase, it is possible to break down the smuggling by country and product. To complete the formula "final consumption expenditure of households = street price x quantity purchased", street prices also have to be determined. However, price data proved difficult to obtain. Several conceivable sources were contacted – e.g. Swedish Customs, Swedish Tax Office, SoRAD, CAN<sup>45</sup>, National Institute of Public Health, Systembolaget, police, as well as journalists and the media, etc. However, only the Malmö police were able to provide data regarding the street prices for illegal alcohol and tobacco.

Below, calculations for smuggled spirits, smuggled wine and smuggled beer are shown in separate tables, based on SoRADs quantities and the Malmö police data on street prices. According to the

<sup>42</sup> Alcohol consumption by the Swedish population in 2003, Nina-Katri Gustafsson and Björn Trolldal, SoRAD, Stockholm 2004, *Forskningsrapport* [research report] No 26. [www.sorad.su.se](http://www.sorad.su.se).

<sup>43</sup> The monopoly which provides for all sales of alcoholic drinks in Sweden.

<sup>44</sup> A criminal intelligence-based survey of alcohol related crime, Niki Ekman etc., National Criminal Investigation Department and Swedish Customs, 2004.

<sup>45</sup> CAN = Central Association for Alcohol and Drug Information.

Malmö police there are data on street prices for alcohol smuggled in from Poland and on street prices for alcohol smuggled in from other countries. Since Poland was not in the EU in 2003, the calculation is simplified and it is assumed that “non-EU” is equivalent to Poland.

In the three following tables, quantity = 1 000 litre by volume, price = SEK per litre and value = SEK million in 2003. The total of the parts does not always tally owing to rounding.

#### Household purchases of smuggled spirits

<b>Spirits</b>	<b>EU</b>	<b>Non EU</b>	<b>Total</b>
Quantity	2488	702	3 190
Price	150	200	
Value	373	140	514

Source: Own calculation.

#### Household purchases of smuggled wine

<b>Wine</b>	<b>EU</b>	<b>Non EU</b>	<b>Total</b>
Quantity	5274	278	5 550
Price	30	30	
Value	158	8	167

Source: Own calculation..

#### Household purchases of smuggled beer

<b>Beer</b>	<b>EU</b>	<b>Non EU</b>	<b>Total</b>
Quantity	50876	4 424	55 300
Price	19	20	
Value	967	88	1 055

Source: Own calculation.

According to these calculations, consumption expenditure of households is SEK 514 million for smuggled spirits, SEK 167 million for smuggled wine and SEK 1 055 million for smuggled beer, or a total of SEK 1 736 million for smuggled alcohol purchased by households.

#### Imports

It is more difficult to estimate the value of imports. As stated above, SoRAD conducts a survey directed at consumers (households). There is no equivalent overall view of imports – for instance there is, for obvious reasons, no interview survey of importers/sellers. What is available are Swedish Customs seizure statistics<sup>46</sup> broken down by cigarettes, strong beer and alcoholic liquor.

The Monitor-project at SoRAD has compared the Customs seizure statistics of alcohol with the estimates based on their surveys for the period 2002-2006. According to this material, seizures account only for a minimal share of all the smuggled alcohol sold in Sweden. It is estimated to account for at the most 0.4 percent for the period in question<sup>47</sup>. Except for wine, the development trends over the years are not in accordance with each other either. Customs-seizure statistics cannot be used to calculate imports. Instead quantity data from the SoRAD reports have been used.

Imports are calculated as: import price x smuggled quantity, where import price = legal price in the country of origin. It is important to bear in mind that: import price < street price < legal resale price in Sweden. In practice, it would therefore be possible to use price data from the country where the smuggled goods originate.

<sup>46</sup> See [www.tull.se](http://www.tull.se).

<sup>47</sup> SoRAD, Report no. 49, p.21

Price data from the Purchasing Price Parity survey (PPP) by SCB<sup>48</sup> was used. This material contains unit prices for the different products. They are average prices for 2003, including VAT, and are expressed as average prices for the respective country in that country's currency. To convert unit prices in foreign currencies to Swedish crowns, the average exchange rates for 2003 are used for the respective currencies, from Eurostat's database New Cronos.

In this report, detailed unit prices are used for spirits, wine, beer and cigarettes. Since the Malmö police consider that vodka is generally sold illegally on the street, an average price from the vodka prices included in the PPP measurements is used in the calculations of smuggled spirits. For wine, red wine of standard table–wine quality is used. For beer, domestic beer of normal quality is used.

Germany's legal unit prices have been used for all countries and products apart from Poland. Poland's legal unit prices at the time Poland was a non-EU country is used for non-EU spirits and beer. This original Polish unit price is then extrapolated with relevant CPI to cover the unit prices of the non-EU countries in later years. Thus a pragmatic approach is adopted. This is in line with the GNI committee's recommendations which say that it is possible to use data from the country where the goods generally originate.

Below is presented equivalent calculations of the import value as for households above. They are based on the same country breakdown and smuggled volume of the respective product groups as in the case of households. In the tables, quantity = 1 000 litres by volume, price = SEK per litre, and value = SEK million in 2003. The total of the items does not always tally, because of rounding.

#### Import of smuggled spirits

<b>Spirits</b>	<b>EU</b>	<b>Non EU</b>	<b>Total</b>
Quantity	2 488	702	3 190
Price	124	95	
Value	309	67	375

Source: Own calculation.

#### Import of smuggled wine

<b>Wine</b>	<b>EU</b>	<b>Non EU</b>	<b>Total</b>
Quantity	5 274	278	5 550
Price	16	16	
Value	84	4	89

Source: Own calculation.

#### Import of smuggled beer

<b>Beer</b>	<b>EU</b>	<b>Non- EU</b>	<b>Total</b>
Quantity	50 876	4 424	55 300
Price	10	11	
Value	509	49	557

Source: Own calculation.

#### *Home-produced alcohol*

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<sup>48</sup> Purchasing Price Parity survey, SCB, Unit for economic statistics, The price unit, [www.scb.se](http://www.scb.se).

Home-produced alcohol concerns spirits and wine. The consumption of home-produced strong beer in 2003 was barely significant and is therefore not considered. Home-produced spirits and wine accounted for about 6 percent each of their respective totals of consumption in 2003.<sup>49</sup>

As stated above, it is difficult to obtain data on the street prices of illegal alcohol. A report from the Ministry of Finance<sup>50</sup> considers that a litre of home-produced alcohol costs about SEK 100. This is assumed to apply to 1999 when the report was written. By extrapolating 1999 prices on the basis of the CPI-increase for alcoholic liquor<sup>51</sup> between 2003 and 1999, the price for home-produced spirits comes out at SEK 104 per litre in 2003. The price of wine is calculated using the same relation between smuggled and home-produced as for alcoholic liquor. The following table shows figures of home-production.

**Household consumption of home-produced alcohol in 1000 litres by volume, SEK per litres and SEK million, 2003**

	Home-produced spirits	Home-produced wine
Quantity	2 810	14 800
Price	104	20
Value	292	296

Source: SoRAD and own calculation.

According to these calculations, the consumption expenditure of households is SEK 292 million on home-produced spirits and SEK 296 million on home produced wine, or a total of SEK 588 million for home-produced alcohol purchased/used by households. This includes both sales to households and production for own final use. Regarding home-production of wine, however, it is doubtful if the quality is good enough for sale and this item has therefore been considered as consumption for own final use.

*Output, intermediate consumption and value added*

Swedish output of smuggled alcohol is made up of the trade margins that the smuggled quantities generate. These are calculated as street price minus import price x quantity sold. According to the above calculations this gives SEK 1 736 million – SEK 1 022 million = SEK 714 million for alcohol in 2003.

Any intermediate consumption in the smuggling sector is probably primarily made up of transport costs. However, it is probable that these costs are already included in the national accounts, although they may be in the wrong sector. Here it is assumed that intermediate consumption which may not already be covered in the national accounts is very low, and therefore no estimate is made. Output is therefore equal to value added.

The output value for home-produced alcohol is equal to the sales value, equivalent to the consumption expenditure of households on home-produced alcohol if we assume that all home-produced alcohol is purchased/used by the household. Thus, the output value is SEK 292 million according to the calculations presented. As no reduction for intermediate consumption is made, this is also the value added.

*Retail trade and restaurants*

<sup>49</sup> Alcohol consumption by the Swedish population in 2003, Nina-Katri Gustafsson and Björn Trolldal, SoRAD, Stockholm 2004, *Forskningsrapport* No 26. [www.sorad.su.se](http://www.sorad.su.se).

<sup>50</sup> *Bostad sökes* [Looking for a home] – an ESO report on the homeless in Sweden, *Ds 1999:46*, Stefan Fölster and Per Säfsbäck, Ministry of Finance, Stockholm 1999.

<sup>51</sup> Consumer price index, annual mean value, product group 02.1.1 alcoholic liquor, [www.scb.se](http://www.scb.se).

Does all use of illegal alcohol and tobacco fall under the final consumption expenditure of households, or is some used as intermediate consumption in the economy to be sold on by, for instance, restaurants to consumers? Is illegal alcohol and tobacco sold in the retail trade or only on the street?

It was not possible to obtain any data on this, but according to the sources contacted, sale of illegal alcohol in the catering sector occurs only on a relatively small scale. The Restaurant Commission (Krogsektionen) of the Stockholm police works with drugs, weapons, violence and alcohol in restaurants in Stockholm, but has no data on the sale of illegal alcohol in this branch. In addition, alcohol has low priority<sup>52</sup>.

The yearbook of tax statistics raises the question of the purchase of illegal alcohol by restaurants. In the past, the general view has been that restaurants represented a major distribution channel for illegal alcohol. However, in a study (Ds 1997:8), the Ministry of Health and Social Affairs concluded that the role of restaurants is exaggerated. This view was mainly based on the fact that restaurants run a relatively high risk when handling illegal alcohol. If discovered, there is a great likelihood that the business would be shut down.

The Stockholm County Administration is responsible for monitoring restaurants and alcohol sales in restaurants in Stockholm, an activity, which comes under the heading “restaurant clean-up” (operation Krogosanering). According to this, there is currently no proof that illegal alcohol is sold in restaurants in Stockholm.

Intensified actions by the National Tax Agency and regional actors during recent years, due to the introduction of new tools that help the authorities to check the activities better, most likely contribute to some reduction of illegal handling in this area.

Nevertheless, the Skåne County Administration has made most progress in mapping sales of illegal alcohol in restaurants. The ISAK project was launched there in 2004 and found that 16 restaurants in Malmö had sold illegal alcoholic drinks. Often it is alcohol bought by a private person in Germany or Denmark which is then sold illegally in restaurants in Malmö. According to the Malmö police, as many as half of the smaller convenience stores in Malmö sell smuggled alcohol and smuggled cigarettes. However, there are no quantitative data on the overall volumes involved.

The above sources give a somewhat fragmented picture of the extent of sales of illegal alcohol and tobacco in the retail and catering trade. In any event there appear to be some sales, primarily in the retail trade.

#### *Summary of the 2003 estimates on alcoholic beverages*

On the basis of data on quantities and prices from the above-mentioned sources, the final consumption of households of illegal alcohol is estimated at SEK 2 028 million in the year 2003. National output consists of home-produced alcohol and the value added of this output is SEK 292 million. Output is also based on the trade margins achieved through sales of the imported goods. Trade margins are estimated at SEK 714 million.

Imports are estimated on the basis of legal prices in the country of origin and the volume of illegal alcohol which is consumed. Imports are calculated at SEK 1 021 million.

In view of the calculation methods on which the national accounts are based, purchases abroad by Swedes are already included in the national accounts. These purchases are included in the “foreign currency” item, which is calculated with the aid of data from currency exchange and credit-card transactions. The introduction of illegal items into the Swedish national accounts therefore has an impact only on the final consumption expenditure of households, output and value added.

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The supplement to final consumption expenditure of households is calculated as total household consumption minus imports. There is no addition to the national accounts for imports since these are already included in the foreign currency exchange item.

*Time series of smuggled and home-produced alcoholic beverages*

Before the Monitor project at SoRAD started their monthly surveys in June 2000, some other surveys were also performed. Information is available, on a more intermittent and partial basis at least from the beginning of the 1980's. In the calculations of the national accounts time series from 1993 and onwards this information has been used.

Where annual information was not available, the years in between certain estimates have been interpolated. One of the most comprehensive projects was the KALK study, which covered the period from 1989 to 1998 with an emphasis on 1996. Also information from the previous KAMEL-group has been used.

The values for 2003 have been used as benchmark values. The figures on annual consumption per person were combined with the adult population. Changes in total consumption volumes were then calculated. The time series are built in this way. Consumption patterns are available for the different products from the studies. Price movements were applied by using the appropriate consumer price indices for the products in question. Annual reports from SoRAD, and for later years CAN, with information on consumption on smuggled and home-produced alcohol combined with prices indices are used also for recent years.

### **Smuggling of tobacco**

A SoRAD survey was introduced starting in 2003. Other sources were therefore used for previous experimental estimates.

The price of cigarettes is high in Sweden compared with other countries. This makes smuggling to Sweden attractive. Since cigarettes are bulky the transport volume is relatively large, and organised smuggling with lorries therefore dominates. A big long-distance lorry with smuggled cigarettes could generate a profit of between SEK 5 million and SEK 10 million on the wholesale market in Sweden in the beginning of the 2000-s.<sup>53</sup>

Organised crime accounts for a large proportion of the smuggling of alcohol and tobacco. For this, transport, storage and distribution channels are necessary. The smuggled cigarettes come primarily from Estonia, Latvia, Lithuania and Poland. Smuggled cigarettes transit to Norway where the prices are among the highest in Europe.

For imports of cigarettes, Poland's legal unit price is used. Other countries' legal unit prices for cigarettes based on the PPP values are often higher than the Swedish street prices, according to Malmö police data.

The SoRAD surveys had preliminary figures for 2003 and 2004, which were 480 and 377 million cigarettes respectively. By assuming the import and "street" prices mentioned above the Swedish production, equal to the trade margin, was estimated to SEK 240 million. This estimate was introduced into the national accounts.

*Time series for tobacco smuggling*

Time series have been built with the help of various pieces of information. The surveys of living conditions conducted by Statistics Sweden and reports from The Swedish National Institute of Public Health include data on the number of daily smokers in the population. The share is available in a series

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<sup>53</sup> Skattestatistisk årsbok (Yearbook of tax statistics)=, Chapter 10 "Fel och fusk", Skatteverket (Tax Authority), Stockholm 2003.



starting in 1980. Between 1992 and 2012 the share of daily smokers has decreased from 26 percent to 13 percent. Figures on registered cigarette sales could then be compared with total consumption demand based on the number of daily smokers. The time series calculated from the first report of the survey made by SoRAD<sup>54</sup> and a combination of price increases of sold registered cigarettes give the estimates for the following years in current prices.

	1993	2000	2001	2002	2003	2004	2005	2011
Smuggled cigarettes	319	216	223	241	240	220	189	240

In the SoRAD-survey covering the first half of 2007, questions were also asked on internet shopping of cigarettes and snus. Only 0.1 percent of the total number of respondents had bought cigarettes and 0.004 percent had bought snus. No estimates have been included for these responses.

#### *Updated information*

A recent report, number 155, from CAN includes estimates from surveys in the Monitor project. According to this report 2 percent of the total cigarette consumption comes from smuggling in 2014. The NA-estimate of smuggling in 2011 is SEK 240 million and this is in line with the presented results from CAN.

### **Estimates of illegal gambling**

Gambling is a pervasive phenomenon in Swedish society and by international comparison, Swedes rank among the most gambling populations in the world. In 2005 the Swedish gambling market had an official turnover of nearly SEK 36 billion which corresponds to almost three percent of the households' disposable income<sup>70</sup>. Measured in turnover, gaming machines, followed by betting on horse races, constitute the most popular forms of gambling.

Because of the potential harmful effects of gambling, lotteries have been restricted through Swedish legislation since the 1800's. Today, gambling is regulated through two acts of parliament: the Lotteries Act (1994:1000) and the Casinos Act (1999:355). Through the Lotteries Act virtually all arrangements of lotteries require a permit and all permits are subject to government control and scrutiny.

#### *Estimation of illegal gambling in 2003*

Betting on gaming machines is the most common form of officially registered gambling in Sweden today. According to a number of sources, illegal gaming machines constitute the most prevalent and economically significant form of illicit gambling as well. Gaming machines have for a long time been subject to varying degrees of government regulation. In 2003 the National Gaming Board, in cooperation with the National Police Board, did a mapping of the occurrence of illegal gaming machines. The study was the first comprehensive examination of the illegal gaming market in Sweden. The directive that the government gave to the National Gaming Board was to map the market, assess the number of machines and their turnover and provide recommendations on how to address the problem. The government motivated the assignment by referring to illegal gambling's negative societal impact as well as its association with social and economic difficulties for individual gamblers. Furthermore, the government was concerned that the earnings generated by illegal machines benefited organized crime. In the course of their study, the Gaming Board visited over 2000 businesses throughout the country. The businesses were randomly picked and of the type where illegal machines are known to sometimes be placed. The inspections were carried out by anonymous controllers. With

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<sup>54</sup> Report no. 29, table 7

the help of the Swedish National Laboratory of Forensic Science (SKL), the seized machines were examined and estimates on turnover and on the ratio of wins to losses were made.

Unregulated machines were found in approximately one third of the businesses that the Gaming Board visited. The highest concentration was found in suburbs to the two largest cities in Sweden, Stockholm and Gothenburg. However, the problem had a wide geographical spread and illegal machines were found to be abundant in smaller communities as well. The dispersion was widespread enough for the Gaming Board to describe the issue as one of national concern. The machines were placed in a multitude of locales with the highest prevalence being in restaurants, coffee shops, candy stores, convenience stores, video rental shops and tobacco shops. Both old and new machines were found; providing typical games such as fruit wheels and poker. Common for the newer machines, is that they allow greater flexibility and the investigators found that settings could be varied in order to maximize profits. The ratio of wins to losses, for example, was in cases found to be lower on the days right after the receipt of monthly salaries.

The study revealed a strong link between illegal gaming machines and organized crime. A typical set-up is that criminal associations own the machines and rent them to business owners for a share in the profits generated. The investigation divulged that the placement of machines often involved coercive methods and business owners who wished to remove the illegal machines were often threatened into not doing so. There also exists a widespread problem of betting on credit with ensuing debts as a result. What is more, a market for collecting these debts has also emerged. The Gaming Board's study included a questionnaire sent out to all the police districts in Sweden. The survey consisted of eight questions, mainly relating to their knowledge of illegal machines in their district and to the steps taken to address the issue. The results indicated that the knowledge was limited and several answers also revealed that the issue was not particularly prioritized. Many of the answers did, however, lend further support to the link between illegal gaming machines and organized crime.

In 2005 a follow-up survey was conducted, the results of which disclosed that the situation had by then not improved. The authors emphasize that agents dealing in the business of illicit machines have been very successful in capturing market shares. Considering the large amounts of money at stake they conclude that the problem is not bound to diminish unless more law enforcement is deployed. With the help of data on different business types from Statistics Sweden, the findings from the Gaming Board's field study were used to produce an estimate of the total number of illegal machines in 2003. The conclusion was that the market in 2003 contained at least 3000 illegal machines. The machines that were seized in connection to the field study were examined by SKL. According to SKL's estimate the machines had an average turnover of one million SEK per year and machine. Their estimate was that two-thirds of this was returned to the players in the form of winnings and that the remaining third constituted profits to be split between the owner of the machine and the proprietor of the business where the machine was located.

The components of the national accounts system affected by the inclusion of illegal gambling are consumption expenditure within the household sector and production within the non-financial corporations sector. There exists a certain risk of double-counting as the units providing the illegal gaming may already be included in the business register and may want to legitimize some of their illegal earnings. However, the consensus is that these types of earnings are seldom reported. The two necessary ingredients for an estimate of illegal gambling are an estimate of turnover and an estimate of the ratio of wins to losses. With an estimated 3000 machines, an average annual turnover of one million SEK and a wins to losses ratio of two-thirds, the resulting estimate of household consumption expenditure and of value added in production in 2003 is SEK one billion.

#### *Time series*

Previous studies contain little guidance as to the development of illegal gambling over time. For this reason, simplicity has been favoured and consideration has not been taken to specific circumstances

that perhaps should have been allowed to affect the estimates for a given year. The volume growth of officially recorded gambling (COICOP purpose 0943) was employed to construct a time series and also as the method for extrapolating recent years.

#### **Estimates of illegal gambling SEK million**

2003: 1 000

2011: 1 029

Source: own calculation

The resulting time series corresponds fairly well to the development that experts believe took place during the years in question. Anders Stymne, who works with gambling issues at the Swedish National Institute of Public Health, estimates that the illegal market expanded somewhat during the period 1993 to 2003, and then remained relatively unchanged or diminished slightly in more recent years.

The above estimates have been incorporated into the national accounts and estimates of illegal gambling form part of the accounts. The premises for the estimations will perhaps need to be modified to accommodate any future developments that may have a bearing on the magnitude of illegal gambling in Sweden. However, there are no new investigations that reveal a different situation. Therefore the same approach is used as developed in the 2008 report.

### **7.1.3 Exhaustiveness methods**

#### **Employment method**

The national accounts calculation of the average number of persons employed in the economy as a whole is based on demographic employment data from the Labour Force Survey (LFS). A supplement is applied for military service personnel and for persons employed in Sweden but not registered in Sweden's population records in order to comply with the ESA2010 definition of employment.

The source material for total employment is therefore separate from the sources used for the output calculations. A number of sources are used for the allocation of employment to sectors and industries, and if possible the same sources are used as for the output calculations. Using different sources for the total and for components sometimes leads to discrepancies. The national accounts benchmark for number of employees in the total economy, however, is determined by the number of employees estimated by the LFS. Any discrepancies with respect to the LFS are not separately recorded.

#### **Sources**

This section presents the sources used in the national accounts for the calculation of the number of persons employed. In the national accounts the LFS estimate is used as the benchmark for the total number of persons of ages 15-74 and employed in the economy.

Statistics Sweden's methodology unit has undertaken an evaluation of sources for the employment statistics, which shows that the LFS is the inquiry, which provides the best estimate of total employment in the economy. Other sources used by the national accounts are the Structural Business Statistics (*Företagens ekonomi* – FEK), Labour statistics based on administrative sources (*Registerbaserad arbetsmarknadsstatistik* – RAMS), the Business Register, FDB, and the inquiries Wage and salary structures and employment in the central government sector, the county councils, the primary municipalities (*Lönestrukturstatistik inom statlig, landstingskommunal och primärkommunal sektor*). The scope of the various sources is stated in the source descriptions below. Estimation of the number of persons employed in the economy differs from one source to another. The differences are due to different population demarcations, different reference periods and different measurement

methods. No complete information on the scale of the non-response error, measurement error and coverage error in the various inquiries is available. Therefore it is not possible to quantify the combined effects of the differences between inquiries. The most obvious differences between a particular inquiry and the LFS are explained in the section in which the differences are discussed without giving any assessment in figures.

#### *Labour Force Survey*

The Labour Force Survey, LFS, is an individually based sample survey covering all persons in the population register aged 15 but not yet 75. The purpose of the LFS is to describe the current employment situation and to provide information on trends in the labour market. The sample consists of three separate samples, one for each month in the quarter.

As of January 2010 the monthly sample includes a total of about 29 500 persons. The regular LFS includes 21 500 persons aged 15-74. A supplementary sample includes a total of 8 000 persons aged 16-66. The sampling process can be described as a stratified systematic sample with rotating panel samples.

Every month 29 500 persons are interviewed in such a way that one-eighth is renewed between two consecutive survey rounds. For each sample, this occurs then every three months. In order to be counted as employed in the LFS, a person must have performed at least one hour's work in the measurement week concerned, either as a paid employee or as self-employed or as an unpaid helper in a business belonging to a member of the household.

#### *The Structural Business Statistics*

The Structural Business Statistics, SBS, are a full census. The inquiry constitutes the basis for the national accounts output calculations and also provides information on the structure of industry, for example, with respect to employment, profitability, growth, trends, financing and output.

The approximately 600 largest enterprises are surveyed in total and checked very carefully. For the remaining enterprises, administrative records are used from the National Tax Agency supplemented by sample surveys, some model estimates and data from other sources. In order to be included in the frame population the enterprise must be deemed to have engaged in activity during the year, i.e. have been active. An enterprise is considered active in the Business Register if it is registered as an employer, is in the VAT register or is registered for corporate tax (F-skatt). The population includes all enterprises, which are active during the reference year, excluding financial corporations. SBS records the number of enterprises, number of employees and economic variables on enterprises and their activity units.

As regards employment, the number of employees is based on the Labour statistics based on administrative sources (RAMS). Data on full-time equivalents are also collected based on information from the enterprises annual reports. It is the later estimate that is presented in the SBS as the number of employees during the year. In the national accounts SBS is used in the context of employment to allocate the average number of persons employed to industries among market producers.

#### *Differences between LFS and SBS*

The differences between the employment estimate in SBS and the estimate in LFS would in general be the same as the differences between LFS and RAMS (see below) since RAMS is the basis for the estimate in SBS. However, SBS use a different frame population than RAMS (and LFS). The frame

population in SBS consists of a sample drawn from the business register in November each year, which means that only enterprises, which are active during November, are included in the sample. The frame population in LFS is Swedish residents between 15-74 years of age, based on the Total Population Register. With respect to the enterprise population, LFS covers all weeks during the year and therefore all enterprises that are active during the year. Another difference is that SBS estimates the number of employees from an enterprise perspective. People that work for more than one employer are therefore calculated more than once. In the LFS a person is only counted as employed once, no matter how many employers he or she has.

#### *Labour statistics based on administrative sources (RAMS)*

RAMS comprise four sub-registers; the main one is the Employment register. The statistics are based on a wealth of administrative data, and several of the statistical sources used for the production of the Employment register are other statistical products of Statistics Sweden, such as the Total population register and the Income statement (KU) register. The intention of RAMS is to provide annual information on employment, commuting, industrial structure and personnel structure in enterprises and at business establishments and to provide information on events and flows on the labour market. The employment situation is recorded in November each year. For self-employed the criterion is that during the year they must have had an active involvement in economic activity for at least 500 hours. The indication of the number of employees provides the annual average number of persons employed. RAMS contain the most detailed information on employment.

#### *Differences between LFS and RAMS*

RAMS differs from LFS in terms of population to the extent that it does not measure persons who are unemployed. RAMS measures employed persons aged 16 and over; LFS measures employed persons aged 15-74. RAMS is based on the employment situation in November each year. LFS measures the average number of employees over the year. Persons employed according to RAMS are those who have received an income during November; LFS defines employment on the basis of time worked during the year.

The statistics from RAMS and LFS are intended to provide long-term and short-term descriptions of employment. RAMS measures the employment situation in November and the LFS measurement is an average from a continuous inquiry. Another difference is that persons who are unemployed are not included in RAMS, since only persons who are economically active are measured. Finally self-employed who record a deficit are omitted, along with family members assisting in private businesses. Seasonal workers during the summer period are not covered in the RAMS November measure but in the LFS.

#### *Wage and salary structures and employment in the central government sector, the county council and the primary municipalities*

The inquiries are full censuses and take place in cooperation with the Swedish Agency for Government Employers and the Swedish Association of Local Authorities and Regions which collect individual data from departments and agencies of central government, county council units and primary municipalities. The inquiries are conducted once a year and the target populations cover all employees during the year in the various sectors of government up to a certain date. The purpose of the inquiries is to provide annual information on wages and salaries and employment in central government, county councils and municipalities in terms of level, trends and structure. The inquiries are used in the national accounts to set benchmarks for the number of employees in the various sectors.

*Differences between LFS and Wage and salary structures and employment in the central government sector, the county councils and the primary municipalities*

The inquiries described above measure all persons employed, whereas LFS measures employees in the age range 15-74. The inquiries for the general government sector are based on the status on a particular date each year. The date varies from one inquiry to another but is either 1 September, 1 October or 1 November. LFS measures the average number of persons employed over the year.

The difference in level between the two sources is due to the fact that the LFS is a sample survey, which gives less reliable estimates for sectors and industries than for the total economy. The above-mentioned inquiries are full censuses.

**Table 7.1.4 Comparison of sources for the year 2011**

	<b>Labour Force Survey (LFS)</b>	<b>Labour statistics based on administrative sources (RAMS)</b>	<b>Wage &amp; salary, structures &amp; employment in central, county and local government</b>
No of employees, total	4 577 300	4 610 204	
Differences compared to LFS		-15 696	
Differences, per cent		-0.3	
No of employees in general government	1 316 100	1 286 247	1 242 100
Differences compared with LFS		-29 853	-74 000
Differences, per cent		-2.3	-5.6

**Comparison between the Labour Force Survey and the Structural Business statistics for 2011**

In accordance with Article 9 and 10 and ANNEX VI. of 94/168/EC the employment data in the sources used for GNI should be validated to demographic employment sources as a method to validate the exhaustiveness of GNI. This method is not used for making exhaustiveness adjustments in the Swedish GNI but show below for comparison of the existing adjustments made. The sources used for the calculation of employment data in national accounts as well as the main differences between the sources are explained and a more detailed comparison is made between the SBS full time equivalents and the corresponding LFS estimates referring to the non-financial corporation sector.

The comparison is made for the year 2011 based on number of full time equivalents for employees in the non-financial enterprises. This information is collected in the SBS based on the enterprises annual reports where information on full time equivalents are reported. For the LFS the calculations are based on total hours worked and average annual working time for full time employees, as (see table 7.1.3):

- 1) The average annual working time for full time employees are calculated as, total number of hours worked for the full time employees in their main activity divided by the number of full time employees.
- 2) The total hours worked by employed persons (i.e. full time employees in the main activity, part time employees in the main activity, secondary employments) are divided by the average annual working time for the full time employed persons to get an estimate of full time equivalents.

Some adjustments are made to get the populations between LFS and SBS more aligned.

- The LFS includes non-profit institutions serving households (NPISH), which the SBS does not. The number of persons employed in NPISH according to LFS was 110 000 persons in 2011. Deductions of NPISH have only been done on an aggregated level since the LFS don't have estimates of NPISH by industry. Deductions from the LFS are shown in the tables.
- The LFS does not include non-residents working in Sweden in the employment estimates. For comparison these employees is added to the LFS estimates based on the existing NA estimates of these employees. The calculations are based on wages and salaries (D.11) payed from Swedish enterprises to non-resident persons combined with D.11 per employee for resident employed persons. Wages and salaries payed from Swedish enterprises to non-resident persons is based on the same data that is used for calculating wages and salaries to non-residents (GNI Inventory 8.1), that is Income Statements on wages and salaries from Swedish units that go to non-residents. For the use in NA the LFS delivers estimates that excludes residents working abroad and this is the concept used in the comparison in the table 7.1.5.

As noted earlier the two sources differ in respect of population demarcation, reference period and measurement method. The combined effects of these differences cannot be quantified..

In this context it should be made clear that, although the SBS only measures numbers of employees in its employment estimates, all enterprises are included, i.e. also self-employed and partnerships, in the estimation of variables such as output and value added.

### *Results*

Altogether the LFS level in the industries compared is approximately **45 600 full time equivalents higher** in 2011 than in the SBS or, in percentage terms, 1.8 per cent higher. Worth noticing, since the SBS estimate mainly refers to the status in November 2011, is that the LFS estimate for November 2011 is about 1,1 percent higher than the annual average in LFS for 2011. This indicates that the SBS estimate would be a bit lower if it could be calculated as an average over the year. The fact that there are such wide variations between different industries can be explained by at least two factors. To begin with, the LFS is not particularly reliable at industry level and needs to be compared at the highest possible level of aggregation.

Secondly, the industry code in LFS is based on the local unit and the administrative industry code in the business register, ancillary units are for example not recognized. The SBS is based on kind of activity units in the statistical register. The differences in design of the two sources make the comparison between them difficult by industry. The comparison made show, however, at the aggregated level a 2.4 percent difference between the LFS and SBS. Put together with the exhaustiveness adjustments of hours worked in NA of 2.5 per cent this is broadly in line with the exhaustiveness adjustments of GVA for market producers and producers for own final use of 4.0 per cent..

**Table 7.1.5 Comparison between LFS and SBS, 2011, number of full time equivalents for employees in the non-financial corporation sector, 1000s of employees.**

NACE	1	2	3	4	5	6	7	8	9	10	11
	LFS number of full time employees in main activity (1000 persons)	LFS hours worked for full time employees in the main activity (10 000 hours)	LFS annual working time for full time employees (col. (2/1)*10)	LFS total hours worked, including secondary activity (10 000 hours)	LFS number of full time equivalents (row 4/3)	Number of employed persons in NPISH	Number of employed persons not registered in Sweden	LFS full time equivalents, adjusted for employees not registered in Sweden and NPISH (row 5-6+7)	SBS full time equivalents	Difference between LFS and SBS full time equivalents (row 8-9)	Difference in per cent (row 10/9)
A	27,0	5 110	1893	8 486	44.4		3.6	48,0	40.8	7.2	17.6%
B,C	485.3	82 708	1704	91 476	536.3		1.3	537.6	566.9	-29.3	-5.2%
D,E	38.8	6 724	1733	6 477	37.7			37.7	42,0	-4.3	-10.2%
F	223.6	39 783	1779	46 662	261.1		1.5	262.6	265.6	-3,0	-1.1%
G	329.2	57 727	1754	84 672	482.2		2,0	484.2	469.7	14.5	3.1%
H	169.8	29 991	1766	37 445	210.6		4.1	214.7	209.3	5.4	2.6%
I	57.3	10 413	1817	20 474	111.7		1.6	113.3	108.9	4.4	4,0%
J	149.1	26 273	1762	30 744	174.2		0.1	174.3	155.7	18.6	11.9%
L	44.5	7 728	1737	9 184	52.8		0.2	53,0	54.6	-1.6	-2.9%
M	231.7	40 108	1731	51 401	296.3		0.2	296.5	213.3	83.2	39,0%
N	133,0	22 745	1710	29 552	170.3			170.3	180.1	-9.8	-5.4%
P	332.3	53 842	1663	12 873	80.4		0.1	80.5	58.7	21.8	37.1%
Q	363.1	60 627	1646	23 468	135.7		0.1	135.8	148.5	-12.7	-8.6%
R	47.6	8 205	1724	8 789	50,0			50,0	26.3	23.7	90.1%
S	55.9	9 861	1764	13 567	77.1		0.9	78,0	28.1	49.9	177.6%
Not distr.*	5.2	915	1744	673	4,0			4,0	16.4	-12.4	
Total	2688.3	461 844		475 943	2724.8	-110	15.7	2630.5	2584.9	45.6	1.8%

### Comparison between the Labour Force Survey and the national accounts

The Labour Force Survey indicates the level of the average number of employed for the total economy in the age range 15-74, excluding compulsory military service personnel. In LFS the purpose is to measure employment for Sweden's population, hence persons that are not registered in the population register, but are employed in Sweden, are not included. According to ESA2010 definitions, all labour input that contributes to the production should be included in the employment. In order to comply with the ESA2010 definition and hence achieve comparability with the national accounts, supplements must be applied in the LFS for military service personnel and for persons employed in Sweden but not registered in Sweden's population records.

The level in the national accounts for the number of persons employed is set to correspond to the level in LFS, with adjustment for the above mentioned under-coverage issues in LFS. The comparison between National Accounts and Labour Force Survey is illustrated in the table below.



**Table 7.1.6 Average number of persons employed according to National Accounts (NA) and Labour Force Survey (LFS), in 1000s, 2011**

Total economy according to LFS	4 577
Supplement to comply with ESA95 definitions:	
Military service personnel	1
Adjustment for domestic concept	16
Total economy according to NA	4 594

### Conclusions

The national accounts make use of several sources for the estimation of employment in the economy. The Labour Force Survey with the additions shown in the table above, serves as a basis for the estimation of the total number of persons employed in the economy. Earlier evaluations of the sources for the employment statistics carried out by Statistics Sweden's methodology unit show that the Labour Force Survey is the inquiry, which provides the best estimate of total employment in the economy. Other sources are used for estimating certain industries and the general government sector and as a basis for the allocation of industries on a more detailed level. The estimation of the total number of persons employed in the economy varies from one inquiry to another, which is due to differences in population demarcations, reference periods and measurement methods. The combined effects of differences between inquiries are very difficult to assess, since it has not been possible to quantify the extent of measurement error, non-response error and coverage error in most sources.

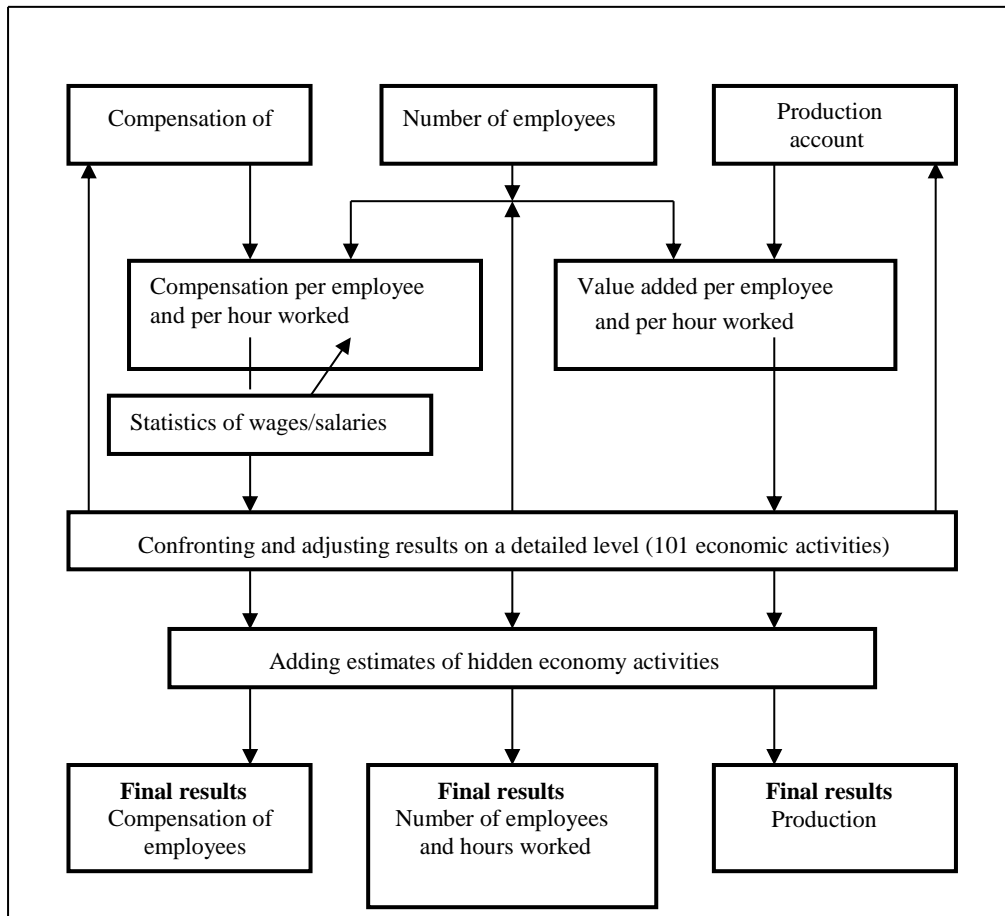
### Analysis of labour costs ratios and labour productivity

The analysis of labour costs per hour and labour productivity is not used directly for any exhaustiveness adjustments, rather to detect inconsistencies for further investigations of any problems in the source data. The first calculations of compensation of employees, average number of persons employed, hours worked and value added are confronted on a detailed level of economic activity in order to evaluate if the results are reliable. Does combining of data give reasonable results? If not, feedback is given to primary statistics to find out what is causing the problem. Adjustments are mainly done for detailed economic activities where some discrepancies between the sources may appear. If major differences occur when comparing estimates, this will lead to further investigations of potential errors in the primary statistics.

#### *The main analytical variables are:*

- Comparing earnings per person and per hour in NA with data on earnings and labour cost statistics.
- Comparing hours worked and value added – the labour productivity measure.

The analytical variables are reviewed with the help of other statistical sources. For example hourly earnings are compared with Wages and salary structures in the private sector and Short-term statistics of wages and salaries in the private sector. As to labour productivity some information is drawn from SBS otherwise there are no separate sources that examine labour productivity. Therewith the analysis of this variable has to be based on assumptions on what developments can be considered most reasonable. The analyses are done on a detailed level as well as on different aggregates. When data sets have been confronted and the balancing procedure is finished the final step is to add estimates of hidden economy. These estimates are based on investigations made by The Swedish Tax Agency and further processing within the national accounts.

**Figure 7.1.1 Confronting separate estimates**

## 7.2 Allowance for exhaustiveness in the expenditure approach

Exhaustiveness adjustment in the expenditure approach is made on the household consumption expenditure and no other expenditure items.

**Table 7.2.1 exhaustiveness adjustments, expenditure approach**

	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness
<b>Household final consumption expenditure</b>		<b>4590</b>				<b>12806</b>		<b>17396</b>
01 - Food and non-alcoholic beverages						2611		2611
02 - Alcoholic beverages, tobacco and narcotics		2989						2989
03 - Clothing and footwear								
04 - Housing, water, electricity, gas and other fuels						574		574
05 - Furnishings, household equipment						2126		2126
06 - Health								
07 - Transport						5868		5868
08 - Communication						1494		1494
09 - Recreation and culture		1029				133		1162
10 - Education								
11 - Restaurants and hotels								
12 - Miscellaneous goods and services		572						572
Transition to national concept								
<b>NPISH final consumption expenditure</b>								
<b>General government final consumption expenditure</b>								
<b>Gross fixed capital formation</b>								
<b>Changes in inventories</b>								
<b>Acquisitions less disposals of valuables</b>								
<b>Exports of goods and services</b>								
<b>Imports of goods and services</b>								
<b>Total</b>		<b>4590</b>				<b>12806</b>		<b>17396</b>

### *Household consumption*

Data on *household consumption* consistent with the national accounts definitions are not available in any one statistical inquiry. A large number of different sources are therefore used in order to calculate the various consumption items. The calculations are based on both expenditure amounts measured annually and on the updating of benchmarks for a certain year with the aid of value and volume indicators, which are obtained from statistical inquiries and administrative material. Different sources are confronted with each other in order to find the best estimate. In certain cases extensive balancing operations are carried out.

Adjustments for N2, illegal activities, are added to the official estimates. These estimates are described under the sections on 7.1 Allowance for exhaustiveness in the production approach.

Adjustments for N6 for the different coicop are described in the table below.

**Table 7.2.2 Description of exhaustiveness adjustments for household consumption**

Coicop	Description	Item in output	Source for estimate
01	Food items	Production for own final use	Swedish Board of Agriculture.
0454	Fixed fuel	Production for own final use	Model based.
0562	Household services	Hidden output in NACE R92	Calculation for hidden output - Swedish National Audit Office/Swedish Tax authority
0562	Household services	Hidden output of au pair services	Model based: Assumption that 5 % of all families with income larger than 1 million SEK use hidden au pair services. Value then based on wages and salaries.
0723	Repairs of vehicles	Hidden output in NACE G45	Calculation for hidden output - Swedish National Audit Office/Swedish Tax authority
08132	Mobile phones	Private mobile calls done with the company's mobile phones.	Model based.
0943	Games	Hidden output in R92	Calculation for hidden output - Swedish National Audit Office/Swedish Tax authority

In order to estimate the trend from an initial year onwards, in many cases quarterly turnover statistics for the retail trade and service industries are used. The trend in turnover statistics is continuously compared with the turnover trend obtained when the data on VAT payments are processed statistically. The trend figures from the turnover statistics are also compared on an annual basis with the results obtained when the annual business statistics are processed. Comparisons of trend figures in the first instance, but also turnover, are undertaken for industries of interest in this context.

*Government final consumption expenditures.*

As Sweden has comprehensive total information covering all central and local government units this material is considered as exhaustive. The material provides complete coverage since data are collected for all activities. Separate inquiries are conducted for both central and local government consumption. These are geared to the needs of the national accounts and cover all components of government final consumption. Statistics Sweden always carries out a plausibility check of the information when it is received. Comparisons in the form of time-series are also made in order to detect any major divergences between years. As regards the local government statistics, the result of the inquiry is also returned to the data providers, inter alia in the form of key figures, which facilitate comparisons between different municipalities. The respondents then have an opportunity to correct their data if they consider that any error has arisen. Adjustment for definitional differences between ESA and the statistical sources is carried out.

*Gross fixed capital formation*

Gross fixed capital formation is also covered and considered as a comprehensive exhaustive aggregate apart from an addition made for private house-owners work.

A number of sources are used in the calculation of gross fixed capital formation. Business statistics provides investment data in accordance with Swedish accounting rules for all enterprises in Sweden (with the exception of NACE 64-66). Additional information is used when there are differences between the accounting rules and the national accounts definitions. This applies, for example to R&D and software purchased and produced on own account and investment through financial leasing. In order to overcome the problem that short-term investment (1-2 year investment) is not included as investment in Swedish accounting practice, a special question has been included in SBS. Purchased software is calculated with

the aid of inquiries about the production of standard and customer-specific software by computer consultancies. For software produced on own-account, model-based data are produced. Own account R&D investments are calculated with the help of data supplied in the surveys according to the Frascati manual. Data on bought R&D are gathered from SBS, the government accounts and the foreign trade statistics.

For construction investment, special calculations are carried out in industries where purchases and sales play a major role, since in business statistics the net recording of buildings purchased minus buildings sold does not always give data with satisfactory quality at industry level. Data on investment in new buildings are used instead. The value of new construction, extensions and reconstruction of buildings is obtained from a number of sources in addition to the business statistics, first and foremost from investment surveys. For industries where both business statistics for enterprises and investment surveys lack coverage or provide poor coverage, alternative sources are drawn upon. This applies in particular to agriculture, forestry and fishing, and to real estate management

#### *Changes in inventories*

Regarding *Changes in inventories* complete information is collected in surveys, hence this aggregate is also exhaustively covered. Changes in inventories are calculated for agriculture, forestry, quarrying, manufacturing, energy, construction, distributive trades, other service industries and for central government military inventories. Information is collected from quarterly surveys, business statistics and also from the Swedish Board of Agriculture, the National Board of Forestry and from energy statistics.

#### *Exports and imports*

Exports and imports are covered in the intrastat survey, reports from the Swedish Customs and the External Trade in Services covering all enterprises, public authorities and other organisations having foreign transactions concerning services, wages and transfers during the period in question. The surveys and reporting are considered to be exhaustive, hence only for compensation of employees with the Nordic countries specific adjustments based on individual commuter and tax report data are made to the estimates. Estimates for trade in goods and services are derived from three main sources. Data on trade in goods with countries outside the EU is collected via customs import and export declarations. Data on trade with countries within the EU is based on a monthly survey. Trade in services is collected in a quarterly survey. The estimates are continuously checked against VAT information.

### **7.3 Allowances for exhaustiveness for the income approach**

The third approach to measuring GDP is based on incomes generated from production. GDP by the income approach is not independently measured. It is estimated at the same time and with the same data sources as GDP balanced from the production and expenditure approaches. Gross operating surplus and mixed income are received as residual items. Adjustment for cases in which these amounts have not been reported is covered by a supplement for hidden wages and mixed income.

**Table 7.3.1 exhaustiveness adjustments, income approach**

	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness
<b>Compensation of employees</b>								
Non-Financial Corporations						33 671	2 132	35 803
Financial Corporations						48	69	117
General Government								
Households						5 950		5 950
NPISH							13	13
<b>Gross operating surplus</b>								
Non-Financial Corporations						22 556	-2 132	20 424
Financial Corporations						307	-69	238
General Government								
Households			-1 442					-1 442
NPISH							-13	-13
<b>Mixed income</b>		4 590				34 891		39 481
<b>Taxes on production and imports</b>								
<b>Subsidies</b>								
<b>Total</b>		<b>4 590</b>	<b>-1 442</b>			<b>97 423</b>		<b>100 571</b>

The exhaustiveness adjustments on the income approach corresponds to the adjustments made for the production approach and they are described under section 7.1. N2 refers to illegal activities and constitutes mixed income since these activities are assumed to be fully produced by households. N3 covers intermediate consumption for construction work in the owner occupied dwellings. And the N6 adjustments covers the over reporting of intermediate consumption and under reporting of output. The adjustments of N6 constitutes both compensation to employees in corporations and household businesses as well as gross operating surpluses in corporations and mixed income in household businesses. The split The N7, data not collected, refers to adjustments of car benefits, this is further discussed in section 4.7.1 under *Taxable benefits*. The benefit is a compensation to the employees and paying these benefits reduces the operating surplus in non-financial and financial enterprises, and the effect of this adjustment is therefore zero on the total.

In the process of estimating GDP by the production, expenditure and income approach all exhaustiveness adjustments by type are at the same time included in the relevant income components. The majority of exhaustiveness adjustments as included in the official GDP are allocated to compensation of employees, SEK 42 billion (39 669+ 2214 SEK million, Table 7.3.2 below ) or 42 percent of the total exhaustiveness adjustments included in published GDP and to gross mixed income, SEK 39 billion or 39 percent of the total. Gross operating surplus is due to exhaustiveness adjustments increased by SEK 19 billion and equals to 19 percent of the total exhaustiveness adjustments, SEK 101 billion.

However, presently an investigation project has started in order to validate the recordings in SBS of mixed income and wages with respect to building up a separate procedure for the income approach. The results so far are promising and hopefully the whole compilation procedure will be in force within a few years.

**Table 7.3.2 Gross operating surplus and mixed income 2011, SEK million**

A	<b>GDP at market prices</b>	<b>3 656 577</b>
	<i>Components:</i>	
	Taxes on production and imports	807 561
	Subsidies	-70 822
	Declared wages and salaries	1 383 631
	Of which car benefits	2 201
	<b>Undeclared wages and salaries</b>	<b>39 669</b>
	Employers social contributions	269 509
B	<i>Subtotal (Net taxes and compensation of employees)</i>	<i>2 429 548</i>
C = A minus B	<b>Gross operating surplus and mixed income</b>	<b>1 227 029</b>
	of which:	
	Gross operating surplus, corporations	899 059
	Gross operating surplus, general government	115 028
	Gross operating surplus, owner occupied dwellings	94 765
	Gross operating surplus, NPISH	2 780
D	<i>Total</i>	<i>1 111 632</i>
E = C minus D	<b>Mixed income, gross</b>	<b>115 397</b>
	i.e. operating surplus of unincorporated enterprises	
	of which:	
F	* Declared income (according to taxation corrected to correspond to ENS2010 concept)	75 916
G = E minus F	<b>* undeclared mixed income</b>	<b>39 481</b>
	<b>Total undeclared income (wages and salaries and mixed income)</b>	<b>79 150</b>

<b>Gross operating surplus and mixed income 2011, SEK million</b>		
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## Chapter 8 The transition from GDP to GNI

### 8.0 Introduction

This chapter outlines the transition from GDP to GNI (ESA2010). Gross national income GNI, is as its name implies, an income concept and is calculated from the gross domestic product (GDP). In the Swedish system of accounts, GNI is calculated by adjusting GDP for primary income to and from the rest of the world. Primary income consists of tax and subsidy transactions to and from the EU and compensation of employees, interests, dividends, reinvested profits from direct investment in the rest of the world, property income attributed to insurance policyholders and quasi-corporations and rents.

In the GNI estimate in the table below an addition for a previous reservation on the Swedish GNI compilations is added. Sweden received a reservation on production of software originals which were not correctly covered in the compilations according to the EU revision. As there was no time to incorporate this addition in the September 2014 major revision when the final result was available, the estimate has to be added to the NA compilations published. This refers mainly to the estimates of own-account production of software originals. In the spring 2015 a small survey was launched in order to be able to confirm or adjust the previous estimates of own-account software originals. That survey provided credible results for a significant upward adjustment of these estimates. The total adjustment for 2011 is SEK 4 486 million.

The Balance of Payments (BoP) is to be considered as the main data source for compilation of primary income from/to the rest-of-the-world. All concepts in BPM6 are implemented in the Swedish Balance of Payments. Statistics Sweden collects the bulk of the source material on commission by the Riksbank, the Swedish Central Bank. To get gross accrual figures on taxes to and subsidies from EU data from the Swedish Financial Management Authority (Ekonomistyrningsverket ESV) is used.

A very close cooperation between Statistics Sweden, the Swedish National Financial Management Authority (ESV) and the Riksbank is maintained through continuous contacts and meetings.

**Table 8.0.1 Transition from GDP to GNI of each item, 2011, SEK million**

<b>Gross domestic product (ESA2010)</b>	<b>B1*G</b>	<b>3 656 577</b>
Compensation of employees received from the rest of the world	D1	25 433
Compensation of employees paid to the rest of the world	D1	6 766
Taxes on production and imports paid to the institutions of the EU	D2	5 660
Subsidies received from the institutions of the EU	D3	11 072
<b>Property income received from the rest of the world</b>	<b>D4</b>	<b>403 742</b>
Interest	D41	97 111
Dividends	D42	165 756
Reinvested earnings	D43	94 301
Other investment income	D44	34 481
<b>Property income paid to the rest of the world</b>	<b>D4</b>	<b>318 532</b>
Interest	D41	160 932
Dividends	D42	148 695
Reinvested earnings	D43	6 818
Other investment income	D44	2 087
<b>Gross national income (ESA2010)</b>	<b>B5*G</b>	<b>3 765 866</b>

### 8.1 Compensation of employees

The estimates for compensation of employees exchanged with the rest of the world are mainly based on detailed information from income statements for individuals. This method was introduced in

connection with the ESA 2010 introduction and was elaborated in close cooperation with the Trade of Service statistics, BoP and the statistics on Income Statements.

For a number of years Statistics Sweden, Statistics Norway and Statistics Denmark have been working together to produce statistics on Cross-border commuting. By using tax data, income statements for individuals, combined with population registers it has been possible to compile micro data on cross-border commuting as well as the flows of wages and salaries earned by non-residents. Updated estimates in National Accounts on *Swedish residents working* abroad are based on available tax data for the period of 1997-2012 for Denmark and 2001-2012 for Norway that are interpolated back to 1993. Denmark and Norway cover approximately 90 per cent of the total wages and salaries earned by Swedish residents working abroad. This information was collected from the Eurostat database on information on cross-border flows on compensations of employees. For other EU-countries than Denmark data from the Eurostat database on cross-border payments has been used. For non-EU countries a supplement has been made of 5 per cent to the estimate for the total on EU-countries (including Denmark) and Norway.

The same basic method has also been used to cover all payments to *non-residents working in Sweden*, i.e. also to other countries than Denmark and Norway. This has been done by matching procedures, selecting all payments from Swedish units that go to non-residents.

Data on tax rates in different countries has been used for the calculations of social contributions (D12). Due to the specific rules that exist on where income taxes and social contributions should be paid when working in another Nordic country the actual out-flows and in-flows of income taxes and social contributions have been estimated to half of the flows according to the existing tax rates in each country. Total D11 is not affected by these estimates on income taxes since the source data used covers D11, but the division between D11 and income taxes (D5) is affected by this estimation. In the new estimates social contributions D12 (and D6111) have also been separated in the cross-border transactions.

When it comes to non-residents working in Swedish embassies, data have been made available from the Swedish Ministry for Foreign Affairs covering both D11 and D12. For residents working in foreign embassies a fixed relation to the opposite flow has been used according to BoP data.

**Table 8.1.1 Compensation of employees from the rest of the world to Swedish residents, SEK million**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wages and salaries D11	8398	8361	8986	10598	13288	17855	22590	25664	24496	23575	23975	23865
Of which income taxes D5	1309	1352	1512	1833	2346	3179	3886	4444	4116	3916	3959	3941
Social contributions, D12	775	729	716	821	987	1296	1659	1836	1872	1812	1940	1930

**Table 8.1.2 Compensation of employees to the rest of the world from Swedish resident units, SEK million**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wages and salaries D11	3548	3937	3937	4291	5372	5379	5962	5889	5858	6267	6365	6604
Of which income taxes D.5	610	700	711	803	1032	966	1004	949	932	954	962	1016
Social contributions, D12	264	309	321	345	418	438	471	464	461	499	513	540

## 8.2 Taxes on production and imports paid to the Institutions of the EU

Taxes on production and imports paid to institutions of the EU include taxes collected by national governments on behalf of the institutions of the EU. The data are obtained directly from the ESV and consist of customs duties, agricultural levies and sugar levies. These make up parts of Sweden's dues or contributions to the EU and are recorded as transactions which affect directly taxes on production

and imports. The GNI levy, which is the biggest part of Sweden's contributions to the EU, is recorded instead as a current transfer. After introduction of ESA 2010 the recording of VAT is the same as for the GNI levy, i.e. recorded as current transfer from central government to EU. The revenue referring to VAT is at the same time recorded as central government tax revenue.

The following taxes on production and import are recorded in the Swedish NA:

Import duties (D2121), consumption tax, based on final assessments and declarations

Levies on imported agricultural products (D2122), consumption tax, based on final assessments and declarations

Other excise duties (D214A), sugar levies, consumption tax, based on final assessments and declarations

The recording is on an accrual basis. This information is also presented on a regular basis in the Swedish National Tax List distributed to Eurostat and DG TAXUD

**Table 8.2.1 Taxes on production and imports SEK million**

	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Import duties (D.2121)</b>	4 764	5 413	5 399
<b>Agriculture levies (D.2122)</b>	217	225	220
<b>Sugar levies (D.214A)</b>	170	36	41
<b>Total</b>	<b>5 151</b>	<b>5 674</b>	<b>5 660</b>

Data is obtained directly from the Swedish National Financial Management Authority (ESV). The Swedish calculations for taxes on production and imports are based on the records kept by ESV and the data source is information from the income of departments and agencies of central government by revenue headings, which are entered each month. Concerning taxes, information from the Swedish Tax Agency is sent to ESV and then from ESV to SCB.

### **8.3 Subsidies granted by the Institutions of the EU**

The data on subsidies apply to both subsidies on products and other subsidies on production from the EU and therefore only affect the inflow side. It is mainly a question of subsidies for agriculture. These data are obtained from the ESV, who delivers the basis of central government net lending/net borrowing. The material also comprises the part of the activity of central government, which is not recorded in the national budget. The national budget records the subsidies, which departments and agencies of government pay out but which are financed by EU funds. The departments and agencies are obliged to record types of expenditure under budget headings. This enables the ESV to determine how payments are distributed between subsidies and other expenditure. Concerning more complex subsidies, as subsidies for agriculture, where the same appropriation could be partly central government financed and partly EU financed supplementary information is collected directly from the Swedish Board of Agriculture.

From the Swedish Board of Agriculture supplementary information about agriculture subsidies are collected which enable a correct split between government and EU subsidies, a split between subsidies on products and other subsidies on production as well as an accrual based recording for agricultural subsidies. Concerning other subsidies no specific information is available for the period to which the expenditures belongs, i.e. no adjustments are made to obtain recording at accrual basis for these transactions in national accounts. However, a significant part refers to government or EU subsidies for agricultural activities.

The information from the different data sources are very detailed which makes it possible to distinguish subsidies on production from social contributions to households, investment grants, other miscellaneous transfers etc. Within the framework of public finance statistics and Excessive Deficit Procedure the distinction between general payments, such as subsidies, versus government intervention, such as capital injections into public corporations, has been improved. The data sources regarding payments from government, as well as from the EU, are therefore nowadays detailed and

divided by type of item/transfer, counterpart, split by appropriation, related to quantities of products and merchandises (D31) or referring to production (D39) etc. Corresponding information could also be read in chapter 4.9.

**Table 8.3.1 Subsidies, SEK million**

	<b>2009</b>	<b>2010</b>	<b>2011</b>
<i>Subsidies on products (D31)</i>	<b>1 018</b>	<b>630</b>	<b>542</b>
<b>To agriculture activities</b>	424	347	356
<b>To other activities</b>	594	283	186
<i>Other subsidies on production (D39)</i>	<b>10 421</b>	<b>10 234</b>	<b>10530</b>
<b>To agriculture activities</b>	8 161	7 464	7 600
<b>To other activities</b>	2 260	2 770	2 930
<b>Total</b>	<b>11 439</b>	<b>10 864</b>	<b>11 072</b>

## 8.4 Cross-border property income

Returns on financial assets and debts include interests and dividends. Cross-border property receipts/payments meet the ESA 2010 recommendations. See sections below regarding concepts relating to financial returns and sources etc. Interest data are recorded on an accrual basis while dividends are recorded when they are payable. Recording on an accrual basis means that the interest has been entered in the company's profit and loss accounts. This also applies mainly to other interest flows, with effect from the fourth quarter of 1997 when the Riksbank implemented the BPM5 and Eurostat's application of the IMF recommendations. For earlier years, before 1997, recording is mainly on a payment basis.

FISIM correction is included in interest received from and paid to the rest of the world. For more information about the FISIM calculations, see chapter 3.

### 8.4.1 Interest

*Returns on financial assets and debts include interest.* See section below regarding concepts relating to financial returns and sources etc. All the major banks report information on interests by country. Estimates for other monetary financial institutes are calculated based on the reports from the banks. Non-financial enterprises are covered by the survey on Balance Statistics for non-financial companies (BAST).

Since the data in the balance of payments statistics on financial returns are structured in accordance with the main items in the financial balance, three types of interest income and expenditures are distinguished.

*Interest flows linked to portfolio investments excluding financial derivatives.* These comprise interest on bonds and money market instruments, which are recorded, specified by resident sectors, rest of the world and in Swedish kronor and foreign currency. Interest on Swedish bond issues in foreign currency abroad is recorded as accrued interest. In order to obtain accrued interest in respect of interest on stocks, which arises mainly through trade, e.g. securities issued by the State and housing institutions and securities issued abroad, the Riksbank carries out separate calculations.

*Interest flows linked to direct investment*-These represent interest on loans in a direct investment relationship. Interest paid to affiliated companies etc., are included. The interest is recorded on an accrual basis.

*Interest on loans, deposits, etc., including interest on financial derivatives*- Recording has been mainly on an accrual basis since October 1997, previously in respect to the payment date.

*Reserve assets*- All earnings on foreign exchange reserves and related transactions with the IMF are recorded by the Riksbank who receives interest on its holdings of Special Drawing Rights (SDR) and other remuneration from IMF. Income from investment to foreign currency, deposits and securities is derived on a monthly basis from banking records. The Riksbank reports to the BoP which is the primary source in NA for all income.

#### D41 Interest on Swedish debt securities

Swedish debt stocks in SEK. The total stock denominated in SEK comprises of deposited stocks in Sweden, with adjustment for "mirror data" (Sweden's holdings of Swedish securities deposited in foreign custody) and repo stocks (repos and reverse repos). The data is directly reported by the custodian. Repurchase agreements, reported by custodians, are deducted from the stock. Repos are used for adjusting the foreign investors' borrowed securities.

Interest paid on foreign investors' holdings in Swedish SEK denominated debt securities are collected from the direct respondents. The amount is reduced by data on Swedish holdings abroad.

#### D41 Stocks in Swedish debt securities denominated in foreign currency/Interest

Nonresident holdings of Swedish securities in foreign currency are obtained by direct collection from issuers with the exception of the MFI sector which is taken from securities statistics (SVDB). The total issued stock irrespective of currency and market is reported. At the same time custodian reports its own and managed holdings namely Sweden's holdings of debt securities in foreign currency. The issued stock is reduced by the custodian data in order to obtain foreign holdings in Swedish debt securities. Accrued interest is then applied and calculated on the total stock.

#### Basic theory:

The model relates the different interest rates on the total stock of government sectors, housing credit institutions and non-financial companies. Non-financial companies include all other sectors. The interest rate on government bonds is estimated by using reported data from the National Debt Office for their outstanding stock and accrued interest. For the housing credit institutions sector indexes from Ecwin are used and for the other sectors the 10-year swap rate is used which is added to the interest rate for government bonds. Accrued interest is calculated on the total volume.

Interest rate sector	Long- term debt securities
S1311 Central government ( $r_s$ )	$\frac{\text{Accrued interest}}{\text{Outstanding nominal debt}}$
S1223 Housing credit institutions ( $r_s$ )	$b_l$
S11 Non-fin. corp. included in Other ( $r_i$ )	$b_l + i_l$
	Short- term debt securities
S1311 Central government. ( $r_s$ )	$s_s$
S1223 Housing ( $r_s$ )	$\frac{\frac{(bs_{t-1} + bs_t - 0,001)}{2}}{12} + ((bs_{t-1} - bs_t) * ds_t) + s_s$
S11 Non-fin. corp. included in Other( $r_i$ )	$\frac{\frac{(is_{t-1} + is_t)}{2}}{12} + ((is_{t-1} - is_t) * ds_t) + r_b$

Accrued Interest / (outstanding nominal debt)

$b_l$ = Sweden, All Mortgages, Index All maturities, Yield

$i_l$ = Sweden, ("Swap Rates, SEK, Mid Government Benchmarks, Yield"), 10 Year

$s_s$ = Sweden, Government Benchmarks, 3 Month, Yield, End of Period

$b_s$ =Sweden, Fixed Income Indices, (Mortgage-Government)/100, Index, 1-3 Year, Yield

$i_s$ = Sweden, ("Swap Rates, SEK STINA, Ask"- "Government Benchmarks, Yield")/100, 6 Month

$d_s$ =Sweden, Fixed Income Indices, Treasury Bills, Index, All Maturities, Duration

The income on money market instruments is calculated in a similar way as for bonds.

$$\text{Interest on securities} = r * \text{stock}$$

#### D41 Interest on foreign debt securities

Stock data are collected semi-annually (twice in a year) from reference period 2015 in the Coordinated Portfolio Investment Survey, CPIS, and the results of the survey are used in the IIP, International Investment Position, for the second and fourth quarter. Stock data for other quarters are achieved by direct reporting by custodians and major reporters. Until 2014 stock data were collected annually in the CPIS survey and the result was used in the IIP for the fourth quarter while the first, second and third quarters were achieved by direct reporting from custodians and major players.

Income on reserve assets are reported quarterly by the Riksbank.

Returns on foreign bonds and short-term instruments:

$$\text{Interest on securities} = r * \text{stock}$$

$r$  corresponds to a country-specific return index for each maturity (short/long maturity).

In some cases income is calculated with an average of the country-specific return index for each maturity (short/long maturity divided in two. However, this does not completely cover all the sectors and it is a bit different between assets and liabilities.

Debtor approach is used for the calculation of cross border flows of accrued interest on Swedish debt securities. The creditor approach is used for foreign debt securities. No taxes are calculated on interest rates.

#### D41 Interest on loans, deposits, etc., including interest on financial derivatives

The data are collected mainly by direct reporting by transactors who have stocks of assets or debt vis-à-vis the rest of the world involving large amounts; a guide value, but however not an absolute limit, is approx. SEK 200 million. All the major banks report information on interests by country. Estimates for other monetary financial institutes are calculated based on the reports from the banks. Non-financial enterprises are covered by the survey on Balance Statistics for non-financial companies (BAST).

Interest/income is not recorded for financial derivatives or financial leasing.

### 8.4.2 Distributed income of corporations

The distribution concept covers, apart from interest, dividends on shares in portfolio investments and direct investment (D421), reinvested earnings on foreign direct investment (D43), withdrawals from the income of quasi-corporations (D422) and Investment income attributable to collective investment fund shareholders (D443). Returns on portfolio shares comprise distributions from holdings amounting to less than 10 per cent of the voting rights. The distribution is recorded on an accrual basis. The data are obtained for debt securities by direct reporting while earnings on equity securities are based on calculations.

Dividends on shares in a direct investment enterprise are recorded when the dividends are payable.

*Returns on direct investment* are calculated as the net amount of financial income and costs. The data are obtained from the annual accounts of the group to which the enterprises belong (consolidated figures) and are recorded before deduction of withholding taxes on distributed earnings and interest. Depreciation, capital gains and capital losses are not included.

Direct investment means investment in which a person, usually an enterprise, directly or indirectly acquires ownership of 10 per cent or more of the shares or votes in an undertaking in another country. An annual sample survey is conducted on direct investments in the rest of the world which makes use of a register continuously updated with the aid of the information from Statistics Sweden's register of direct investment companies, newspapers and magazines etc. Direct reporting agents for the continuous reporting are selected, inter alia, with the aid of the survey register. Data collected on financial services are supplemented by a calculation of brokerage commission on dealing in shares.

#### 8.4.2.1 Dividends

##### *Model Dividends on foreign shares D421*

The monthly value change is compiled via:

$$V_{\%} = \left[ \frac{(\text{MSCI Price index, } [\text{USD}]_{\text{t}} \times [\text{USD/SEK spot rate}]_{\text{t}})}{(\text{MSCI Price index, } [\text{USD}]_{\text{t-1}} \times [\text{USD/SEK spot rate}]_{\text{t-1}})} - 1 \right]$$

Price index: MSCI (Morgan Stanley Capital International) World, Equity Indices, MSCI, Mid & Large Cap, Index, Price Return, USD

Spot rate: Foreign Exchange spot rates, SEK per USD, end of period.

The closing balance is then compiled as:

$$[\text{Stock}]_{\text{UB}} = ([\text{Stock}]_{\text{IB}} + F_{\text{Net}}/2) \times (1 + V_{\%}) + (F_{\text{Net}}/2)$$

FNet = Net flows from monthly survey to financial Intermediaries by Statistics Sweden, compilers of Balance of Payments

V% = Value change in percent during the period

Stock UB = closing balance

Stock IB = opening balance

Index series of MSCI and net transactions are updated monthly. When the stock has been compiled, it is redistributed in accordance with holder sector as registered in the CPIS.

By relating a price index to a return index, we can get information about the return rate;

$$U_{\%t} = \left( \frac{Total\ return_t}{Total\ return_{t-1}} - 1 \right) - \left( \frac{Price\ return_t}{Price\ return_{t-1}} - 1 \right)$$

The foreign shares' return,  $U_t$  is calculated as

$$U_t = U_{\%t} \times Stock_{UBt} \times country\ weight$$

Where:

$U_{\%t}$  = yield rate during the period by country

Total return = Country-specific return index (MSCI Country gross index, (exchange rate)

Price return = Country-specific price indices (MSCI country index standard, (exchange rate)

( $Stock_{UBt}$ ) broken down by country is calculated by the help of the CPIS data. Country weights are based on the CPIS survey. Since the dividends are reinvested, offsetting entries has to be made in the financial account. The entire dividends are booked as reinvested.

Model Dividends on Swedish shares

Stock data is collected on a semi-annual basis in the Shareholding statistics survey compiled by the Financial market statistics unit at Statistics Sweden. Monthly changes of stock data on Swedish shares are the basis for compilation of dividends for the respective periods during the year. The monthly change of the stock is compiled by the help of the monthly value change and also the net transaction (inflow and-outflow) is collected via a survey to all Monetary as well as non-monetary Financial Institutes that are engaged in trade with shares. The survey is conducted by the Balance of Payments group at Statistics Sweden. A special register of these traders is held at Statistics Sweden.

The monthly value change is compiled via:

$$V_{\%} = \left( \frac{[Price\ index]_{t-1}}{[Price\ index]_{t-2}} - 1 \right)$$

Price index: MSCI (Morgan Stanley Capital International) Sweden, Equity Indices, Mid & Large Cap, Index, SEK, price return

The closing balance is then compiled as:

$$[Stock]_{UB} = ([Stock]_{IB} + F_{Net}/2) * (1 + V_{\%}) + (F_{Net}/2)$$

FNet = Net flows from monthly survey to financial Intermediaries by Statistics Sweden, compilers of Balance of Payments

V% = Value change in percent during the period

Stock UB = closing balance



Stock IB = opening balance

The dividends on Swedish shares,  $U_t$  is calculated as

$$U_t = U_{(t)} \times \left[ \frac{\text{Stock}_t}{\text{Stock}_{t-1}} - 1 \right]$$

By relating a price index to a return index, we can get information about the return rate;

$$U_{(t)} = \left( \frac{\text{Total return}_t}{\text{Total return}_{t-1}} - 1 \right) - \left( \frac{\text{Price return}_t}{\text{Price return}_{t-1}} - 1 \right)$$

#### D421 FDI dividends

Cross-border flows of dividends within FDI relationships are reported in a monthly (cut-off) survey which includes the largest corporations. This monthly survey is complemented by the annual FDI survey (larger sample survey) where additional dividends are reported. Dividends within FDI relationships are recorded in accordance with accounting principles. This means that dividends are recorded at the time the dividend (paid or anticipated) is recorded in the books of the FDI enterprise/investor (as of the date they are declared payable).

For the treatment of super-dividends Statistics Sweden do comply with the ESA 2010 paragraph 4.55:

*The ratio of dividends to distributable income over the recent past is used to assess the plausibility of the current level of dividends. If the level of dividends declared is greatly in excess, the dividends causing the excess are treated as financial transactions and classified as 'super-dividends'. Such super-dividends are treated as the withdrawal of owners' equity from the corporation.*

#### 8.4.2.2 Withdrawals from the income of quasi-corporations

According to the ESA guidelines households cannot own property abroad. If a household owns a second home in another country, this property is assumed to be a 'quasi-corporation' or a notional unit, which is a separate institutional unit that is resident in the economy of the property. Therefore any income streams associated with these second homes are treated as 'withdrawals of income from quasi-corporations', which are recorded as property income in the National Accounts.

As an owner-occupier of a property, the occupier is consuming dwelling services. For second homes in Sweden, owned by foreign residents, owner occupation leads to the recording of production and operating surplus in Sweden and the export of housing services (inward imputed rental). For second homes abroad owned by Swedish residents, owner occupation leads to household final consumption expenditure in Sweden by the Swedish household and the import of housing services (outward imputed rental). Production capital situated in a country different from where the owner is resident is in the NA and BoP always transformed by imputation into a financial asset representing a claim of the owner on the rest of the world, according to ESA2010, §4.60.

In accordance with ESA, the rental value of the owner-occupied dwellings abroad is registered as imports of services (in the Travel item of BoP and on the Rest of the World account) and household expenditures in the country where the owner is resident and the corresponding net operating surplus as property income received from the rest of the world.

The rental value of the owner-occupied dwellings belonging to non-residents is registered as export of services (in the Travel item of BoP and on the Rest of the World account and the corresponding net operating surplus as property income paid to the rest of the world.

According to the Balance of Payments Manual (BPM6), property income payable to the non-resident shareholders should be recorded gross of any withholding taxes. These taxes are deemed paid by the recipient and are transferred to the country of the direct investment enterprise and recorded under

transfers. There is also an ESA provision saying that property income should be recorded gross, i.e. before deduction of taxes levied on them (ESA2010, 4.58). Normally, for the purpose of the GNI calculation, data taken directly from the Balance of Payments statistics should conform to this requirement. In the case when data on property income is obtained on net basis, an adjustment for taxes levied at the source should be done in order to arrive from net to gross figures and thus to comply with the ESA requirement of gross recording.

### Holiday homes in Sweden owned by non-residents

To estimate the total stock of foreign holiday homes in Sweden information from the Swedish Register of Real estate is processed by Statistics Sweden. As all owners are registered it is possible to sort out those with addresses abroad. They constitute 8.4 percent and about 47 000 units of the total stock in 2011. With help of the Swedish unique personal identification numbers it is also possible to note the number of previous Swedish residents within this group. They constitute about one fourth of the total share of foreign-owned second homes in Sweden.

Information on market values of second homes is available in sales statistics. Prices broken down by NUTS2- regions are used as there are big differences between e.g. coastal and inland regions.

From this information stock values have been compiled for the period from 2007 and onwards. Up to and covering 2002 the bank settlements statistics of Riksbanken was used in the BoP compilations. Therefore data for the period before 2003 is based on these data. The period 2003 to 2007 is interpolated.

**Table 8.4.2.1 Stock values of second homes owned by non-residents in Sweden, SEK million**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
11 619	17 661	20 321	24 607	28 034	30 392	46 669	55 118	59 499	60 971	60 726	65 772

### D422 Property income to the rest of the world

Dwellings located in Sweden and owned by non-residents generate flows of imputed property income from Sweden to the rest of the world. The estimation of these flows is based on using the same rate of return to this dwelling stock as the one used for the total dwelling stock in the Swedish National accounts. This rate is 2.5 percent. Furthermore the average time spent in the second home is set to 15 percent of a year. The short summer and the high share of previous Swedish residents now living and working abroad and therefore not having long holidays are considered for this occupancy rate. A study on Danish second home owners in Sweden indicates that they spend 43 nights a year in their Swedish holiday homes. This is almost 12 percent of a year. Another small study indicates that Norwegian second homes owners living close to the border spend about 70 nights a year in their second homes in Sweden. So an occupancy rate of 15 percent is considered a proper figure as an average.

The flows of property income ( $I_t$ ) are calculated by multiplying the stock value ( $S_t$ ) by the rate of return ( $r_t$ ) and by an occupancy rate ( $O_t$ ):  $I_t = S_t * r_t * O_t$

The following estimates of property income to the rest of the world are received, in million SEK

**Table 8.4.2.2 Property income to the rest of the world, SEK million**

	200 2	200 3	200 4	200 5	200 6	200 7	200 8	200 9	201 0	201 1	201 2	201 3
Stock V*2,5%*15%	40	57	72	86	100	110	150	196	218	226	228	239

### Non-residents' consumption of dwellings services in Sweden, inward rental value

Non-residents consumption expenditures in Sweden are gathered in total in the Travel item of BoP covering also the dwelling services from holiday homes. The imputed rental value from owner occupied second homes is based on the user cost method in the Swedish national accounts. However, a compilation also according to the stratification method has been performed and fairly the same result was obtained from the compilation of rental value and occupied period. For the period 2002 and onwards, the following rental values are included in the travel item, based on the share of foreign ownership of the total population of second homes in Sweden.

$V_t$  = Imputed rental value of all second homes in Sweden

$S_f$  = Share of foreign owned second homes in Sweden

Rental value =  $V_t * S_t$ . The following estimates are received, SEK million

**Table 8.4.2.3 Rental value, SEK million**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
509	548	622	676	721	810	1104	1251	1397	1522

### Holiday homes owned by Swedish citizens abroad

The estimates for holiday homes owned by Swedish citizens abroad are based on information from two surveys published by a Swedish real estate agent concerning ownership of holiday homes abroad. They are "Fritidshusundersökning drömmar" from May 2014 and FAB "semesterboende" (holiday living) from 2013. The surveys contain questions on ownership and location of the dwelling. Based on the results from these surveys a model has been set up. The total number of second homes abroad has been calculated to 134 149 for 2012, which is set as the bench-mark year. In addition, some information from the Swedish Tax Agency has been used.

Spain is the most popular country for second-home properties owned by Swedish residents, and the total share of the second-homes located in Spain is 25 percent. As many homes are situated on the Spanish south coast, 50 percent of prices on homes in Spain are set based on price data from the internet site [www.spanskostad.se](http://www.spanskostad.se) while the remaining 50 percent is estimated based on the material from the Tax Agency on house transactions in Spain. Prices for second homes in other countries are based on the Tax Agency material by country for the most frequent ones and the others for the rest of the world. Second-home ownership is specified for France, Italy, Turkey, Thailand and rest of the world. The total stock value for 2012 is 132 253 SEK million.

Since no survey information on ownership for any other years is available, the annual changes are assumed to be equal the increase of foreign second homes in Sweden. The time series are calculated backwards to the year 2002, which is based on the previous settlement statistics and methods used by the Riksbank.

**Table 8.4.2.4 Stock values of second homes owned by Swedes abroad, SEK million**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
16	21	31	48	53	66	101	120	129	132	132	143
249	922	088	633	592	188	638	038	581	786	253	243

### D422 Property income from abroad

Imputed property income from abroad, generated by Swedish-owned second homes abroad, is compiled using the same rate of return on the dwelling stock abroad as the one used in the Swedish second homes compilation, which is 2.5 percent. It is assumed that the income received from abroad and generated through the ownership abroad is in the same proportion to the stock value abroad as the ratio between operating surplus generated in the Swedish dwelling compilations and the stock value of dwellings in Sweden.

It is only possible to spend less than half year abroad in order to stay registered in the Swedish Population Register. Average holiday length in Sweden is only 5 weeks. However, as retired people have the possibility to spend more time away from home and avoid part of the dark and cold winter months, the average time spent in the second home is set to 25 percent of a year.

The flows of property income ( $I_a$ ) are calculated by multiplying the stock value ( $S_a$ ) by the rate of return ( $r_t$ ) and by an occupancy rate ( $O_a$ ):  $I_a = S_a * r_t * O_a$

**Table 8.4.2.5 Property income from the rest of the world, SEK million**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Stock $v * 2,5\% * 25\%$	99	122	172	259	324	382	545	707	787	822	828	869

### Swedish' consumption of dwellings services abroad, outward rental value

The final consumption of dwelling services by Swedes from owner-occupied second homes abroad include an assumption about the same relation between services consumed and the stock value for dwellings owned by Swedes abroad as owner-occupied second homes in Sweden owned by non-residents.  $V_a = (V_t * S_a) / S_t$

$V_a$  = Outward rental value of second homes owned by Swedes abroad

$S_a$  = Stock value of second homes owned by Swedes abroad

$V_t$  = Inward rental value of second homes owned by non-residents in Sweden

$S_t$  = Stock value of second homes owned by non-residents in Sweden

This gives the following outward rental values, in million SEK. The amount is included in the total Travel services item of imports.

**Table 8.4.2.6 Rental value, SEK million**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
712	680	952	1337	1378	1765	2404	2725	3043	3315

### 8.4.3 Reinvested earnings (RIE) of foreign direct investment (FDI)

Reinvested earnings constitute the part of direct investment enterprises earnings of equity, which are not distributed to the shareholders but are retained in the company. These earnings are calculated as the difference between the company's total profit after tax and the distributed profit. Data on distributed profits are obtained via the annual direct reporting discussed above.

Whereas dividends are recorded when they are payable, reinvested earnings are attributed to the year for which the company declared the profit.

Statistics Sweden is in charge of calculating data on RIE as a part of the production of BoP and IIP statistics. Profits and distributed earnings are both obtained from the same source, FDI surveys.

Briefly described the RIE is calculated as direct investment income of earnings on equity according to the Current Operating Performance Concept (COPC) in the direct investment enterprise *less* the dividends (distributed earnings) to the direct investor.

#### *Definition of a direct investment enterprise*

A direct investment enterprise is an enterprise resident in one economy and in which an investor resident in another economy owns, either directly or indirectly 10% or more of its voting power if it is incorporated or the equivalent for an unincorporated enterprise.

#### *Method to capture indirect links within big company groups (multinationals)*

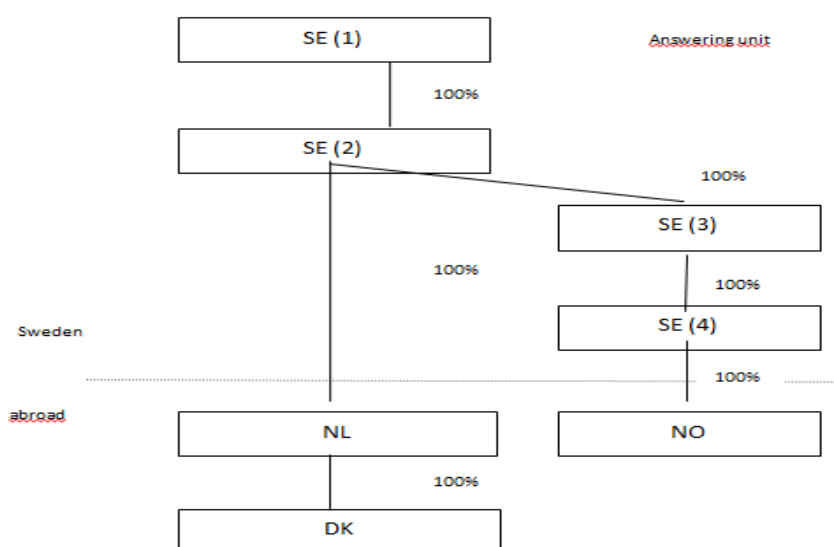
Direct and indirect ownership abroad is measured in the annual Foreign Direct Investment survey regarding Swedish direct investments abroad. Income according to the Current Operating Performance Concept is collected along the whole ownership chain and is consolidated for each of the countries where the enterprises are situated. The reporters to the survey describe how the direct investment enterprises in the counterpart country are owned. The reporters have to give information whether the enterprises in country X are directly owned from Sweden or if they are held via foreign subsidiaries.

The following are the instructions given to the respondents of the survey Swedish Direct Investments abroad:

The aim of this survey is to calculate Sweden's total direct investment assets and income abroad.

- A direct investment relationship exists when a Swedish company, organisation or private person owns 10 per cent or more of the capital or votes in a foreign company or commercial property.
- Swedish parent companies should report data for their own ownership abroad, as well as for the ownership abroad of all their Swedish subsidiaries.

#### *Example of the definitions used in this survey to facilitate reporting*



In this example SE (1) is the reporting unit.

Parent company is SE (1)

#### *Data on foreign subsidiaries and associated companies broken down by country*

A Swedish parent company shall report information and also include all Swedish subsidiaries' ownership abroad. Both direct and indirect ownership shall be reported, i.e. also sub-subsidiaries abroad. In the example above SE (1) shall give information on parent ownership abroad, i.e. foreign units in NL, DK and NO, which are owned through the units SE (2) and SE (4).

The data for the country relates to: (Enter the type of ownership that your company has the company / companies in the country for which the data relates to). In the example above, the SE (1) does not itself directly own any foreign company and therefore "Directly owned holdings abroad" should not be filled in. Units NE and NL are owned directly by the Swedish subsidiaries of the reporting entity, SE (1) and thus they should be recorded as 'Swedish subsidiary holdings abroad'. The company DK is owned by the subsidiary NL and ownership structure of the company DK therefore should be "Foreign subsidiaries' holdings abroad".

#### *Details of foreign subsidiaries and associated companies abroad broken down by country*

Swedish group parents should also include all Swedish subsidiaries' ownership abroad in the reported data. Both direct and indirect ownership in foreign companies should be reported, i.e. sub-subsidiary companies should also be included. If a foreign subsidiary is the parent company of a foreign sub-group the reporting should include all subsidiaries and interests where the ownership is over 10 percent. Income statement items and shareholders' equity is collected from the foreign companies' accounts (alternatively the foreign sub-group's reports) and details should be consolidated and divided per country. Eliminations between the foreign companies should already be done. Details concerning associated companies should only show the part of the income statement and balance items of the foreign companies, i.e. if you own 40 percent, only 40 percent of stockholders' equity and income should be reported. The reported figures should be divided per country.

#### *Definition of RIE*

The Current Operating Performance Concept (COPC) is used for measuring direct investment earnings. Earnings measured on the basis of COPC consist of income from the normal enterprise operations. It does **not** include any realized or unrealized holding gains or losses arising from valuation changes, exchange rate changes, write-offs, etc.

#### *Simple example one subsidiary, Ownership 100 %*

Reinvested earnings on direct investment:

*The net operating surplus/deficit of the DIE*

plus:

*property income receivable and current transfers receivable*

minus:

*property income payable [including dividends payable to DI(s)] current transfers*

*payable including current taxes payable on the income, wealth, etc., of the direct foreign investment enterprise, but excluding withholding taxes and taxes on holding gains times the DI's (DIs) share of the DIE's equity (or equivalent)*

equals:

*Reinvested earnings payable*

Net Profit/loss for the year	2 000		
Write-offs (write down) +	250		
Capital gains -	100		
Capital losses +	500	Income according to COPC	2 050
Tax -	600	Dividends to the owner	1 000
<b>Income according to COPC</b>	<b>2 050</b>	<b>RIE</b>	<b>1 050</b>

*Measures taken to exclude holding gains and losses from direct investment income*

The return is calculated according to COCP.

Income on Swedish direct investment assets abroad IU a, defined as follows:

$$a = r + n + rf - rv - s$$

There:

r = result after net financial items in the Swedish-owned companies abroad

n = impairment (net) included in r

rf = capital losses included in r

rv = capital gains included in r

s = tax in Swedish-owned companies abroad

This method is used for both financial and non-financial corporations.

*Data sources for outward and inward direct investment flows*

The source for outward and inward direct investment flows is monthly collection which is published/distributed quarterly. If Statistics Sweden discover in the annual direct investment survey that an actor reports large values this actor is added as a monthly direct reporter. Positions are collected and the flows are calculated from these stocks, adjusted for impairment losses / reversals and currency fluctuations. Group information is used to determine FDI direction.

The FDI register includes companies that have foreign direct investment owners and companies that make foreign direct investment. Information on this comes from the Business Register as well as from previous FDI surveys. The register includes all types of companies - holding companies, treasury companies, etc. Special Purpose Entities, SPE, are identified based on the already-mentioned companies and where applicable the criteria described in the manuals to identify the SPE. BoP has operationalized criteria, and identification requires a manual assessment of the balance sheets to capture factors that cannot be applied automatically.

Collected FDI data is validated and checked against the Balance- statistics. Balance sheet statistics show the companies' financial assets and liabilities in the form of position and transactions values, the Balance survey is conducted quarterly.

Normally there is no imputation for non-response. Occasionally, the data from the previous period is used partly or wholly. In the annual survey non-response is compensated to some extent by counting in the strata.

There is a threshold for reporting corresponding to a stock value of SEK 1 billion. No imputation is applied for units below this threshold

*Method used to compile RIE*

In Sweden Method I, according to document GNIC/052, is used. Profits and distributed earnings of FDI enterprises are from the same sources, typically FDI surveys or administrative information. This approach requires the dividends payable on direct investment income on equity to be distinguished from dividends payable on portfolio investment.

RIE on direct foreign investment (D43) are equal to the operating surplus of FDI enterprise plus any property income or current transfers receivable minus any property incomes or current transfers payable, including actual remittances to foreign direct investors and any current taxes payable on the income, wealth, etc., of the FDI enterprise.

Dividends measured for RIE are distinguished from cross border dividends related to portfolio investment. Reinvested earnings on foreign direct investments are recorded when they are earned.

### 8.4.4 Other investment income

#### 8.4.4.1 Investment income attributable to insurance policy holders

Cross-border flows of investment income attributable to insurance policy holders are included in the Statistics Sweden Trade of Services quarterly survey.

Statistics Sweden is not able to distinguish resident and non-resident insurance policy holders in the domestic data sources and for the time being there are no plans for developing a method.

Data on resident insurance policy holders abroad is not included in the collected data because the survey is only addressed to the direct reporters and major reporters in Sweden.

#### 8.4.4.2 Investment income payable on pension entitlements

The Swedish Pensions Agency reports pensions paid from the Swedish pension system to Swedes living abroad quarterly, but Statistics Sweden has currently no information on cross-border flows of investment income payable on pension entitlements.

#### 8.4.4.3 Investment income attributable to collective investment fund shareholders

Stock data is collected twice a year (before 2015 annually in the IMF-CPIS–survey, Coordinated Portfolio Investments Survey). A monthly change of stock data on foreign funds is the basis for compilation of dividends for the respective periods during the year. The monthly change of the stock is compiled by the help of the monthly value change and also the net transaction (in-out) collected via a survey to all Monetary as well as non-monetary Financial Institutes that are engaged in trade with funds. A special register of these traders is held at Statistics Sweden.

The monthly value change is compiled via:

$$V_{\%} = \left[ \frac{((\text{MSCI Price index, } [\text{USD}]_{\text{t}} \times [\text{USD/SEK spot rate}]_{\text{t}})) / ((\text{MSCI Price index, } [\text{USD}]_{\text{t-1}} \times [\text{USD/SEK spot rate}]_{\text{t-1}})) - 1 \right]$$

Price index: MSCI (Morgan Stanley Capital International) world Equity indices, price return, USD

Spot rate: Foreign Exchange spot rates, SEK per USD

The closing balance is then compiled as:

$$[\text{Stock}]_{\text{UB}} = ([\text{Stock}]_{\text{IB}} + F_{\text{Net}}/2) * (1 + V_{\%}) + (F_{\text{Net}}/2)$$

FNet = Net flows from monthly survey to financial Intermediaries by Statistics Sweden, compilers of Balance of Payments

V% = Value change in percent during the period

Stock UB = closing balance

Stock IB = opening balance

Index series of MSCI and net transactions are updated monthly. When the stock has been compiled, it is redistributed in accordance with holder sector as registered in the CPIS.

By relating a price index to a return index, we can get information about the return rate;

$$U_{\%t} = \left( \frac{\text{Total return}_t}{\text{Total return}_{t-1}} - 1 \right) - \left( \frac{\text{Price return}_t}{\text{Price return}_{t-1}} - 1 \right)$$



The foreign funds' return,  $U_t$  is calculated as

$$U_t = U_{\%t} \times Stock_{UBt} \times country\ weight$$

Where

$U_{\%t}$  = yield rate during the period by country

Total return = Country-specific return index (MSCI Country gross index, (exchange rate)

Price return = Country-specific price indices (MSCI country index standard, (exchange rate)

( $Stock_{UBt}$ ) broken down by country is calculated by the help of the CPIS data. Country weights are based on the CPIS survey. Since the dividends are reinvested, offsetting entries has to be made in the financial account. The entire dividends are booked as reinvested.

*Example Reinvested Earnings on Foreign Funds (D443)*

Value change (V%) =

$$V_{\%} = \left[ \frac{(382,069,953 \times 6,4236)}{(363,976,137 \times 6,6391)} \right] - 1 = 1,6\%$$

Closing balance t =

$$Stock_{UB} = \left( 1\ 019\ 713 + \frac{-4\ 711}{2} \right) * (1 + 1,6\%) + \left( \frac{-4\ 711}{2} \right) = 1\ 035\ 655\ MSEK$$

The foreign funds' return,  $U_t$ , for a specific country =

$$U_t = 0,14\% \times 1\ 035\ 655 \times 10,73\% = 156\ MSEK$$

$$U_{\%t} = \left( \frac{6275}{6074} - 1 \right) - \left( \frac{1611}{1562} - 1 \right) = 0,14\%$$

Country weight = 10, 733 % from CPIS survey.

*Sources and procedures used to identify and cover cross-border flows of investment income attributable to foreign shareholders of domestic collective investment funds (broken down by dividends attributable to collective investment funds' shareholders and retained earnings attributable to collective investment funds' shareholders)*

Estimation of reinvested earnings on Swedish funds is, with minor exceptions, very much like the corresponding models on foreign funds.

Stock data is collected on a quarterly basis in the Investment fund survey compiled by the Financial market statistics unit at Statistics Sweden. Monthly changes of stock data on Swedish funds are the basis for compilation of dividends for the respective periods during the year. The monthly change of the stock is compiled by the help of the monthly value change and also the net transaction (in-out) collected via a survey to all Monetary as well as non-monetary Financial Institutes that are engaged in trade with funds. The survey is conducted by the Balance of Payments group at Statistics Sweden. A special register of these traders is held at Statistics Sweden.

The monthly value change is compiled via:

$$V_{\%} = \left[ \left( \frac{[Price\ index]_t}{[Price\ index]_{(t-1)}} \right) - 1 \right]$$

Price index: MSCI (Morgan Stanley Capital International) Sweden standard, price return

The closing balance is then compiled as:

$$[[\text{Stock}]]_{UB} = ([[\text{Stock}]]_{IB} + F_{Net}/2) * (1 + V_{\%}) + (F_{Net}/2)$$

FNet = Net flows from monthly survey to financial Intermediaries by Statistics Sweden, compilers of Balance of Payments

V% = Value change in percent during the period

Stock UB = closing balance

Stock IB = opening balance

The foreign funds' return,  $U_t$  is calculated as

$$U_t = U_{\%t} \times [[\text{Stock}]]_{UBt}$$

By relating a price index to a return index, we can get information about the return rate;

$$U_{\%t} = ([[\text{Total return}]]_t / [[\text{Total return}]]_{(t-1)} - 1) - ([[\text{Price return}]]_t / [[\text{Price return}]]_{(t-1)} - 1)$$

Since the dividends are reinvested, offsetting entries has to be made in the financial account. The entire dividends are booked as reinvested.

#### *Example Reinvested Earnings on Swedish Funds*

Value change (V %) =

$$V_{\%} = \left[ \frac{(9718,6416)}{(9530,9700)} \right] - 1 = 1,9\%$$

Closing balance t =

$$Stock_{UB} = \left( 74\,852 + \frac{-137}{2} \right) * (1 + 1,9\%) + \left( \frac{-137}{2} \right) = 76\,135 \text{ MSEK}$$

The Swedish funds' return,  $U_t$ , =

$$U_t = 0,03\% \times 76\,135 = 228 \text{ MSEK}$$

$$U_{\%t} = \left( \frac{39\,126}{38\,361} - 1 \right) - \left( \frac{9\,718}{9\,530} - 1 \right) = 0,03\%$$

#### *8.4.4.4 Rent on land and sub-soil assets*

*Sources and procedures used to identify and cover cross-border flows of rent on land receivable by the landowner, including owners of inland waters and rivers (ESA2010 §4.72-4.72) and flows of royalties receivable by the units for granting the right to exploit subsoil assets (ESA2010 §4.74)*

Cross-border flows of rent on land receivable by the landowner, including owners of inland waters and rivers are collected through the quarterly survey on Trade in services. The item in the survey is defined as: rental of land for the extraction of natural resources includes the amounts to be paid for the use of land, extracting mineral deposits and other mineral resources, fisheries, agriculture, forestry and grazing rights. The regular payments made by the lessees for the lease of natural resources are often recorded as royalties, and are not recorded as rents in accordance with ESA §4.74.

The collected data refers to rents that are payable in the quarter that are surveyed.

## Chapter 9 Main classifications used

### 9.1 Classifications used for the production approach

#### Production broken down by industry classification, NACE 2007 Rev 2

NA divisions	NACE divisions*	Description
A01	01	Crop and animal production, hunting and related service activities
A02	02	Forestry and logging
A03	03	Fishing and aquaculture
B05-B06	05 + 06	Mining of coal and lignite and extraction of crude petroleum and natural gas
B07	07	Mining of metal ores
B08-B09	08 + 09	Other mining and quarrying and mining support service activities
C101	10.1	Processing and preserving of meat and production of meat products
C10A	10.2-3	Processing and preserving of fish, crustaceans, molluscs, fruit and vegetables
C10B	10.4-5	Manufacture of vegetable and animal oils and fats and dairy products
C10C	10.6-7	Manufacture of grain mill products, starches and starch-, bakery- and farinaceous products
C10D	10.8-9	Manufacture of other food products and prepared animal feeds
C11	11	Manufacture of beverages
C12	12	Manufacture of tobacco products
C13-C15	13 + 14 + 15	Manufacture of textiles, wearing apparel, leather and related products
C161	16.1	Sawmilling and planing of wood
C162	16.2	Manufacture of products of wood, cork, straw and plaiting materials
C1711	17.11	Manufacture of pulp
C1712	17.12	Manufacture of paper and paperboard
C172	17.2	Manufacture of articles of paper and paperboard
C18	18	Printing and reproduction of recorded media
C19	19	Manufacture of coke and refined petroleum products
C20	20	Manufacture of chemicals and chemical products
C21	21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C22	22	Manufacture of rubber and plastic products
C23	23	Manufacture of other non-metallic mineral products
C241	24.1	Manufacture of basic iron and steel and of ferro-alloys
C24A	24.2-3	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel and other products of first processing of steel
C24B	24.4-5	Manufacture of basic precious, other non-ferrous metals and casting of metals
C25A	25.1-4	Manufacture of structural metal products, tanks, reservoirs and containers of metal, steam generators except central heating and hot water boilers; weapons and ammunition
C25B	25.5-9	Forging, pressing, stamping and roll-forming of metal; powder metallurgy. Treatment and coating of metals; machining. Manufacture of cutlery, tools and general hardware and other fabricated metal products
C26A	26.1-4	Manufacture of electronic components and boards, computers and peripheral equipment, communications equipment and consumer electronics
C26B	26.5-8	Manufacture of instruments and appliances for measuring, testing and navigation; watches and clocks, irradiation, electro medical and electrotherapeutic equipment, optical instruments and photographic equipment and magnetic and optical media

NA divisions	NACE divisions*	Description
C27A	27.1-4 + 27.9	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus, batteries and accumulators, wiring and wiring devices, electric lighting equipment and other electrical equipment
C275	27.5	Manufacture of domestic appliances
C28	28	Manufacture of machinery and equipment n.e.c.
C29	29	Manufacture of motor vehicles, trailers and semi-trailers
C30	30	Manufacture of other transport equipment
C31	31	Manufacture of furniture
C32A	32.1-4 + 32.9	Manufacture of jewellery, bijouterie and related articles, musical instruments, sports goods, games and toys and other manufacturing n.e.c.
C325	32.5	Manufacture of medical and dental instruments and supplies
C33	33	Repair and installation of machinery and equipment
D351	35.1	Electric power generation, transmission and distribution
D352	35.2	Manufacture of gas; distribution of gaseous fuels through mains
D353	35.3	Steam and air conditioning supply
E36_37	36 + 37	Water collection, treatment and supply and sewerage
E38_39	38 + 39	Waste collection, treatment and disposal activities; materials recovery and remediation activities and other waste management services
F41_43	41 + 42 + 43	Construction
G45	45	Wholesale and retail trade and repair of motor vehicles and motorcycles
G46	46	Wholesale trade, except of motor vehicles and motorcycles
G47	47	Retail trade, except of motor vehicles and motorcycles
H49A	49.1-2	Passenger rail transport, interurban and freight rail transport
H49B	49.31 + 49.39	Urban and suburban passenger land transport and other passenger land transport n.e.c.
H49C	49.32	Taxi operation
H49D	49.4-5	Freight transport by road and removal services and transport via pipeline
H50	50	Water transport
H51	51	Air transport
H52A	52.1-24	Warehousing and storage and support activities for transportation excl. support activities
H52B	52.29	Other transportation support activities
H53	53	Postal and courier activities
I55	55	Accommodation
I56	56	Food and beverage service activities
J58	58	Publishing activities
J59	59	Motion picture, video and television programme production, sound recording and music publishing activities
J60	60	Programming and broadcasting activities
J61	61	Telecommunications
J62	62	Computer programming, consultancy and related activities
J63	63	Information service activities
K64	64	Financial service activities, except insurance and pension funding
K65	65	Insurance, reinsurance and pension funding, except compulsory social security
K66	66	Activities auxiliary to financial services and insurance activities
L68A	68.1-2	Owner-occupied dwellings and secondary residences

NA divisions	NACE divisions*	Description
L68B	68.3	Other real estate activities
M69	69	Legal and accounting activities
M70	70	Activities of head offices; management consultancy activities
M71	71	Architectural and engineering activities; technical testing and analysis
M72	72	Scientific research and development
M73	73	Advertising and market research
M74	74	Other professional, scientific and technical activities
M75	75	Veterinary activities
N77	77	Rental and leasing activities
N78	78	Employment activities
N79	79	Travel agency, tour operator reservation service and related activities
N80	80	Security and investigation activities
N81	81	Services to buildings and landscape activities
N82A	82	Office administrative, office support and other business support activities
N82SAM* *	82	Office administrative, office support and other business support activities for Samhall**
O84	84	Public administration and defence; compulsory social security
P85	85	Education
Q86	86	Human health activities
Q87	87	Residential care activities
Q88	88	Social work activities without accommodation
R90_92	90 + 91 + 92	Creative, arts, entertainment, libraries, archives, museums, other cultural, gambling and sports activities
R93	93	Sports activities and amusement and recreation activities
S94	94	Activities of membership organisations
S95	95	Repair of computers and personal and household goods
S96	96	Other personal service activities
T97_98	97 + 98	Activities of households as employers of domestic personnel and undifferentiated goods- and service-producing activities of private households for own use
U99	99	Activities of extraterritorial organisations and bodies
*NACE revision 2 ** Samhall is a state-owned company with a mandate to create work that furthers the development of people with functional impairment causing reduced working capacity.		

### Classifications used for the production approach broken down by product

SPIN 2007 is the Swedish application of EU product classification, classification of products by Activity (CPA) whose revised version goes by the name CPA 2008. The code structure of SPIN 2007 is adapted to the CPA structure in accordance with the regulation of the CPA 2008. SPIN has a hierarchical classification with six levels (six first numbers in the SPIN-code). The first four levels of SPIN2007 are consistent with first four levels of the CPA 2008. SPIN:s fifth level, fifth number in the SPIN-code, and following levels are not consistent with CPA.

### Production broken down by product classification

Product Groups	SPIN 2007	Description
A0111A	0111001 - 0111010	Cereals
A0113001	0113001	Potatoes
A01130EG	0113001	Potatoes for home consumption
A0113A	0113 excl. 0113001 - 0113002	Vegetables, melons, roots and tubers excl. potatoes and sugar beet
A0115	0115000	Raw tobacco
A0116	0116001 - 0116003	Fiber crops
A0119	01190	Other non-perennial crops
A011A	0111011 - 0112	Leguminous crops, oil seeds and rice, not husked
A011B	0113002, 0114000	Sugar beet and sugar cane
A0127	0127	Beverage crops
A012A	0121 - 0126	Fruits, berries and nuts
A0146	0146	Swine
A01471	01471	Poultry eggs
A01471EG	01471	Poultry eggs for home consumption
A01472	01472	Poultry for slaughtering
A01491	01491	Reindeers for slaughtering
A01492	01492	Pet animals
A0149A	01499 excl. 0149903	Other farmed animals and products excl. raw milk
A014A	0141002 , 0145003 - 0145004, 0149903	Raw milk
A014AEG	0141002 , 0145003 - 0145004, 0149903	Milk for home consumption
A014B	0141 - 0142 excl. 0141002	Cattle
A014C	0143 - 0144	Horses, camels
A014D	0145 excl. 0145003 - 0145004	Sheep, goats
A014E	part of 014	Livestock for breeding and dairy cattle
A016A	016	Agricultural and animal husbandry services (except veterinary services)
A017	0170000	Hunting and trapping and related services
A01A	0128 - 0130	Spices, planting material and other perennial crops
A02101	02101	Forest trees
A02102A	part of 02102	Forest drainage
A02102S	part of 02102	Forest management and logging (public sector internal)
A02109A	part of 02109	Energy crops
A0210A	part of 02102, part of 02109	Forestry services, seedling and seeds
A0220004	0220004	Fuel wood
A022A	part of 02200	Pulpwood
A022B	part of 02200	Saw timber
A023	02300	Wild-growing non-wood products
A024	02400	Support services to forestry
A03	03	Fish and other fishing products; aquaculture products; support services to fishing
B05	05	Coal and lignite
B061	06100	Crude petroleum
B062	06200	Natural gas
B071	07100	Iron ores
B0721	0721	Uranium and thorium ores
B0729	0729	Other non-ferrous metal

Product Groups	SPIN 2007	Description
B0811	08110	Ornamental and building stone, limestone, gypsum, chalk and slate
B0812	08120	Gravel, sand, clays and kaolin
B0891	08910	Chemical and fertiliser minerals
B0892	08920	Peat
B0893	08930	Salt and pure sodium chloride; sea water
B0899	08990	Other mining and quarrying products n.e.c.
B09	09	Mining support services
C1011	1011	Processed and preserved meat
C1012	10120	Processed and preserved poultry meat
C1013	10130	Meat and poultry meat products
C102	10200	Processed and preserved fish, crustaceans and mollusks
C103	103	Processed and preserved fruit and vegetables
C1041	10410	Oils and fats
C1042	10420	Margarine and similar edible fats
C10511	10511	Cheese and curd
C10519	10519	Other dairy products than cheese
C1052	10520	Ice cream
C1061	1061	Grain mill products
C1062	10620	Starches and starch products
C107	107	Bakery and farinaceous products
C1081	10810	Sugar
C1082	1082	Cocoa, chocolate and sugar confectionery
C1083	10830	Processed tea and coffee
C1084	10840	Condiments and seasonings
C1085	10850	Prepared meals and dishes
C108A	10860, 10890	Homogenized food preparations and dietetic food and other food products n.e.c.
C1091	10910	Prepared animal feeds
C1092	10920	Prepared pet foods
C1101	1101	Distilled alcoholic beverages
C1105	1105	Beer
C1106	1106	Malt
C1107	1107	Soft drink, mineral water and other bottled waters
C110A	1102, 1103, 1104	Wine from grapes, cider and other fruit wines, other non-distilled fermented beverages
C12	12	Tobacco products
C133	133	Textile finishing services
C139A	1391 -1393	Knitted fabrics, made-up textile articles except apparel, carpets and rugs
C139B	1394 - 1399	Technical fabrics and other textiles
C13A	131, 132	Yarn and thread, woven textiles
C14	14	Wearing apparel
C1511	1511	Tanned and dressed leather; dressed and dyed fur
C1512	1512	Luggage, handbags, saddlery and harness etc.
C152	152	Footwear
C161	16101 - 16103	Sawn or planed wood and impregnated wood products and services
C16231	16231	Prefabricated wooden buildings
C1623A	16232, 16233, 16239	Builders' carpentry and joinery
C1624	1624	Wooden containers
C16291	16291	Wood fuels
C1629A	16292, 16293	Other products of wood, product of cork, straw and plaiting materials
C162A	1621, 1622	Veneer sheets and wood-based panels, assambled parquet flooring
C17111	17111	Mechanical or semi-chemical pulp
C1711A	17112, 17113	Sulfate pulp and sulfite pulp
C17121	17121	Newsprint
C17122	17122	Other printing paper
C17123	17123	Kraft paper and paperboard

Product Groups	SPIN 2007	Description
C17129	17129	Other paper and paperboard
C1721	1721	Corrugated paper and paperboard and containers of paper and paperboard
C1722	1722	Household and sanitary goods and toilet requisites
C1724	1724	Wallpaper
C172A	1723, 1729	Other articles of paper or paperboard incl. paper stationery
C181	181	Printing services and services related to printing
C182	182	Reproduction services of recorded media
C1910004	1910004	Sub-contracted operations as part of manufacturing of coke oven products
C191000A	1910002, 1910003	Mineral tars, pitch and pitch coke
C1920003	1920003	Briquettes and similar solid fuels manufactured from peat
C192000B	part of 1920004	Motor gasoline excluding aviation gasoline
C192000C	part of 1920004, 1920005, 1920008	Spirit type (gasoline type) jet fuel, aviation gasoline and kerosene-type jet fuel
C192000D	1920006, 1920007, 1920010	Kerosene (excl. jet fuel), light oils and other medium oils
C192000E	part of 1920009	Diesel oil
C192000F	part of 1920009	Light fuel oil
C1920011	1920011	Fuel oils n.e.c.
C1920012	1920012	Lubricating petroleum oils; heavy preparations n.e.c.
C1920013	1920013	Propane and butane, liquefied
C1920014	1920014	Ethylene, propylene, butylene, butadiene and other petroleum gases or gaseous hydrocarbons, except natural gas
C1920015	1920015	Petroleum jelly; paraffin wax; petroleum and other waxes
C1920016	1920016	Petroleum coke; petroleum bitumen and other residues of petroleum oils
C1920017	1920017	Sub-contracted operations as part of manufacturing of refined petroleum products
C19A	1910001, 1920001 - 1920002	Coke, briquettes from coal and lignite
C2011	2011	Industrial gases
C2012	20120	Dyes and pigments
C2013A	2013001 - 2013004	Uranium and other radioactive substances
C2013B	2013005 - 2013025	Other basic inorganic chemicals (excluding radioactive)
C2014A	part of 2014	Tall oil, charcoal, black liquor from pulp production from wood
C2014B	part of 2014	Ethanol and other spirits denatured
C2014C	part of 2014	Other basic organic chemicals
C2015	2015	Fertilizers and nitrogen compounds
C2016	2016	Plastics in primary forms
C2017	2017	Synthetic rubber in primary forms
C202	202	Pesticides and other agrochemical products
C203	203	Paints, varnishes and similar coatings, printing ink and mastics
C204	204	Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
C205	205	Other chemical products
C206	206	Man-made fibers
C211	211	Basic pharmaceutical products
C212	212	Pharmaceutical preparations
C2211	2211	Rubber tyres and tubes; retreading and rebuilding of rubber tyres
C2219	2219	Other rubber products
C2222	2222	Plastic packing goods
C2223	2223	Builders' ware of plastic
C222A	2221, 2229	Other plastic products
C2313	2313	Hollow glass
C2314	2314	Glass fibres
C2319	2319	Other processed glass, including technical glassware
C231A	2311, 2312	Flat glass incl. shaped and processed
C234	234	Other porcelain and ceramic products
C235	235	Cement, lime and plaster



C236	236	Articles of concrete, cement and plaster
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Product Groups	SPIN 2007	Description
C237	237	Cut, shaped and finished stone
C239	239	Other non-metallic mineral products
C23A	232, 233	Refractory products, clay building material
C241	241	Basic iron and steel and ferroalloys
C242	242	Tubes, pipes, hollow profiles and related fittings, of steel
C243	243	Other products of first processing of steel
C2441	2441	Precious metals
C2442	2442	Aluminum
C2443	2443	Lead, zinc and tin
C2444	2444	Copper
C2445	2445	Other non-ferrous metal
C2446	2446	Processed nuclear fuel
C245	245	Casting services of metals
C251	251	Structural metal products
C252	252	Tanks, reservoirs and containers of metal
C253	253	Steam generators, except central heating hot water boilers
C254	254	Weapons and ammunition
C255	255	Forging, pressing, stamping and roll forming of metal; powder metallurgy
C256	256	Treatment and coating services of metals; machining
C257	257	Cutlery, tools and general hardware
C259	259	Other fabricated metal products
C261	261	Electronic components and boards
C262	262	Computers and peripheral equipment
C263	263	Communication equipment
C264	264	Consumer electronics
C2651	2651	Measuring, testing and navigating equipment
C2652	2652	Watches and clocks
C266	266	Irradiation, electro medical and electrotherapeutic equipment
C267	267	Optical instruments and photographic equipment
C268	268	Magnetic and optical media
C2711	2711	Electric motors, generators and transformers
C2712	2712	Electricity distribution and control apparatus
C272	272	Batteries and accumulators
C273	273	Wiring and wiring devices
C274	274	Electric lighting equipment
C2751A	part of 2751	Refrigeration and freezers, washing machines and other white goods
C2751B	part of 2751	Electric domestic appliances n.e.c.
C2752	2752	Non-electric domestic appliances
C279	279	Other electrical equipment
C281	281	General-purpose machinery
C2822	2822	Lifting and handling equipment
C2823	2823	Office machinery and equipment (except computers and peripheral equipment)
C282A	2821, 2824 - 2829	Other general-purpose machinery n.e.c
C283	283	Agricultural and forestry machinery
C284	284	Metal forming machinery and machine tools
C2891	2891	Machinery for metallurgy
C2892	2892	Machinery for mining, quarrying and construction
C2893	2893	Machinery for food, beverages, tobacco processing
C2894	2894	Machinery for textile, apparel and leather production
C2895	2895	Machinery for paper and paperboard production
C2896	2896	Plastics and rubber machinery
C2899	2899	Other special-purpose machinery n.e.c.

Product Groups	SPIN 2007	Description
C291A	291	Motor vehicles
C291X		Used motor vehicles
C292	292	Bodies (coachwork) for motor vehicles; trailers and semi-trailers
C2931	2931	Electrical and electronic equipment for motor vehicles
C2932	2932	Other parts and accessories for motor vehicles
C3011	3011	Ships and floating structures
C3011X		Used ships and floating structures
C3012	3012	Pleasure and sporting boats
C302	302	Railway locomotives and rolling stock
C303	303	Air and spacecraft and related machinery
C304	304	Military fighting vehicles
C3091	3091	Motorcycles
C3092	3092	Bicycles and invalid carriages
C3099	3099	Other transport equipment n.e.c.
C31	31	Furniture
C323	323	Sports goods
C324	324	Games and toys
C32501	32501	Medical and dental instruments and supplies
C32502	32502	Artificial teeth, dentures, dental plates etc.
C329	329	Manufactured goods n.e.c.
C32A	321, 322	Jewelry, bijouterie and related articles, musical instruments
C3311	3311	Repair services of fabricated metal products
C3313	3313	Repair services of electronic and optical equipment
C3314	3314	Repair services of electrical equipment
C3315	3315	Repair and maintenance services of ships and boats
C3316	3316	Repair and maintenance services of aircraft and spacecraft
C3317	3317	Repair and maintenance services of other transport equipment
C331A	3312, 3319	Repair services of machinery and of other equipment
C332	332	Installation services of industrial machinery and equipment
D351	351	Electricity, transmission and distribution services
D352	352	Manufactured gas, distribution services of gaseous fuels through mains
D353	353	Steam and air conditioning supply services
E36_37	36, 37	Natural water; water treatment and supply services; Sewerage services; sewage sludge
E381A	part of 381	Waste collection services
E381X	part of 381	Waste of iron and steel
E381Y	part of 381	Waste of metals other than iron and steel
E382	382	Services treatment and disposal services
E3831	3831	Dismantling services of wrecks
E38320A	3832001, 3832003 - 3832008	Sorted metal materials recovery services; Secondary raw material of metals
E38320B	3832002, 3832009 - 3832014	Sorted non-metal materials recovery services; Secondary raw material of non-metal
E38320X	3832	Recycling of trash
E39	39	Remediation services and other waste management services
F41_43	41-43	Constructions and construction works
G45A	452, 4540005	Maintenance and repair services of motor vehicles incl. motorcycles
G4A	part of 45, part of 46, part of 47	Merchanting
G4B	part of 45, part of 46	Commissions, Swedish products
G4C	part of 45, part of 46	Commission, imported products
G4D	part of 45, part of 46, part of 47	Trade margins
H491A	part of 491	Passenger rail transport services
H491B	part of 491	Passenger rail transport services, contract

H492	492	Freight rail transport services
H4932	4932	Taxi operation services

Product Groups	SPIN 2007	Description
H493A	4931, 4939	Other passenger land transport services n.e.c.
H4942001	4942001	Removal services for households
H494A	4941, 4942002	Freight transport services by road; Other removal services
H50A	part of 501, part of 503	Water transport services, passengers
H50B	part of 502, part of 504	Water transport services, goods
H50C	part of 50	Rental services of vessels with crew
H511	511	Passenger air transport services
H512	512	Freight air transport and space transport services
H521	521	Warehousing and storage services
H5221906	5221906	Parking lot services
H5221907	5221907	Taxi operation services incidental to road transportation
H52219A	5221904 - 5221905	Highway operation services; Bridges and tunnel operation services
H5221A	52211, 5221901 - 5221903, 5221908 - 5221909	Other services incidental to land transportation
H522200 A	5222001 - 5222002, 5222005 - 5222007	Other services incidental to water transportation
H522200 B	5222003 - 5222004	Pilotage and berthing services
H5223	5223	Services incidental to air transportation
H5224	5224	Cargo handling services
H5229	5229	Other transportation support services
H522OPE A		Public production for own final consumption. Other services incidental to land transportation
H53	53	Other transportation support services n.e.c.
I551	551	Hotel and similar accommodation services
I55A	552 - 559	Other accommodation services
I562A	5621, 56292 - 56299	Event catering services and other food serving services excl. canteen services
I56A	561, 56291, 563	Restaurant and mobile food serving services; canteen services; beverage serving services
J581	581	Publishing services of books, periodicals and other publishing services
J582	582	Software publishing services
J591	591	Motion picture, video and television program services
J592	592	Sound recording and music publishing services
J60	60	Licensing services for the right to use acoustic originals
J611	611	Wired telecommunications services
J612	612	Wireless telecommunications services
J61A	613, 619	Services of satellite and other telecommunications
J62A	6201, 6202001, 6202002	Computer programming services; IT design and development services
J62AEG		Computer programming services; IT design and development services produced on own account
J62B	6202003, 6203, 6209	IT technical support services; Computer facilities management services; Other information technology and computer services
J631	631	Data processing, hosting and related services; web portals
J639	639	Other information services
K6411	6411	Central banking services
K64A		FISIM
K64B	64 excl. 6411 and FISIM	Financial services, except insurance and pension funding excl. central banking services and FISIM
K6511	6511	Life insurance services
K6512	6512	Non-life insurance services
K652	652	Reinsurance services
K653	653	Pension funding services
K65OPEA		Public production for own final consumption. Insurance
K66	66	Services auxiliary to financial services and insurance services

Product Groups	SPIN 2007	Description
L68201A	part of 68201	Imputed rentals for owner-occupiers
L68201B	part of 68201	Imputed rentals for secondary residences
L68201C	part of 68201	Actual rentals paid by tenants
L682A	68202 - 68209	Other real estate letting
L682HPEA		NPISH production for own final consumption. Other real estate letting
L682L		Other real estate letting (public sector internal)
L682PK		Other real estate letting (public sector internal)
L682S		Other real estate letting (public sector internal)
L68C	681, 683	Buying and selling services of own real estate; Real estate services on a fee or contract basis
M691	691	Legal services
M692	692	Accounting, bookkeeping and auditing services; tax consulting services
M69S		Legal and accounting services (public sector internal)
M701	701	Services of head offices
M702	702	Management consulting services
M7111	7111	Architectural services
M7112	7112	Engineering services and related technical consulting services
M711A		Construction services abroad
M711S		Architectural and engineering services and related technical consulting services (public sector internal)
M712	712	Technical testing and analysis services
M712S		Technical testing and analysis services, (public sector internal)
M72	72	Scientific research and development services
M72EG		Scientific research and development services, produced on own account
M72HPEA		NPISH production for own final consumption. Scientific research and development services
M72OPEA		Public production for own final consumption. Scientific research and development services
M72S		Scientific research and development services (public sector internal)
M7312	7312	Media representation services
M73A	7311, 732	Other advertising and market research services
M741	741	Specialised design services
M742	742	Photographic services
M74A	743, 749	Translation and interpretation services; Other professional, scientific and technical services n.e.c.
M75	75	Veterinary services
N7710		Car benefits
N7711	77100A	Rental and leasing services of cars and light motor vehicles
N7712	7712	Rental and leasing services of trucks
N772	772	Rental and leasing services of personal and household goods
N773	773	Rental and leasing services of other machinery, equipment and tangible goods
N774	774	Licensing services for the right to use intellectual property and similar products, except copyrighted works
N78	78	Employment services
N7912	7912	Tour operator services
N79A	7911, 799	Travel agency services and other reservation services and related services
N79AOPEA		Public production for own final consumption. Travel agency services and other reservation services and related services
N80	80	Security and investigation services
N811	811	Combined facilities support services
N812	812	Cleaning services
N813	813	Landscape services
N82	82	Office administrative and support services

Product Groups	SPIN 2007	Description
O84A	8411, 8421	General public administration and foreign affair services
O84B	841 excl. 8411	Administration services of the State and the economic and social policy of the community excl. general public administration
O84BPK		Administration services of the State and the economic and social policy of the community excl. general public administration, (public sector internal)
O84BS		Administration services of the State and the economic and social policy of the community excl. general public administration, (public sector internal)
O84C	842 excl. 8421	Provision of services to the community as a whole excl. foreign affair services
O84CS		Provision of services to the community as a whole excl. foreign affair services, (public sector internal)
O84OPE A		Public production for own final consumption. Public administration and defense services; compulsory social security services
P851	851	Pre-primary education services
P852	852	Primary education services
P853	853	Secondary education services
P854	854	Higher education services
P854S		Higher education services and other post-secondary programs (public sector internal)
P8553	8553	Driving school services
P8559A	part of 8559	Other education services; employment training
P855A	8551, 8552, 85592, 85993, 85594, 85599	Sports and recreation education services; cultural education services; other education services
P855AS		Sports and recreation education services; cultural education services; other education services, (public sector internal)
P856	85600	Educational support services
P85HPEA		NPISH production for own final consumption. Education services
P85OPEA		Public production for own final consumption. Education services
Q861	861	Hospital services
Q8621201	8621201	Occupational health services
Q862120 S		General medical practice services, (public sector internal)
Q86221	86221	Specialist medical practice services, at hospitals
Q862A	86211, 86222	General primary medical practice services and specialist medical practice services, not at hospitals
Q86901	86901	Medical laboratory services etc.
Q86902	86902	Ambulance services
Q86A	8623, 86904	Dental practice and dental hygiene services
Q86B	8621202, 86903, 86905, 86909	Other general care without doctors
Q86HPE A		NPISH production for own final consumption. Healthcare
Q86OPE A		Public production for own final consumption. Healthcare
Q87A	871, 87301	Residential nursing care services and residential care services for the elderly
Q87B	87201, 87302	Residential care services for disabled suffering from mental retardation, mental health illnesses and substance abuse and residential care services for the disabled
Q87C	87202, 87901	Residential care services for children suffering from mental retardation, mental health illnesses and substance abuse and other social work services with accommodation for children and young people
Q87D	87203, 87902	Residential care services for adults suffering from mental retardation, mental health illnesses and substance abuse and other social work services with accommodation for adults
Q87HPE A		NPISH production for own final consumption. Care with accommodation
Q87OPE A		Public production for own final consumption. Care with accommodation
Q88101	88101	Social work services without accommodation for the elderly
Q88102	88102	Social work services without accommodation for the disabled

Q8891	8891	Child day-care services
Q88991	88991	Guidance and counselling services n.e.c. related to children and young people
Q8899A	88992 - 88995	Social work for adults and operation services pf refugee camps
Q88HPE A		NPISH production for own final consumption. Social work services without accommodation
Q88OPE A		Public production for own final consumption. Social work services without accommodation
R90	90	Creative, arts and entertainment services
R90HPE A		NPISH production for own final consumption. Culture
R90OPE A		Public production for own final consumption. Culture and libraries

Product Groups	SPIN 2007	Description
R91	91	Library, archive, museum and other cultural services
R91S		Library, archive, museum and other cultural services, (public sector internal)
R92	92	Gambling and betting services
R931	931	Sporting services
R932	932	Amusement and recreation services
R93HPEA		NPISH production for own final consumption. Sporting services and amusement and recreation services
R93OPEA		Public production for own final consumption. Sporting services and amusement and recreation services
S941	9411, 9412	Services furnished by business, employers and professional membership organizations
S942	942	Services furnished by trade unions
S9491	9491	Services furnished by religious organizations
S949A	9492, 9499	Services furnished by political and other membership organizations
S94HPEA		NPISH production for own final consumption. Services furnished by membership organizations
S94OPEA		Public production for own final consumption. Services furnished by membership organizations
S951	951	Repair services of computers and communication equipment
S952	952	Repair services of personal and household goods
S9601	9601	Washing and (dry-)cleaning services of textile and fur products
S9602	9602	Hairdressing and other beauty treatment services
S9603	9603	Funeral and related services
S9604	9604	Physical well-being services
S9609	9609	Other personal services n.e.c.
T97	97	Services of households as employers of domestic personnel
T98	98	Undifferentiated goods and services produced by private households for own use
U99	99	Services provided by extraterritorial organizations and bodies

## 9.2 Classifications used for the income approach

The classifications of wages and salaries are broken down by industry in the same way as GDP from production approach.

### 9.3 Classifications used for the expenditure approach

Capital formation broken down by type of assets.

Type of capital	ESA2010	Description
11	AN.1151	Livestock for breeding and dairy cattle
12	AN.1151	Trotting horses and draught animals
14	AN.1152	Other forest management measures
22	AN.113	Machinery and equipment
221	AN.1132	Computer hardware
222	AN.1132	Telecommunications
23	AN.1139	1-2 year investments
26	AN.114	Weapon systems machinery
28	AN.1139	Machine leasing
311	AN.11311	Cars, trucks, buses and trailers
32	AN.113	Railway machines
331	AN.11312	Ships and boats including fishing vessels
332	AN.11313	Second-hand ships and boats
34	AN.1131	Off-shore
35	AN.1131	Aircrafts
36	AN.11420	Weapons systems and vehicles
37	AN.1131	Vehicles leasing
41	AN.111	Newly built multiple-occupancy buildings
42	AN.111	Newly built one and two family dwellings
43	AN.111	Reconstruction and extension of multiple-occupancy buildings
44	AN.111	Reconstruction and extension of one and two family dwellings
51	AN.1122	Roads
52	AN.112	Drainage
53	AN.11150	Holiday/weekend homes
54	AN.1121	Buildings financed by insurance
56	AN.114	Weapons systems within buildings
59	AN.1121	Other buildings and structures
61	AN.11160	Cost of ownership transfers
62	AN.1172	Mineral exploration
631	AN.11731	Computer software, purchased
632	AN.11732	Computer software, produced on own account
641	AN.1174	Film
642	AN.1174	Entertainment, literary and artistic originals
671	AN.1171	R&D
671	AN.1171	R&D, purchased
672	AN.1171	R&D, own production

**Household consumption broken down by COICOP-classification.**

<b>COICOP</b>	<b>Description</b>
01	Food and non-alcoholic beverages
011	Food
0111	Bread and cereals
0112	Meat
0113	Fish
0114	Milk, cheese and eggs
0115	Oils and fats
0116	Fruit
0117	Vegetables
0118	Sweets, ice-cream, jams, marmalades and confectionery
0119	Salt, spices, sauces and homogenized baby food
012	Non-alcoholic beverages
0121	Coffee, tea and drinking chocolate
0122	Soft drinks, fruit and vegetable juices and mineral waters
02	Alcoholic beverages, tobacco and narcotics
0211	Spirits
0212	Wine
0213	Beer
022	Tobacco
023	Narcotics
03	Clothing and footwear
031	Clothing
0311	Clothing materials
0312	Garments
0313	Clothing accessories, sewing requisites and yarn
0314	Mending, hire and dry-cleaning/laundrying of clothing
032	Footwear
0321	Shoes
0322	Repair and hire of footwear
04	Housing, water, electricity, gas and other fuels
041	Actual rentals for housing
0411	Actual rents paid by tenants, unheated rental
0412	Tenant-ownership right, utility value (unheated rental)
042	Imputed rentals for housing
0421	Individual house, utility value (unheated rental)
0422	Holiday home, utility value (unheated rental)
043	Maintenance and repair of the dwelling
0431	Materials for the maintenance and repair of the dwelling
0432	Services for the maintenance and repair of the dwelling
045	Electricity, gas and other fuels
0451	Electricity
0452	Gas



COICOP	Description
0453	Liquid fuels; oil, kerosene and LPG
0454	Solid fuels; wood, coal, pellets and woodchips
0455	District heating
05	Furnishings, household equipment and routine household maintenance
051	Furniture and furnishings, carpets and other floor coverings
0511	Furniture, fittings, furnishings and pictures
0512	Carpets, including fitted floor coverings
0513	Furniture repairs
052	Household textiles
053	Household appliances
0531	Major household appliances as additional equipment
0532	Smaller household electric appliances
0533	Repair of household appliances
054	Glassware, tableware and household utensils
055	Tools and equipment for house and garden
0551	Major motorized tools and equipment
0552	Hand tools, garden tools, fittings, batteries and lamps
056	Goods and services for routine household maintenance
0561	Non-durable household goods and cleaning products
0562	Domestic and household services; household cleaning, dry-cleaning, laundering and hire of household furnishings
06	Health
061	Medical products, appliances and equipment
0611	Medicines and vitamins
0612	Other medical products
0613	Spectacles, lenses, etc
062	Outpatient services
0621	Out-patient medical services, patient charges
0622	Dental treatment, patient charges
0623	Gymnastic therapy, chiropractors, physiotherapists, etc.; patient charges
063	Hospital services
07	Transport
071	Purchase of vehicles
0711	Cars
0712	Motorcycles, scooters, mopeds and motocross
0713	Bicycles
072	Operation of personal transport equipment
0721	Spare parts and accessories
0722	Fuels and lubricants; petrol, diesel, oil, glycol and mentholated spirit
0723	Maintenance and repair
0724	Other vehicle services; parking, driving licence and concessionary car
073	Transport services
0731	Railway transport

COICOP	Description
0732	Road transport; taxi and long-distance bus transport
0733	Air transport
0734	Sea transport
0735	Combined passenger transport
0736	Other transport services; removals
08	Communication
081	Postal services; Telephone and telefax equipment and -services
0811	Postal services
0812	Telephone and telefax equipment
0813	Telephone and telefax services
09	Recreation and culture
091	Audio-visual, photographic and information processing equipment
0911	Equipment for the reception, recording and reproduction of sound and pictures; television, radio etc.
0912	Cameras, other photographic equipment and optical instruments
0913	IT equipment; PCs, printers, accessories and calculators, typewriters.
0914	Film, CDs, cassettes; pre-recorded and unrecorded
0915	Repair of audiovisual, photographic and IT equipment
092	Other major durables for recreation and culture
0921	Major durables for recreation and culture; caravans, boats and sporting equipment
0922	Musical instruments and equipment for indoor activities
0923	Repair and maintenance of major durables for recreation
093	Other recreational items and equipment, gardens and pets
0931	Toys, games, Christmas decorations, fireworks and accessories and hobby items
0932	Sports, fishing and camping equipment etc.
0933	Flowers, garden plants, Christmas trees, soils, fertilizers and pots
0934	Pets, pet food and equipment for animals
0935	Veterinary and other services for animals; animal boarding etc
094	Recreational and cultural services
0941	Sporting and recreational services; hire of equipment, participants' fees
0942	Cultural services; cinemas, museums, television licenses, photography and film processing
0943	Gaming; net amount of stake less winnings paid out
095	Newspapers, books and stationery
0951	Books incl. textbooks, excl. stamp albums
0952	Newspapers and magazines
0953	Other printed matter
0954	Stationery
096	Package holidays
10	Education
101	Pre-primary education and out-of-school charges, Higher education examinations
1011	Pre-primary education and out-of-school charges
1014	Higher education examinations
11	Restaurants and hotels

COICOP	Description
1111	Catering services
112	Accommodation services
12	Miscellaneous goods and services
121	Personal care
1211	Hairdressing and personal grooming
1212	Electric appliances for personal care
1213	Other products for personal grooming and beauty care
122	Prostitution
123	Personal effects n.e.c.
1231	Jewelry, clocks and watches incl. repairs
1232	Other personal effects, such as bags, baby carriages, baby chairs and miscellaneous accessories
124	Social protection
125	Insurance
1251	Life insurance
1252	Home insurance
1253	Health insurance
1254	Motor insurance
1255	Other insurance
126	Financial services n.e.c.
1261	FISIM
1262	Other financial services; e.g. bank and postal charges
127	Other services n.e.c.
15	Consumption of Swedes abroad, not classified
16	Consumption of foreign visitors in Sweden, not classified
	Non-profit institutions serving households
	Total consumption expenditure

Changes in inventories broken down by type of inventories.

Type of Inventories	Name	ESA2010 categories
LT310	Materials and suppliers for the mining and manufacturing industries	Materials and suppliers
LT370	Materials and suppliers for construction industries	Materials and suppliers
LT340	Materials and suppliers for electricity, gas and water industry	Materials and suppliers
LT350	Work in progress, agriculture	Work in progress
LT361	Work in progress, forestry industries, net growing of standing timber	Work in progress
LT321	Work in progress, mining and manufacturing industries	Work in progress
LT380	Work in progress, services industries	Work in progress
LT322	Finished goods, mining and manufacturing industries	Finished goods
LT361	Finished goods, forestry industries felled timber	Finished goods
LT323	Goods for resale, mining and manufacturing industries	Finished goods
LT330	Goods for resale, trade industries	Finished goods

**Government consumption broken down by COFOG-classification.**

Swedish-COFOG	Description	COFOG - ESA	ESA Description
01	General public services	01	01 - General public services
0111	Executive and legislative organs	01.1	01.1 - Executive and legislative organs, financial and fiscal affairs, external affairs
0112	Financial and fiscal affairs	01.1	01.1 - Executive and legislative organs, financial and fiscal affairs, external affairs
0113	External affairs	01.1	01.1 - Executive and legislative organs, financial and fiscal affairs, external affairs
0119	Executive and legislative organs, financial and fiscal affairs, external affairs n.e.c	01.1	01.1 - Executive and legislative organs, financial and fiscal affairs, external affairs
0121	Economic aid to developing countries and countries in transition	01.2	01.2 - Foreign economic aid
0122	Economic aid routed through international organizations	01.2	01.2 - Foreign economic aid
0129	Foreign economic aid n.e.c	01.2	01.2 - Foreign economic aid
0131	General personnel services	01.3	01.3 - General services
0132	Overall planning and statistical services	01.3	01.3 - General services
0133	Other general services	01.3	01.3 - General services
0139	General services n.e.c	01.3	01.3 - General services
0140	Basic research	01.4	01.4 - Basic research
0150	R&D General public services	01.5	01.5 - R&D General public services
0160	General public services n.e.c.	01.6	01.6 - General public services n.e.c.
0170	Public debt transactions	01.7	01.7 - Public debt transactions
0180	Transfers of a general character between different levels of government	01.8	01.8 - Transfers of a general character between different levels of government
02	Defence	02	02 - Defence
0210	Military defence	02.1	02.1 - Military defence
0220	Civil defence	02.2	02.2 - Civil defence
0230	Foreign military aid	02.3	02.3 - Foreign military aid
0240	R&D Defence	02.4	02.4 - R&D Defence
0250	Defence n.e.c.	02.5	02.5 - Defence n.e.c.
03	Public order and safety	03	03 - Public order and safety
0310	Police services	03.1	03.1 - Police services
0320	Fire-protection services	03.2	03.2 - Fire-protection services
0330	Law courts	03.3	03.3 - Law courts
0340	Prisons	03.4	03.4 - Prisons
0350	R&D Public order and safety	03.5	03.5 - R&D Public order and safety
0360	Public order and safety n.e.c.	03.6	03.6 - Public order and safety n.e.c.
04	Economic affairs	04	04 - Economic affairs
0411	General economic and commercial affairs	04.1	04.1 - General economic, commercial and labour affairs
0412	General labour affairs	04.1	04.1 - General economic, commercial and labour affairs
0419	General economic, commercial and labour affairs n.e.c	04.1	04.1 - General economic, commercial and labour affairs
0421	Agriculture	04.2	04.2 - Agriculture, forestry, fishing and hunting
0422	Forestry	04.2	04.2 - Agriculture, forestry, fishing and hunting
0423	Fishing and hunting	04.2	04.2 - Agriculture, forestry, fishing and hunting

Swedish-COFOG	Description	COFOG - ESA	ESA Description
0429	Agriculture, forestry, fishing and hunting n.e.c	04.2	04.2 - Agriculture, forestry, fishing and hunting
0431	Coal and other solid mineral fuels	04.3	04.3 - Fuel and energy
0432	Petroleum and natural gas	04.3	04.3 - Fuel and energy
0433	Nuclear fuel	04.3	04.3 - Fuel and energy
0434	Other fuels	04.3	04.3 - Fuel and energy
0435	Electricity	04.3	04.3 - Fuel and energy
04352	Electricity and heating plants	04.3	04.3 - Fuel and energy
043521	Generators	04.3	04.3 - Fuel and energy
0436	Non-electric energy	04.3	04.3 - Fuel and energy
04362	Gasworks	04.3	04.3 - Fuel and energy
04363	Heating plant	04.3	04.3 - Fuel and energy
0439	Fuel and energy n.e.c	04.3	04.3 - Fuel and energy
0441	Mining of mineral resources other than mineral fuels	04.4	04.4 - Mining, manufacturing and construction
0442	Manufacturing	04.4	04.4 - Mining, manufacturing and construction
0443	Construction	04.4	04.4 - Mining, manufacturing and construction
04432	Construction	04.4	04.4 - Mining, manufacturing and construction
0449	Mining, manufacturing and construction n.e.c	04.4	04.4 - Mining, manufacturing and construction
0451	Road transport	04.5	04.5 - Transport
04512	Public transport	04.5	04.5 - Transport
04513	Freight terminal, storage	04.5	04.5 - Transport
0452	Water transport	04.5	04.5 - Transport
04522	Shipping companies	04.5	04.5 - Transport
04523	Support services water transport	04.5	04.5 - Transport
0453	Railway transport	04.5	04.5 - Transport
0454	Air transport	04.5	04.5 - Transport
04542	Airports	04.5	04.5 - Transport
0455	Pipeline and other transport	04.5	04.5 - Transport
0459	Transport n.e.c	04.5	04.5 - Transport
0460	Communication	04.6	04.6 - Communication
0471	Distributive trades, storage and warehousing	04.7	04.7 - Other industries
04712	Wholesale and retail trade	04.7	04.7 - Other industries
04713	Other motor vehicle trade	04.7	04.7 - Other industries
04714	Wholesale trade	04.7	04.7 - Other industries
04715	Retail trade	04.7	04.7 - Other industries
0472	Hotels and restaurants	04.7	04.7 - Other industries
0473	Tourism	04.7	04.7 - Other industries
0474	Multi-purpose development projects	04.7	04.7 - Other industries

Swedish-COFOG	Description	COFOG - ESA	ESA Description
0479	Other industries n.e.c	04.7	04.7 - Other industries
0481	R&D General economic, commercial and labour affairs	04.8	04.8 - R&D Economic affairs
0482	R&D Agriculture, forestry, fishing and hunting	04.8	04.8 - R&D Economic affairs
0483	R&D Fuel and energy	04.8	04.8 - R&D Economic affairs
0484	R&D Mining, manufacturing and construction	04.8	04.8 - R&D Economic affairs
0485	R&D Transport	04.8	04.8 - R&D Economic affairs
04851	R&D Transport	04.8	04.8 - R&D Economic affairs
04852	Other R&D Transport	04.8	04.8 - R&D Economic affairs
0486	R&D Communication	04.8	04.8 - R&D Economic affairs
0487	R&D Other industries	04.8	04.8 - R&D Economic affairs
0489	R&D Economic affairs n.e.c	04.8	04.8 - R&D Economic affairs
0490	Economic affairs n.e.c	04.9	04.9 - Economic affairs n.e.c.
0492	Insurance	04.9	04.9 - Economic affairs n.e.c.
0493	Legal and economic services	04.9	04.9 - Economic affairs n.e.c.
0494	Real estate	04.9	04.9 - Economic affairs n.e.c.
05	Environmental protection	05	05 - Environmental protection
0510	Waste management	05.1	05.1 - Waste management
0512	Waste management, garbage and cleaning	05.1	05.1 - Waste management
0520	Waste water management	05.2	05.2 - Waste water management
0530	Pollution abatement	05.3	05.3 - Pollution abatement
0540	Protection of biodiversity and landscape	05.4	05.4 - Protection of biodiversity and landscape
0550	R&D Environmental protection	05.5	05.5 - R&D Environmental protection
0560	Environmental protection n.e.c.	05.6	05.6 - Environmental protection n.e.c.
06	Housing and community amenities	06	06 - Housing and community amenities
0610	Housing and community amenities	06.1	06.1 - Housing development
0612	Apartments	06.1	06.1 - Housing development
0620	Community development	06.2	06.2 - Community development
0630	Water supply	06.3	06.3 - Water supply
0632	Water and wastewater treatment plants	06.3	06.3 - Water supply
0640	Street lighting	06.4	06.4 - Street lighting
0650	R&D Housing and community amenities	06.5	06.5 - R&D Housing and community amenities
0651	R&D Housing and community amenities	06.5	06.5 - R&D Housing and community amenities
0652	Other R&D Housing and community amenities	06.5	06.5 - R&D Housing and community amenities
0660	Housing and community amenities n.e.c.	06.6	06.6 - Housing and community amenities n.e.c.
07	Health	07	07 - Health
0711	Pharmaceutical products	07.1	07.1 - Medical products, appliances and equipment
07111	Pharmaceutical products	07.1	07.1 - Medical products, appliances and equipment

Swedish-COFOG	Description	COFOG - ESA	ESA Description
07112	Administrative pharmaceutical products	07.1	07.1 - Medical products, appliances and equipment
0712	Other medical products	07.1	07.1 - Medical products, appliances and equipment
0713	Therapeutic aids	07.1	07.1 - Medical products, appliances and equipment
0719	Medical products, appliances and equipment n.e.c	07.1	07.1 - Medical products, appliances and equipment
0721	General medical services	07.2	07.2 - Outpatient services
0722	Specialized medical services	07.2	07.2 - Outpatient services
0723	Dental services	07.2	07.2 - Outpatient services
0724	Paramedical services	07.2	07.2 - Outpatient services
0729	Outpatient services n.e.c	07.2	07.2 - Outpatient services
0731	General hospital services	07.3	07.3 - Hospital services
0732	Specialized hospital services	07.3	07.3 - Hospital services
07321	Specialized hospital services	07.3	07.3 - Hospital services
07322	Administrative specialized hospital services	07.3	07.3 - Hospital services
0733	Medical and maternity center services	07.3	07.3 - Hospital services
0734	Nursing and convalescent home services	07.3	07.3 - Hospital services
0739	Hospital services n.e.c	07.3	07.3 - Hospital services
0740	Public health services	07.4	07.4 - Public health services
0741	Public health services	07.4	07.4 - Public health services
0742	Administrative public health services	07.4	07.4 - Public health services
0750	R&D health	07.5	07.5 - R&D Health
0751	R&D health	07.5	07.5 - R&D Health
0752	Administrative R&D health	07.5	07.5 - R&D Health
0760	Health n.e.c.	07.6	07.6 - Health n.e.c.
0761	Health n.e.c.	07.6	07.6 - Health n.e.c.
0762	Administrative health n.e.c.	07.6	07.6 - Health n.e.c.
08	Recreation, culture and religion	08	08 - Recreation, culture and religion
0810	Recreational and sporting services	08.1	08.1 - Recreational and sporting services
0820	Cultural services	08.2	08.2 - Cultural services
0830	Broadcasting and publishing services	08.3	08.3 - Broadcasting and publishing services
0840	Religious and other community services	08.4	08.4 - Religious and other community services
0850	R&D Recreation, culture and religion	08.5	08.5 - R&D Recreation, culture and religion
0851	R&D Recreation, culture and religion	08.5	08.5 - R&D Recreation, culture and religion
0852	Other R&D Recreation, culture and religion	08.5	08.5 - R&D Recreation, culture and religion
0860	Recreation, culture and religion n.e.c	08.6	08.6 - Recreation, culture and religion n.e.c.
09	Education	09	09 - Education
0911	Pre-primary education	09.1	09.1 - Pre-primary and primary education
09121	Primary education, elementary school	09.1	09.1 - Pre-primary and primary education

Swedish-COFOG	Description	COFOG - ESA	ESA Description
09122	Primary education, special school	09.1	09.1 - Pre-primary and primary education
09123	Primary education, adult education	09.1	09.1 - Pre-primary and primary education
0919	Pre-primary and primary education n.e.c	09.1	09.1 - Pre-primary and primary education
0921	Lower secondary school	09.2	09.2 - Secondary education
09221	Upper secondary school	09.2	09.2 - Secondary education
09222	Upper secondary special school	09.2	09.2 - Secondary education
09223	Upper secondary adult education school	09.2	09.2 - Secondary education
0929	Secondary education n.e.c	09.2	09.2 - Secondary education
0930	Post-secondary non-tertiary education	09.3	09.3 - Post-secondary non-tertiary education
0941	First stage of tertiary education	09.4	09.4 - Tertiary education
0942	Second stage of tertiary education	09.4	09.4 - Tertiary education
0949	Tertiary education n.e.c	09.4	09.4 - Tertiary education
0950	Education not definable by level	09.5	09.5 - Education not definable by level
0960	Subsidiary services to education	09.6	09.6 - Subsidiary services to education
0970	R&D Education	09.7	09.7 - R&D Education
0980	Education n.e.c.	09.8	09.8 - Education n.e.c.
0981	Education n.e.c.	09.8	09.8 - Education n.e.c.
0982	Administrative education n.e.c.	09.8	09.8 - Education n.e.c.
10	Social protection	10	10 - Social protection
1011	Sickness	10.1	10.1 - Sickness and disability
1012	Disability	10.1	10.1 - Sickness and disability
1019	Sickness and disability n.e.c	10.1	10.1 - Sickness and disability
1020	Old age	10.2	10.2 - Old age
1021	Old age	10.2	10.2 - Old age
1022	Administrative old age	10.2	10.2 - Old age
1030	Survivors	10.3	10.3 - Survivors
1041	Child care	10.4	10.4 - Family and children
1042	Child care 7/24	10.4	10.4 - Family and children
1043	Open children and youth care	10.4	10.4 - Family and children
1044	Preschool	10.4	10.4 - Family and children
1049	Family and children n.e.c	10.4	10.4 - Family and children
1050	Unemployment	10.5	10.5 - Unemployment
1060	Housing	10.6	10.6 - Housing
1071	Adult and refugee assistance	10.7	10.7 - Social exclusion n.e.c.
1072	Substance abuse treatment for adults	10.7	10.7 - Social exclusion n.e.c.
1073	Other individual and family care	10.7	10.7 - Social exclusion n.e.c.
1078	Legal aid	10.7	10.7 - Social exclusion n.e.c.



Swedish-COFOG	Description	COFOG - ESA	ESA Description
1079	Social exclusion n.e.c.	10.7	10.7 - Social exclusion n.e.c.
1080	R&D Social protection	10.8	10.8 - R&D Social protection
1081	R&D Social protection	10.8	10.8 - R&D Social protection
1082	Other R&D Social protection	10.8	10.8 - R&D Social protection
1090	Social protection n.e.c.	10.9	10.9 - Social protection n.e.c.
1091	Social protection n.e.c.	10.9	10.9 - Social protection n.e.c.
1092	Administrative social protection n.e.c.	10.9	10.9 - Social protection n.e.c.

## 9.4 Classifications used in the transition from GDP to GNI

### Institutional sector broken down by national standard classification, INSEKT.

INSEKT 2014 (Sweden)	Classification of institutional sectors, ESA	Name
1	S.1	Total economy
11	S.11	Non-financial corporations
12	S.12	Financial corporations
121	S.121	Central bank
122	S.122	Deposit-taking corporations except the central bank
123	S.123	Money market funds
124	S.124	Non-Money market funds investment funds
125	S.125	Other financial intermediaries, except insurance corporations and pension funds
126	S.126	Financial auxiliaries
127	S.127	Captive financial institutions and money lenders
128	S.128	Insurance corporations
129	S.129	Pension funds
13	S.13	General government
1311	S.1311	Central government
1313	S.1313	Local government
13131	part of S.1313	Primary local government
13132	part of S.1313	Secondary local government
1314	S.1314	Social security funds
14	S.14	Households
15	S.15	Non-profit institutions serving households
2	S.2	Rest of the world
21	S.21	Member states and institutions and bodies of the European union
211	S.211	Member states of the European union
2111	S.2111	Member states of the euro area
2112	S.2112	Member states outside the euro area
212	S.212	Institutions and bodies of the European union
22	S.22	Non-member countries and international organisations non-resident of the European union
99	S.1N	Not specified sector

National codes for GNI-transactions	Classification of transactions according to ESA	Name
P1.REC	P.1	Output
D21X31.REC	D.21X31	Taxes on products (estimated) less subsidies on products
D21est.REC	D.21est	Taxes on products (estimated)
D31tot.PAY	D.31tot	Subsidies on products, uses
P7.REC	P.7	Imports of goods and services
P71.REC	P.71	Imports of goods
P72.REC	P.72	Imports of services
P72F.REC	P.72F	Imports of FISIM
P2.PAY	P.2	Intermediate consumption
P3.PAY	P.3	Final consumption expenditure
P5g.PAY	P.5g	Gross capital formation
P6.PAY	P.6	Exports of goods and services
P61.PAY	P.61	Exports of goods
P62.PAY	P.62	Exports of services
P62F.PAY	P.62F	Exports of FISIM
B11	B.11	External balance of goods and services
P1M.REC	P.1M	Market output and output for own final use
P1O.REC	P.1O	Market output, output for final use and payments for other non-market output
P11.REC	P.11	Market output
P12.REC	P.12	Output for own final use
P13.REC	P.13	Non-market output
P131.REC	P.131	Payments for other non-market output
P132.REC	P.132	Other non-market output
B1gb	B.1gB.	Gross domestic product (GDP) at basic prices/Value added gross
B1gm	B.1gm	Gross domestic product (GDP) at market prices
P51c.PAY	P.51c	Consumption of fixed capital, uses
B1nb	B.1nB.	Net domestic product (NDP) at basic prices/Value added, net
B1nm	B.1nm	Net domestic product (NDP) at market prices
B5g	B.5g	Balance of primary incomes, gross/National income, gross (GNI)
D29-D39.PAY	D.29-D.39	Other taxes on production minus other subsidies on production
B1nf	B.1nf	Net national product (NDP) at factor prices
D3.REC	D.3	Subsidies, resources
D31.REC	D.31	Subsidies on products, resources
D39.REC	D.39	Other subsidies on production, resources
D1.PAY	D.1	Compensation of employees, uses
D11.PAY	D.11	Wages and salaries, uses
D12.PAY	D.12	Employers' social contributions, uses
D2XD3.PAY	D.2XD.3	Taxes on production and imports less subsidies, uses
D2.PAY	D.2	Taxes on production and imports, uses
D21rec.PAY	D.21rec	Taxes on products (received), uses
D29.PAY	D.29	Taxes on production
B2g	B.2g	Operating surplus, gross
B2n	B.2n	Operating surplus, net
B3g	B.3g	Mixed income, gross
B3n	B.3n	Mixed income, net
D1.REC	D.1	Compensation of employees, resources
D11.REC	D.11	Wages and salaries, resources
D12.REC	D.12	Employers' social contributions, resources

D2.REC	D.2	Taxes on production and imports, resources
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National codes for GNI- transactions	Classification of transactions according to ESA	Name
D21.REC	D.21	Taxes on products (received), resources
D211.REC	D.211	Value added type taxes (VAT)
D212.REC	D.212	Taxes and duties on imports excluding VAT
D214.REC	D.214	Taxes on products except VAT and import duties
D29.REC	D.29	Other taxes on production
D4net.REC	D.4net	Property income, net
D4.REC	D.4	Property income, resources
D41.REC	D.41	Interest, adjusted for FISIM, resources
D41G.REC	D.41G	Interest, resources
D41Adj.REC	D.41ADJ	FISIM-adjustment, resources
D4N.REC	D.4N	Other property income than interests, resources
D42.REC	D.42	Dividends and withdrawals from income of quasi-corporations, resources
D421.REC	D.421	Dividends, resources
D422.REC	D.422	Withdrawals from income of quasi- corporations, resources
D4o.REC	D.4o	Other property income(D43, D44 and D45), resources
D43.REC	D.43	Reinvested earnings on foreign direct investment, resources
D43S21.REC	D.43S21	Reinvested earnings on foreign direct investment, intra-EU, resources
D43S22.REC	D.43S22	Reinvested earnings on foreign direct investment, extra-EU, resources
D44.REC	D.44	Other investment income, resources
D441.REC	D.441	Investment income attributable to insurance policy holders, resources
D442.REC	D.442	Investment income payable on pension entitlements, resources
D443.REC	D.443	Investment income attributable to collective investment fund shareholders, resources
D45.REC	D.45	Rents, resources
D3.PAY	D.3	Subsidies, uses
D31.PAY	D.31	Subsidies on products, uses
D39.PAY	D.39	Other subsidies on production, uses
D4.PAY	D.4	Property income, uses
D41.PAY	D.41	Interest, adjustment for FISIM, uses
D41G.PAY	D.41G	Interest, uses
D41Adj.PAY	D.41ADJ	FISIM- adjusting, uses
D4N.PAY	D.4N	Other property income than interests, uses
D42.PAY	D.42	Dividends and withdrawals from income of quasi-corporations, uses
D421.PAY	D.421	Dividends, uses
D422.PAY	D.422	Withdrawals from income of quasi- corporations, uses
D4o.PAY	D.4o	Other property income(D43, D44 and D45), uses
D43.PAY	D.43	Reinvested earnings on foreign direct investment, uses
D43S21.PAY	D.43S21	Reinvested earnings on foreign direct investment, EU, uses
D43S22.PAY	D.43S22	Reinvested earnings on foreign direct investment, extra-EU, uses
D44.PAY	D.44	Other investment income, uses
D441.PAY	D.441	Investment income attributable to insurance policy holders, uses
D442.PAY	D.442	Investment income payable on pension entitlements, uses
D443.PAY	D.443	Investment income attributable to collective investment fund shareholders, uses
D45.PAY	D.45	Rents, uses

B4g	B.4g	Entrepreneurial income, gross
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National codes for GNI-transactions	Classification of transactions according to ESA	Name
B4n	B.4n	Entrepreneurial income, net
B5n	B.5n	Balance of primary income, net
D6.REC	D.6	Social contributions and benefits, resources
D6.PAY	D.6	Social contributions and benefits, uses
D6M.PAY	D.6M	Social benefits and social transfers in kind via market producers
D5.REC	D.5	Current taxes on income, wealth, etc., resources
D51.REC	D.51	Taxes on income, resources
D59.REC	D.59	Other current taxes, resources
D6L.REC	D.6L	Social contributions and benefits, cash, resources
D61.REC	D.61	Social contributions, resources
D611.REC	D.611	Employers actual social contributions, resources
D612.REC	D.612	Employers imputed social contributions, resources
D613.REC	D.613	Households actual social contributions, resources
D614.REC	D.614	Households social contribution supplements, resources
D61SC.REC	D.61SC	Social insurance scheme service charges, resources
D62.REC	D.62	Social benefits other than social transfers in kind, resources
D621.REC	D.621	Social security benefits in cash, resources
D622.REC	D.622	Other social insurance benefits, resources
D623.REC	D.623	Social assistance benefits in cash, resources
D7.REC	D.7	Other current transfers, resources
D71.REC	D.71	Net non-life insurance premiums, resources
D72.REC	D.72	Non-life insurance claims, resources
D7N.REC	D.7N	Other current transfers than non-life insurance premiums and claims, resources
D73.REC	D.73	Current transfers within general government, resources
D74.REC	D.74	Current international cooperation, resources
D74A.REC	D.74A	Current international cooperation to and from EU-institutions, resources
D75.REC	D.75	Miscellaneous current transfers, resources
D75S13.REC	D.75S13	Miscellaneous current transfers from General government sector, resources
D75S1W.REC	D.75S1W	Miscellaneous current transfers from other sectors than General government sector, resources
D76.REC	D.76	VAT- and GNI based EU own resources, resources
D5+D6L+D7.REC	D.5+D.6L+D.7	Current transfers in cash, resources
B5n+D5+D6L+D7.REC	B.5n+D.5+D.6L+D.7	Balance of primary income, net and current transfers in cash, resources
D5.PAY	D.5	Current taxes on income, wealth, etc., uses
D51.PAY	D.51	Taxes on income, uses
D59.PAY	D.59	Other current taxes, uses
D6L.PAY	D.6L	Social contributions and benefits, cash, uses
D61.PAY	D.61	Social contributions, uses
D611.PAY	D.611	Employers actual social contributions, uses
D612.PAY	D.612	Employers imputed social contributions, uses
D613.PAY	D.613	Households actual social contributions, uses
D614.PAY	D.614	Households social contribution supplements, uses
D61SC.PAY	D.61SC	Social insurance scheme service charges, uses
D62.PAY	D.62	Social benefits other than social transfers in kind, uses
D621.PAY	D.621	Social security benefits in cash, uses

National codes for GNI-transactions	Classification of transactions according to ESA	Name
D622.PAY	D.622	Other social insurance benefits, uses
D623.PAY	D.623	Social assistance benefits in cash, uses
D7.PAY	D.7	Other current transfers, uses
D71.PAY	D.71	Net non-life insurance premiums, uses
D72.PAY	D.72	Non-life insurance claims, uses
D7N.PAY	D.7N	Other current transfers than non-life insurance premiums and claims, uses
D73.PAY	D.73	Current transfers within general government, uses
D74.PAY	D.74	Current international cooperation, uses
D74A.PAY	D.74A	Current international cooperation to and from EU-institutions, uses
D75.PAY	D.75	Miscellaneous current transfers, uses
D75S13.PAY	D.75S13	Miscellaneous current transfers from General government, uses
D75S1W.PAY	D.75S1W	Miscellaneous current transfers from other sectors than General government sector, uses
D76.PAY	D.76	VAT- and GNI based EU own uses, uses
D5+D6L+D7.PAY	D.5+D.6L+D.7	Current transfers in cash, uses
B6g	B.6g	Disposable income, gross
B6n	B.6n	Disposable income, net
D63.REC	D.63	Social transfers in kind, resources
D631.REC	D.631	Social transfers in kind, non-market production, resources
D632.REC	D.632	Social transfers in kind, purchased market production, resources
D63.PAY	D.63	Social transfers in kind, uses
D631.PAY	D.631	Social transfers in kind, non-market production, uses
D632.PAY	D.632	Social transfers in kind, purchased market production, uses
B7g	B.7g	Adjusted disposable income, gross
B7n	B.7n	Adjusted disposable income, net
D8.REC	D.8	Adjustment for the change i pension entitlements, resources
D8.PAY	D.8	Adjustment for the change i pension entitlements, uses
P31.PAY	P.31	Individual consumption expenditure
P32.PAY	P.32	Collective consumption expenditure
P3F.PAY	P.3F	Consumption of FISIM
B8g	B.8g	Saving, gross
B8n	B.8n	Saving, net
B12	B.12	Current external balance
P41.PAY	P.41	Actual individual consumption
P42.PAY	P.42	Actual collective consumption
D9net.REC	D.9net	Capital transfers, net, resources
D9.REC	D.9	Capital transfers, resources
D91.REC	D.91	Capital taxes, resources
D9N.REC	D.9N	Capital grants and other capital transfers, resources
D92.REC	D.92	Investment grants, resources
D99.REC	D.99	Other capital transfers, resources
D9.PAY	D.9	Capital transfers, uses
D91.PAY	D.91	Capital taxes, uses
D9N.PAY	D.9N	Capital grants and other capital transfers, uses
D92.PAY	D.92	Investment grants, uses
D99.PAY	D.99	Other capital transfers, uses

National codes for GNI-transactions	Classification of transactions according to ESA	Name
P51c.REC	P.51c	Consumption of fixed capital, resources
B101	B.101	Changes i net worth due to saving and capital transfers
P5L.PAY	P.5L	Gross capital formation and acquisitions less disposals of non-financial non-produced assets
P5Ln.PAY	P.5Ln	Net capital formation and acquisitions less disposals of non-financial non-produced assets
P51g.PAY	P.51g	Gross fixed capital formation
P51n.PAY	P.51n	Net fixed capital formation
P5M.PAY	P.5M	Changes in inventories and acquisitions less disposals of valuables
P52.PAY	P.52	Changes in inventories
P53.PAY	P.53	Acquisitions less disposals of valuables
NP.PAY	NP	Acquisitions less disposals of non-produced assets
B9	B.9	Net lending (+) / net borrowing (-)
DB9	DB.9	Discrepancy with the financial net lending/ borrowing

## Chapter 10 Main data sources

**Table 10.1 The main data sources registers**

Organisation	Data Source
Statistics Sweden	Statistics Sweden's Statistical Business Register
Swedish Tax Agency	The VAT Register - Administrative data

**Table 10.2 The main data sources used for the production approach**

Organisation	Data Source
Statistics Sweden	Structural Business Statistics (SBS)
Swedish Board of Agriculture	Economic Accounts for Agriculture, EAA
Swedish Forest Agency	Operations in large-scale and small-scale forestry
Swedish National Forest Inventory	Felling volumes in forestry and wood measurement
Swedish Agency for Marine and Water Management	Fishing statistics
Statistics Sweden	Production of commodities and industrial services, IVP
Statistics Sweden	Industrial consumption of purchased goods, INFI
Statistics Sweden	Intermediate consumption of service enterprises, TFF
Swedish Energy Agency	Annual energy statistics for electricity, gas and district heating
Swedish Financial Supervisory Authority	Financial enterprises, annual financial data
Swedish Financial Supervisory Authority	Insurance companies, annual financial data
Riksbanken (Sweden's central bank)	Riksbank's Financial Market Statistics

**Table 10.3 The main data sources used for the income approach**

Organisation	Data Source
Statistics Sweden	Gross pay based on income statements
Statistics Sweden	Labour force survey
Statistics Sweden	Short-term employment statistics
Statistics Sweden	Register-based labour market statistics, RAMS

**Table 10.4 The main data sources used for the expenditure approach**

Organisation	Data Source
Statistics Sweden	Turnover statistics - Trade in goods and services
Statistics Sweden	Household expenditure, HUT
Statistics Sweden	Food sales
Statistics Sweden	Retail trade
Statistics Sweden	Revenues and expenditure survey for multi-dwelling buildings
Statistics Sweden	Survey of rents for dwellings
Statistics Sweden	Household's finances
Swedish National Financial Management Authority	Basis of central government net lending, UFS
Statistics Sweden	Annual accounts for municipalities and county councils
Statistics Sweden	Non-Profit Institutions Serving Households
Statistics Sweden	Economic report Church of Sweden
Statistics Sweden	International trade statistics in goods (Intrastat)
Swedish Customs	International trade statistics in goods (Extrastat)
Statistics Sweden	External trade in services
Statistics Sweden	The income and costs of the SAS consortia
Statistics Sweden	Research and Development (R&D) - Frascati Manual
Statistics Sweden	Statistical register for vehicles
Statistics Sweden	Investment survey
Statistics Sweden	Industrial inventories
Statistics Sweden	Monthly fuel, gas and inventory statistics
Statistics Sweden	Survey on Inventories in trade and services
Swedish Forest Agency	National Forest Inventory, NFI

**Table 10.5 The main data sources used for the transition from GDP to GNI**

Organisation	Data Source
Statistics Sweden	Foreign Direct Investments – assets and income
Statistics Sweden	Balance statistics for non-financial companies, incl. balance of payment

## Statistics Sweden's Statistical Business Register

### Purpose and history

By decision of Parliament in 1963 Statistics Sweden was instructed to maintain a central business register (CFR). The register was gradually expanded until, by the beginning of the 1980s, it was fairly comprehensive, even as regards the local units of enterprises. It was then called the Central register of enterprises and local units (CFAR). Under the regulation on the general business register (SFS 1984:692) facilities for maintaining the register were substantially improved by the granting of authority to make use of a number of other administrative registers.

After Sweden became a member of the European Community (EU) there was a process of adaptation to EU regulations on economic statistics and business registers for statistical purposes. The content of the register was thus also expanded to include several new types of units. The register was renamed again in order to take account of this additional content, and is now called Statistical Business Register (FDB).

The FDB provides the sampling frame for statistics produced by Statistics Sweden. This applies in particular to economic statistics. All statistics intended to provide information on the Swedish economy, regardless of level, call for coordination of definitions of units to be surveyed, industries, size categories etc. This in turn requires a register of high quality to serve as an instrument of coordination. The register covers all Swedish enterprises, departments and agencies of government, organisations, their local units and kind of activity units. With the aid of the FDB, populations are demarcated for statistical inquiries as regards coverage, activities and size groups. The register serves as a source for name and address data for the enterprises, local units and other units to be covered by various inquiries. The FDB is one of the basic registers in the register-based system at Statistics Sweden. There is a link to the Enterprise group register as well as to the EuroGroups Register (EGR). The latter is maintained continuously and coordinated between Eurostat and the member states.

### Users and areas of use

The FDB is a cornerstone of Statistics Sweden's economic statistics, but is also used as a sampling frame for statistical inquiries in other areas conducted within and outside Statistics Sweden. Certain statistics are produced with only the register as a basis. The register is continuously updated with information from administrative sources, a FDB survey to multiple-establishment enterprises, and feedback from other statistical surveys at Statistics Sweden.

### Obligation to supply data

Under the regulation on the general business register (SFS 1984:692), the registers of the Swedish Tax Agency and Swedish Companies Registration Office can be used as sources. Supply of data for the FDB survey to multiple-establishment enterprises is mandatory as specified in the regulation for Official Statistics (2001:100).

### EU regulation

The content of the FDB is regulated by Regulation (EC) No 177/2008 on establishing a common framework for business registers for statistical purposes. Council Regulation (EEC) No 696/93 lays down the statistical units to be used for the observation and analysis of the production system in the Community. Most of these have also been included in the FDB.

### Structure of the inquiry

The FDB is continuously updated with information from several administrative sources, the main ones being the Swedish Tax Agency, the Swedish Companies Registration Office and the national change of address recording service, Svensk Adressändring AB. In addition, there is the yearly FDB survey to



multiple-establishment enterprises. Feedback from other statistical surveys at Statistics Sweden is also used to update information in the FDB.

**Content: statistical magnitudes, unit groups, population**

Enterprise unit	FE
Legal unit	JE
Local unit	AE
Kind-of-activity unit	VE
Local kind-of-activity unit	LVE
Firm	FIRMA
AST unit	AST

**Outflow: statistics and micro data**

Yearly results on number of enterprises by activity and size class are published in the statistical database which is accessed from Statistics Sweden's web. Population frames are produced four times a year and micro data is saved.

**Timetables**

The register is continuously updated. Population frames are produced in March, May, August and November each year.

**Frame and frame procedure**

The FDB provides frames for statistical inquiries. The register comprises all organisations pursuing some form of economic activity as an enterprise, department or agency of government, State corporations, organisation of the Swedish Church, non-profit institutions, estates of deceased persons etc.

**Measuring instruments**

Data capture takes place mainly indirectly via administrative sources. The bulk of the information – data on the status (active, inactive, closed down), size and activity of FEs and AEs – are obtained from different registers at the Swedish Tax Agency. The Tax Agency collects information by way of forms for different kinds of taxes, income statements, Value Added Tax (VAT) declarations etc., or from the Swedish Companies Registration Office. Data on changes of addresses are obtained from Svensk Adressändring AB.

Under the Act concerning AST-identities and related matters (SFS 1984:533), Statistics Sweden is obliged to notify enterprises with more than one AE once a year of the AST-identities assigned to the firm's various AEs by the authority concerned. Anticipating this process, the yearly FDB survey is sent to the enterprises in question, in which the registered data are recorded and in which the enterprises are requested to make any additions necessary or correct errors.

**Collection procedure**

The register is continuously updated on a weekly basis with information from administrative sources, mainly the Tax Agency, the Companies Registration Office and Svensk Adressändring AB. All known multiple-establishment enterprises are surveyed directly once a year. Other important sources of information are feedback from other statistical surveys at Statistics Sweden and via direct contacts with the enterprises.

Where other administrative sources are used and there is a delay before the data are recorded, a total time-lag of up to six weeks may be expected between the actual event and the time the data relating to

it are present in the FDB. For the number of employees and annual turnover, however, the time-lag may be more than a year because of the sources used (income statements and VAT records).

### Data preparation

The various information sources are assigned values with respect to one another in accordance with a prioritisation procedure. In cases of doubt or in more complicated cases the enterprises are contacted directly. The resulting indications are checked by a machine-aided procedure and are corrected before the actual updating takes place. Updating is carried out every week.

The register records the number of employees. This indication is calculated in most cases by means of a special model using income statements from the Tax Agency. Since the income statements only cover wage and salary-earning employees, the number of employees is lower than the number of persons actually employed, at least for a proportion of enterprises.

The activity code is in most cases set by the local service offices of the Tax Agency for the locality in which the enterprise is established. Partial non-response in respect of activity codes can be high for enterprises without employees, while most (>99%) with employees have an activity code. The quality for activity codes is studied in special inquiries (the latest from 2008) or indirectly through feedback from other statistical inquiries and is documented in a special quality report. Sector assignment is established by a machine-aided procedure from data on the ownership category and legal form of the enterprises. For financial institutions, however, the sector is manually coded and based on information from subject matter areas at Statistics Sweden.

### Observation register

The target and observation units of the FDB fall into seven categories: enterprise units (FE), legal units (JE), local units (AE), kind-of-activity units (VE), Local kind-of-activity units (LVE), firms and AST units.

An **enterprise unit** (FE) consists of one or more JE and conducts one or more activities at one or more places. The FE is usually the smallest unit for which both profit and loss account and balance sheet data are available. For reasons of coordination in certain cases it moves up to a higher level. It may include JEs, which have the status “inactive” in the FDB but are active, for example, in administrative registers. There are survival criteria for FEs relative to JEs (for example, a FE unit with one establishment and activity unchanged on a change of corporate identification number survives; specification of the criteria is required). In a measurable number of cases, the FE is an ancillary unit serving several business units (divergence from the EU definition).

A **legal unit** (JE) is a legal or natural person pursuing or intending to pursue some form of business activity.

The practical demarcation used for a JE is:

- All legal persons (excluding estates of deceased persons)
- Natural persons who meet at least one of the criteria below
  - Are VAT-registered
  - Are registered employers
  - Have (at least) one registered firm
  - Are registered for Business Tax
- Estates of deceased persons that are
  - VAT-registered and/or are
  - Registered employers

All legal units that are deregistered (and hence have been active in the FDB) are stored for two years before they are removed from the FDB.

**A Local Unit (AE)** comprises every address, property or group of adjacent properties in which a JE pursues an activity. All active JEs have at least one AE. For the registration of an AE in the FDB a number of conditions must be met:

- Some form of activity must be pursued at the AE
- There must be a place at which the activity is pursued (geographically localised unit = address)
- The activity must be pursued over a long period (not transient)
- At least one employee with a payroll total above a certain basic amount

For JEs with geographically separate units, each unit is registered as a separate AE. For JEs which are locally cohesive (e.g. enclosed by perimeter fencing or in adjoining buildings) and which consist of several units (production, service units etc.) normally only have one AE registered.

In certain special cases specific criteria are used for the demarcation of AEs. Examples of this are power stations and concrete mixing plants of major economic importance.

There are cases in which an AE with multiple activities have been divided into several AEs with separate activity (NACE) codes, but with the same address. This procedure will have taken place in agreement with Statistics Sweden.

For municipalities, a demarcation of AEs based on the various administrations of the municipalities in accordance with the Local Government Act was found suitable. Each administration is recorded at the addresses at which the activity is permanently pursued. Each address within the administration is thus an AE. This means that several local government AEs may be present at one and the same address. "Normal ancillary activity", such as office cleaning and caretaking services, on the other hand, does not constitute An AE of the administration itself.

For county councils an AE demarcation based on the various administrations/boards of the county council is applied. Each administration has to record each address at which the administration pursues permanent activity as a separate AE. This means that county councils too may have several AEs at one and the same address.

The following are not considered as AE:

- (i) mobile activities, e.g. taxis, haulage,
- (ii) temporary operating sites, e.g. construction,
- (iii) movable operating sites, e.g. mobile crushing plants,
- (iv) the home, e.g. weather monitoring, home dressmaking.

In cases (i) - (iv) the activity is assigned to the establishment from which it is effectively administered. The home address is the location address if the JE only has one establishment and the activity is of type (i) – (iv).

Examples of what are not AEs:

- Timber felling
- Mobile crushing plants set up for a period shorter than one year
- Extraction of gravel and sand without fixed installations and buildings and without manning
- Power stations <100 kW for public use, and <400 kW for other use
- Construction sites irrespective of the period of construction and stores, workshops etc. which only exist for the time construction is in progress
- Branches of the Swedish Alcohol Retailing Monopoly housed in the premises of another business and served by the ordinary staff of that business
- Staff canteens at an establishment with a different activity serving its own staff and operated by its own staff

- Camping sites, outdoor swimming pools, ski slopes without special installations of major economic significance
- Outlets of newspaper distribution firms for newspapers sold, for example, at kiosks, filling stations and the like
- Ships and boats are assigned to the establishment from which they are managed; shipboard personnel on vessels plying foreign trade are not counted in the number of employees
- Cleaning companies performing cleaning work at the premises of other enterprises are not normally registered as AEs
- Educational activities of workers' education associations on rented premises (which are not at the same time used as offices or administrative facilities)
- Enterprise health and medical services of normal scope
- Summer kiosks, summer sales outlets
- Truck drivers seconded by haulage firms to other larger haulage firms and forwarding firms
- Croupiers, cloakroom attendants employed by separate enterprises housed in restaurants
- Lottery stands sited in department stores, on city squares and the like

The **kind-of-activity unit (VE)** groups together parts of an FE which contributes to the performance of an activity on a particular NACE level. The VEs represents a complete subdivision of the FE. In a few cases the VE is an ancillary unit, which could not be assigned to other VEs. The subdivision of the FE should give VEs, which fall more or less entirely within a single industry. Compromises are necessary to take account of the capacity to provide data. The classification reflects the wishes of the data provider, which is why in individual cases several VEs can be present within a FE with the same industry classification. For reasons of coordination, a VE must not change over time without good reason. If the disruption to the statistics, overestimation and underestimation in the industries in question, becomes unacceptable, the FE is divided up into VEs.

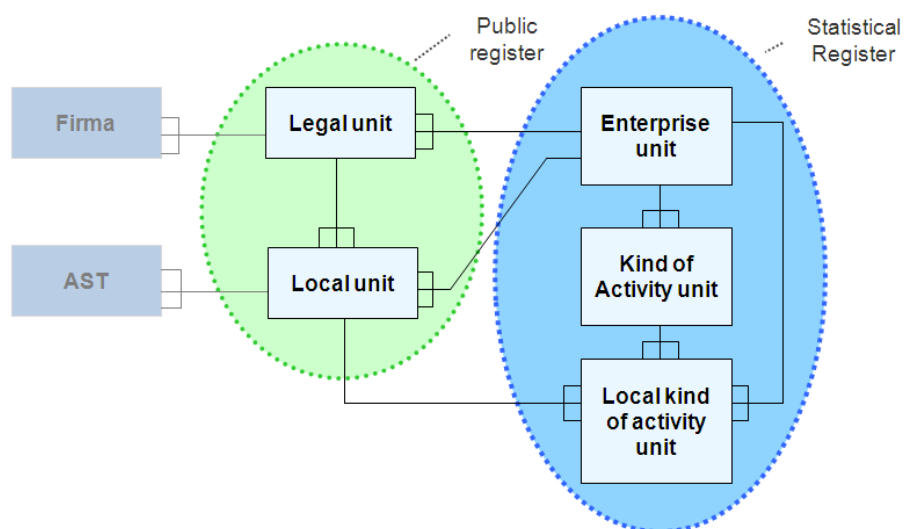
The **local kind-of-activity unit (LVE)** is that part of a VE which functions within an AE. It may also take account of the wishes of data providers regarding subdivision by areas of business and the like. Hence in individual cases several LVEs may exist within an establishment with the same NACE code. A LVE may have secondary activities. The NACE code is the national version of NACE Rev. 2 on 5-digit level.

A LVE – hence also a VE – with an activity extending beyond that included in its industry contributes a little too much to that industry in the statistics, and at the same time the activity disappears from one or more or other recording groups. The aim is that interference from these “surpluses and shortfalls” should be negligible in the statistics.

The **firm unit** is related to a natural person. A natural person can have one or more registered firms. In those cases no administrative source is available to decide which of the firms are active.

The **AST unit** is separate from the FE, but linked to the AE and to the JE as well. AST is represented by one or more identities that resemble a subdivision of the AE. The main purpose for the AST unit is to match employees to business data and business register characteristics such as NACE, region etc. AST units exist for JEs with more than one AE. The actual link is made in the income statements and the AST makes it possible to connect an employee to the correct AE in the FDB.

The relationships between unit types are shown in the figure below:



## **The VAT Register - Administrative data**

### **Purpose and history**

The VAT register contains data on value-added tax paid for all enterprises. The register is built up for the most part from the VAT declaration data of the Swedish Tax Agency; other material is collected from Swedish Customs.

Statistics Sweden has used data from the VAT declarations since 1972. Until 1992 these were only used in order to produce the regional turnover statistics for service industries (REGO).

The number of enterprises recording VAT in a separate VAT declaration decreased from about 450 000 to 350 000 after the raising of the VAT threshold from SEK 200 000 to SEK 1 million in 1996. Statistics Sweden now receives declaration data once a week over the telecommunications network. Each quarter six weeks after the end of the quarter Statistics Sweden receives data each day due to demand from the primary statistics.

(Statistics Sweden receives data on a daily basis from the VAT register six weeks after the end of the reference quarter.)

### **Users and areas of use**

The national accounts use data as additional information in calculating household consumption expenditure. Because there is a lower rate of VAT on food, food sales can be recorded for different industries. The Statistical Business Register (FDB) uses VAT as one of the variables, which determine whether an enterprise is active or has ceased trading. REGO is produced by matching the FDB with the VAT Register. From 2000 and onwards VAT data is used for the production of the yearly food sales statistics. Between 2000-2007 VAT data was used for the official turnover statistics for the service sector and has again started to be used, 2015, for the official turnover statistics for services and the manufacturing sector.

Turnover data are used as an allocation variable in a number of samples in the system for co-ordination of surveys and samples from the Business Register at Statistics Sweden (SAMU) system, especially in inquiries in which we measure turnover and changes to it. Thanks to this, it has been possible to make the samples smaller while maintaining precision. In these samples the VAT data are used as an auxiliary variable in calculating the turnover in question, as well as in adjusting for non-response. The data from the VAT Register have also been used in the calculation of regional accounts, in RAPS II for industries in Skåne and in the calculation of international trade.

In a number of other branches of statistics which do not primarily measure turnover, turnover data are collected for selected enterprises and as a total for certain industries. The data are used partly as a control variable and partly as an aid to the management of non-response. An indication is obtained of the extent of an enterprise's activity.

The VAT register will be used in more areas in the future such as one of the sources for a quarterly Structural Business Statistics (SBS).

### **Obligation to supply data**

All VAT-registered enterprises are obliged to supply data on value-added tax in a separate tax declaration to the tax administration. Statistics Sweden does not collect the data directly.

### **EU regulation**

There is no EU regulation for the VAT Register.

### **Structure of the inquiry**

The VAT statistics are a register-based compilation of VAT declarations for enterprises. The register is supplemented continuously (monthly) with the latest month's transactions for all taxable entities during the month. The aim of the register is to produce records of taxes and turnover for users.

Entities at different sizes have to deliver data on different frequencies. Entities with a turnover below 1 million SEK just has to provide data yearly. Entities which have a turnover between 1 and 40 million SEK has to deliver data quarterly. And all other Entities have to deliver data monthly.

### Population

The population includes all enterprises and organisations, which are registered for VAT with the Swedish Tax Agency.

### Recording groups

Unit group		Variable	Measurement
Population	Subdivision by recording groups		
Enterprise	Industry assignment, region, institutional code, size	Turnover data, tax, exports in SEK 1000	Total

### Variables recorded:

**Turnover** – Turnover is obtained from the VAT declarations of the enterprises. Taxable turnover is calculated from tax recorded; tax-free amounts and exports are covered in their original form. The data are subjected to a general form of scrutiny, in the course of which obvious keying errors are corrected.

**Number of enterprises** – The data on numbers includes all entities which pursued **an activity at some time during the year** and which submitted a VAT declaration. An enterprise, which is reorganised during the year, is counted as two enterprises. In the same way enterprises, which record VAT through their parent company or an affiliated company are not included.

**Number of employees** – This is the number of employees (not persons employed) registered in the enterprise, which supplied a VAT declaration. Self-employed persons or partners in a partnership are not included in the number of employees. The figures for these enterprises are obtained from Statistics Sweden's business register.

### Timetable

Continuously as supplied by the Swedish Tax Agency (monthly) with about two months' time-lag.

### Frame and frame procedure

The VAT Register of the Swedish Tax Agency (SKV) is the frame. Enterprise name, industry, municipality and number of employees are matched from Statistics Sweden's business register with the aid of corporate identification numbers. Unmatched items from the SKV are included without this auxiliary information.

### Sampling procedure

Full census.

### Measuring instrument

The VAT declaration submitted by enterprises to the SKV.

### Collection procedure

The data are obtained from the SKV's joint information database (GIN). The data are obtained electronically from the SKV. Transfer takes place each month.

### Data preparation, registration, scrutiny and correction

The register is updated with new/changed data for all taxable entities affected during the month or quarter. Each amount is recorded as a change in relation to the previous situation for the same taxable entity and period (first declaration as a change from zero). I.e. amounts are always calculated as a change in relation to the amount last registered/updated. Positive amounts are indicated without a sign. Negative amounts are indicated with a minus sign. During the updating the following variables are subject to special scrutiny:

M10\_32\_Utghog – VAT rate 25 per cent  
 M11\_33\_Utgmed – VAT rate 12 per cent  
 M12\_34\_Utglag – VAT rate 6 per cent  
 M42\_12\_OmsfriSver – Turnover free from VAT  
 M36\_21\_ForsVarUtEg – Exportvalue of goods outside EU  
 M39\_ForsTjaEG – Exportvalue of services within EU  
 M40\_ForsTjaUtEG – Exportvalue of services outside EU  
 M35\_ForsVarEG – Exportvalue of goods within EU  
 M38\_TrepForsvar – Merchanting sales  
 M41\_ForsSvKopare – Sales to swedish buyers  
 M30\_UtgInKopHog – VAT rate 25 per cent for import  
 M31\_UtgInKopmed – VAT rate 12 per cent for import  
 M32\_UtgInKopLag – VAT rate 6 per cent for import  
 M37\_trepinkopvar – Merchanting costs  
 M20\_25\_InkopVarEG – Import of goods within EU  
 M21\_InkopTjaEG – Import of services within EU  
 M22\_InkopTjautEG – Import of services outside EU  
 M23\_InkopVarSverige – Costs for goods within Sweden  
 M24\_InkopTjaSverige – Costs for services within Sweden  
 M48\_37\_IngAvdr – VAT rate for expenditures  
 OmsSverige – Domestic turnover

The values of these variables are compared with the declarations previously registered/updated for the same enterprises. All items are checked which show major deviations (e.g. 10 times or 0.1) and which exceed the threshold (e.g. at least SEK 10 million) in any of the variables scrutinised. However, deviations are accepted if at least five variables are divergent.

The following variables are redundant information and are updated from the FDB:

Size category  
 Number of employees  
 Industry



County – municipality

Sector

Ownership category

Legal form

Sector, Ownership category and Legal form constitute the Institutional code.

Redundancy is required in order to obtain a picture of the situation (e.g. if it is desired to have data on industry changes). The items present in the FDB are marked “J” in the FDB column. On each updating, all new items and those which do not have “J” in the FDB column are updated. The date of this updating is recorded in “DatumFDB”.

The variable Domestic turnover subject to VAT within Sweden: the indication obtained from the SKV is not used; the variable is instead projected in the following way:

Domestic turnover subject to VAT within Sweden = Tax amount divided by tax rate for the tax rate in question for the period concerned.

The users themselves can start the updating and scrutiny process in the form of batch runs. Before the runs are started they can also determine which year is to be updated, change tax rates, choose which months are to be scrutinised and determine limits for the scrutiny. After the updating users can scrutinise all declarations and major deviations interactively. All numerical variables can be corrected in the course of the scrutiny.

**Declarations** to be scrutinised and corrected are shown in two different ways:

Declarations for a certain industry and month, sorted in descending order by total turnover.

Total turnover is updated as the sum of (M42, M36, M39, M40, M35, M38, M41) and converted Domestic turnover subject to VAT within Sweden. All declarations for a certain enterprise, sorted in descending order by period or total turnover. It may help users to determine any change more easily.

It is also possible to scrutinise and correct all deviations, which arose during the previous updating. If errors are found, SKV sends information to SCB. On an aggregated level these are negligible but could have an impact on enterprise or detailed activity level

### **Target units**

All VAT-registered enterprises in Sweden, which have supplied data on VAT paid during the year.

### **Observation units**

All taxable entities affected during the month.

All VAT-registered enterprises in Sweden, according to the FDB.

### **Experience, problems**

Enterprises in a group may record turnover as a total amount for several companies. This of course becomes a problem if the companies operate in different industries. Definitions of turnover, especially export turnover, may differ considerably from other inquiries. For example, all sales of inventories are counted as turnover, not only possible capital gains. Property income on the other hand is not included at all.

### **Estimates: assumptions and calculation formulae**

Estimates do not arise. Taxable turnover is compiled as recorded tax divided by the tax rate applicable:

Domestic turnover =

$M10\_32\_Utghog/0.25 + M11\_33\_Utgmed/0.12 + M12\_34\_Utgtag/0.06$

## 10.1 Statistical surveys and other data sources used for the production approach

### Structural Business Statistics (SBS) 2011

#### Link to surveys undertaken at the European level

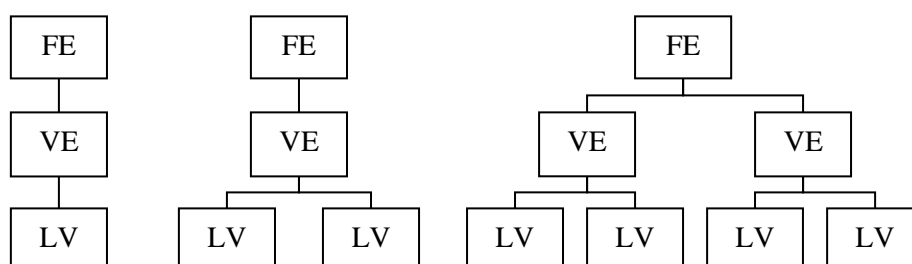
The Structural Business Statistics are the main source for the statistics covered at EU level by “Council Regulation No 295/2008 concerning structural business statistics” and has therefore been adapted to that regulation. The statistics are produced by Statistics Sweden.

#### Reporting unit

The entity surveyed is the enterprise unit (FE), which in most cases coincides with the legal unit or the accounting unit. In exceptional cases collection may be undertaken at the level of a group of companies or some other consolidation of several legal persons. The term enterprise covers the following legal forms: company limited by shares, incorporated and unincorporated partnership, self-employed trader, incorporated association/cooperative society and certain other legal forms which engage in trading activity.

Major FEs are divided into different kind-of-activity units (VE) in those cases where the enterprise has more than one activity and can provide economic data to Statistics Sweden at that level. If the enterprise conducts activities in many different geographical areas, the enterprise is divided into local kind-of-activity units (LVE) according to the geographical distribution. This subdivision facilitates coverage at institutional level (enterprise), functional level (industry) and regional level (geographic localization). The division into VEs and LVEs is currently used mainly for manufacturing enterprises (NACE Rev 2.0 C-D).

#### Overview of different enterprise structure



**FE = företagsenhet (enterprise unit)**

**VE = verksamhetsenhet (kind of activity unit)**

**LVE = lokal verksamhetsenhet (local activity unit)**

#### Periodicity

The data refer to a calendar year. However, for enterprises surveyed using the so-called complete form and which have a split financial year, the reporting period is used that includes the annual figures for 1 May of the current calendar year to 30 April of the next calendar year. For financial years that cover a shorter or longer period than 12 months, the flow figures are recalculated to refer to 12 months. For

other surveyed sample enterprises, and for enterprises that are based on administrative material and that have different financial years, the data refer to the reporting period that ends in the calendar year. However, the flow data here are also recalculated to refer to 12 months.

### **Time of availability of results**

The final results of the survey shall be published and sent to Eurostat within 18 months after the reference year. Preliminary results of the survey shall be sent to Eurostat within 10 months after the reference year and published within 12 months after the reference year. Delivery to the National Accounts takes place 15 months after the reference year.

### **Sampling frame**

The sampling frame is based on the Statistical Business Register (FDB), kept at Statistics Sweden. The frame consists of all FEs (and attached VEs), which are active in November the reference year. The sampling frame serves as the common population for different surveys conducted within the Swedish SBS system. In the SBS system there are four different major surveys; Survey on basic variables, Specification survey on income and costs (SpecRR), Specification survey on Investments (SpecI) and the Specification survey on shares and assets (SpecA). A brief description of the sampling design for each of these four surveys is given below.

### **Survey is compulsory or voluntary?**

The part of the survey where information is directly collected from enterprises involves a legal obligation to submit information to Statistics Sweden. The Swedish Code of Statistics (SFS 2001:99 and 2001:100) states that participation in statistical data collection is obligatory. Specific provisions regarding the Structural Business Statistics are published in Statistics Sweden's Code of Statutes (SCB-FS 2009:13).

The other part of the survey is based on administrative records consisting of tax declaration information from enterprises that are required to submit the information to the National Tax Agency for taxation purposes.

### **Main features of survey methodology**

The SBS is conducted annually and should be regarded as a system of different statistical surveys rather than as a separate statistical survey. Data from many sources are collected inside and outside Statistics Sweden, and are combined to produce all the statistics reported regarding Structural Business Statistics target variables. The administrative material (Standardized accounting statements) is the basis of the survey and is subsequently supplemented with material as needed.

The unifying elements of this system consist in part of the common population for all target variables, and in part the variables within the variable area "base variables" (see below). In order to better describe the SBS in general, and the quality of the statistics in particular, the target variables are divided into a number of different variable areas. Table X below lists these variable areas together with the data source or sources used for each variable area.

**Data sources for the variable area**

Variable area	Data source(s)	Type of source(s)
Base variables (covariables)	(SRU <sup>1</sup> )/Complete form	Secondary/primary
Specification variables income statement (SpecRR variables)	Complete form/SpecRR samples	Primary/primary
Specification variables investments (SpecI variables)	Complete form/ Investments questionnaire/SpecI sample	Primary/secondary/primary
Specification variables shares (SpecA variables)	Complete form/SpecA samples	Primary/primary
Employment	Complete form/KLP/RAMS/SLP/private enterprise	Primary/secondary/secondary/secondary/secondary
Inventory	Complete form/SpecRR/Inventory statistics	Primary/primary/secondary

<sup>1</sup> Standardised accounting statements.

*Selection of data sources*

Base variables: The main source of base variables is the National Tax Agency's standardised accounting statements. However, the standardised accounting statements are not used for the approximately 600 largest enterprises. Instead, there is a direct collection of data via questionnaire, the so-called complete form.

Specification variables, income statement: For SpecRR variables, direct collection is on a sample basis via the SpecRR questionnaire. The complete form also contains the SpecRR variables.

Specification variables, investments: Investment data are retrieved primarily from the short-term statistics on investment (Investment Survey) already collected by Statistics Sweden. However, these data are supplemented by direct data collection from additional enterprises using the SpecI questionnaire.

Specification variables, equity shares: Data referring to equity investments are directly collected via the SpecA survey.

Employment variables: With the exception of a number of questions in the complete form, there is no direct collection of SBS employment variables. These are instead retrieved from already existing sources. The internal sources used are the Short-term business statistics, Wages and salaries in the private sector, Salary structure statistics, Private sector and Register-based labour market statistics. In addition, data are purchased from the private enterprise PAR.

Inventory variables: Data on inventory are included as part of the complete form. For other enterprises that are not covered by the complete form, inventory data are retrieved from either the Short-term Inventory statistics or SpecRR questionnaire.

### Population size

The target population includes all enterprises, which engaged in an activity during the reference year, excluding financial corporations and self-employed operators engaging in agriculture, forestry, hunting or fishing.

### Sample size

The three specification surveys SpecRR, SpecA and SpecI are all beset with sampling uncertainties. Since the designs of the samples differ among the three surveys, a brief individual description is presented here.

SpecRR: The SpecRR sample consists of about 16 300 enterprises. The sample is stratified by type of industry into about 290 strata. Within each stratum, a random sample is drawn where the probability of inclusion for an enterprise is proportional to its size, i.e., a large enterprise is given a higher probability of being included in the sample than a smaller enterprise. Estimates for the variables are calculated using separate group ratio estimators, where the base variables are used as known totals.

SpecA: The sample for the SpecA survey includes about 500 enterprises. Stratification is made with respect to size. Within each stratum, an independent, random sample is drawn. Estimates are also made here using group quota estimators.

SpecI: The sample for SpecI is made so that all enterprises that have invested at least SEK 5 million and are not already covered by the survey Investment questionnaire are included. A total of about 3 600 enterprises were surveyed in this specification survey. For enterprises that are not part of either SpecI or the Investment questionnaire, model estimates are made of the allocation of investments of object type, given the known total investment at the enterprise level from the standardised accounting statements. For those enterprises that are not part of either SpecI or the Investment questionnaire, the allocation is imputed.

### Survey response rate:

#### Non-response in the respective sources

Source	Number of surveyed enterprises	Of which non-response	Share of imputed enterprises, %	Share of non-response in % of	
				Number of employees	Net turnover excluding excise taxes
Standardise	1 000 357	173 553	17.3	3.8	4.4
Complete form	566	0	0.0	0.0	0.0
SpecRR	16 205	2 834	17.5	9.2	8.6
SpecA	536	39	7.3	3.9	6.6 <sup>1</sup>
SpecI	3 640	624	- <sup>2</sup>	-	-

<sup>1</sup> Non-response share of total equity holdings.

<sup>2</sup> Not submitted SpecI enterprises are corrected manually.

### **Method used to impute for missing data**

Imputation for the part of the survey carried out with questionnaires concerns only some of the variables, as most can be retrieved from the administrative material or the official annual reports.

Imputation for those variables that cannot be collected in such a way has primarily been done with help from the structure of the enterprise values submitted in the previous year. If neither of these methods is available, so-called mean value imputation is used. A five-digit SNI (Swedish Standard Industrial Classification) level is primarily used as the basis for imputation. A basic condition has been that at least three enterprises must be included in the group that forms the basis of the imputation. If there has not been a sufficient number of enterprises in a group, a broader SNI level has been used and, where required, a merging of the two-digit SNI level.

Other imputation methods have been used for some variables. An example is the breakdown of net turnover by activity, where data are retrieved, if possible, from the survey Production of commodities and industrial services (IVP), if the enterprise belongs to the manufacturing industry. Data for certain cost items have been collected from the survey Industrial use of purchased goods and services (INFI), if they are included in this survey. This survey annually includes one-third of the manufacturing industry, which means that auxiliary information is not available for all enterprises included in the SBS. A third example is the number of employees, which has been distributed with the help of the Business Register, when there is no information for the local activity unit level.

Mean value imputation has also been used for the administrative material in most cases; however, the groups which form the basis for imputation have been divided in a different way. Here, the legal form, branch and size category are used to determine the basis for imputation. Imputation of the administrative material refers to the entire enterprise. In the first stage, the five-digit SNI level has been used together with a particular legal form and size category as a basis. The condition has been that there should be at least twenty enterprises in each group. If there is not a sufficient number, work is undertaken to reach broader SNI classifications.

### **Variable used to impute for missing data**

See description above.

### **Variable used for grossing-up to the population**

See description above.

### **Sample coverage**

The sampling coverage varies among the four surveys. In the Survey on basic variables we strictly speaking don't have any sample errors since we don't make any sample. But since we do have non-response in the Tax data we have non-response errors. If we take this into account the Tax data together with our own data collection from the five hundred biggest enterprises covers around 96 per cent of the estimated total for Value added.

In the SpecRR-survey the sample coverage amounts to 66 per cent with respect to Turnover. If non-response is taken into account the coverage rate drops to 62 per cent.

In the SpecI-survey the sample coverage amounts to 62 per cent with respect to total Investments in real estate.

In the SpecA-survey the sample coverage amounts to 76 per cent with respect to total amount of shares and assets.

### **Main variables collected**

The Structural Business Statistics cover about 1 000 variables, but the variables included in the final publication of the Structural Business Statistics survey beginning with the 2007 reference year, consists of a total of 95 variables. The institutional level (enterprise level) contains 64 variables divided into base facts, income statement items (with specifications), and balance sheet items. The functional level (kind-of-activity level) contains 20 variables, divided into base facts, income and costs. The regional level contains 11 variables, divided into base facts and investment items. The survey also contains detailed income and cost variables. These are not published but are used primarily in the National Accounts in the calculation of gross domestic product, GDP.

The following list contains the main variables included in the report of the Structural Business Statistics.

### **Basic data, enterprise level**

Number of enterprises

Number of employees

Net turnover

Production value

Value added

Total assets

Gross investment

Net investment

### **Income statement items, enterprise level**

Net turnover

Change in inventory of products in process, finished goods and ongoing work on behalf of others

Other operating income

Raw materials, commodity costs

Other external costs

Total personnel costs

Other operating costs

Total of depreciation and write-downs

Operating profit

Income from financial investments

Operating profit after financial items

Extraordinary income and costs

Appropriations

Taxes on the year's profits

Profit/loss for the year

### **Specifications for personnel costs**

Salary costs

Social insurance contributions and other personnel costs

**Balance sheet items, enterprise level**

Total intangible assets

Buildings, land improvements and land

Machinery and equipment

Advances regarding tangible fixed assets and fixed assets under construction

Sum of tangible fixed assets

Shares and participations (fixed assets

Other financial fixed assets

Total financial fixed assets

Total fixed assets

Inventory etc.

Accounts receivable

Other receivables

Prepaid expenses and accrued income

Total current receivables

Total current investment

Cash and bank balances

Sum of current assets

Total assets

Share capital

Other restricted equity

Profit/loss brought forward

Net profit/loss for the year

Equity in trading enterprises, limited partnerships and sole proprietorships

Total equity

Tax allocation reserves

Accumulated excess depreciation

Other untaxed reserves

Total untaxed reserves

Provisions for pensions

Other provisions

Total provisions

Sum of long-term liabilities

Advances from customers

Accounts payable - suppliers

Tax liabilities

Accrued costs and deferred income

Other current liabilities

Total current liabilities

Total equity and liabilities

**Basic data, kind-of-activity unit level**

Number of employees

Net turnover



Production value

Value added

Gross investment

Net investment

**Income, kind-of-activity unit level**

Income from industrial production

Income from trade

Income from other activities

Other operating income

Changes in inventories

Activated work for internal accounting

Total operating income

Costs, kind-of-activity unit level

Raw material costs

Cost of goods for resale

Salary costs

Other personnel costs

Other external costs

Other operating costs

Total operating costs

**Regional basic data, kind-of-activity unit level**

Number of establishments

Number of employees

Production value

Consumption value

Value added

Total income

Total costs

**Regional investment items, kind-of activity unit level**

Gross investment, machinery and equipment

Net investment, machinery and equipment

Gross investment, buildings and land

Net investment, buildings and land

**Further adjustments made to the survey data**

The variables recorded are presented in the form of total data and certain ratios. A large number of assumptions arise in the inquiry, which are not covered by the above headings. An example of such model assumptions concerns those enterprises, which are not covered by the administrative material. We assume that these enterprises are exclusive to one industry and only consist of one activity unit. Thus a situation does not arise in which an enterprise is subdivided into different activity units in the administrative material. Further model assumptions are made in the calculation of investment for enterprises in the administrative material and in recording at regional level.

## **Economic Accounts for Agriculture (EAA) 2011**

### **Link to surveys undertaken at the European level**

Regulation (EC) No 138/2004 of the European Parliament and of the Council of 5 December 2003 on the Economic Accounts for agriculture in the Community.

The agency responsible for the statistics is the Swedish Board of Agriculture.

### **Reporting units**

Enterprises belonging to the agricultural sector.

### **Periodicity**

Annual.

### **Time of availability of results**

The material is produced continuously throughout the year. Publication is three times per year: November (prognosis for next calendar year), January (preliminary result for previous calendar year) and October (final results for the previous calendar year).

### **Sampling frame**

The sector calculations are built up from data drawn from different sources such as The Swedish farm register (LBR), estimates for harvest, statistics of slaughter, index and retail prices for foodstuffs according to Consumer Price Index and accounts. The EAA also regard leaseholds and costs of depreciation for machines and tools.

### **Survey is compulsory or voluntary?**

Supply of data on agriculture is compulsory under the following statutory provisions: SFS 2001:99, SFS 2001:100.

### **Main features of survey methodology**

Economic trends in the agricultural sector as a whole are monitored by the Swedish Board of Agriculture. The total income and costs of the sector and the operating surplus representing the difference between the two are calculated. The calculations should only include income from agricultural production proper and costs associated with it. The income of farmers from other industries, e.g. forestry, is not included. This means that the operating surplus in the sector calculations is not a measure of the total income of farmers as many farmers also are forest owners.

The value of transactions taking place in the sector is not recorded. For goods, which leave the sector but subsequently constitute intermediate consumption in production a net cost is recorded, called trade and processing margins, as a separate cost item. As regards that portion which is sold to the animal feed industry and is then repurchased in the form of feed mixes only trade and processing margins are entered as a cost. Income is only recorded in respect of that portion which leaves the sector and is consumed outside it.

The calculation seeks to show total economic trends in the agricultural sector. The calculation is used as a basis for agricultural policy assessments of changes in the agricultural sector. The data recorded cover not only values but also volumes (applicable to the income side and to certain items on the expenditure side). The latter data are sometimes used in isolation in order to assess production changes in agriculture.

Extensive reports on sector calculations containing source references and long time-series are produced intermittently. Such a report (EAA-Ekonomisk kalkyl för jordbrukssektorn [Sector calculation for Swedish agriculture] 2003-2014) was completed in October 2015.

**Population size**

The units and population are made up of the enterprises included in the agricultural sector in accordance with the EU definition of this sector. The population is consistent with that in the Swedish farm register, which amounted to some 67 146 units in 2013.

**Sample size and survey response rate**

The sector calculations are built up from data drawn from different sources. It is thus not possible to provide a generally applicable indication of sample size or response rate; certain data are based on large samples, others on smaller samples.

**Method used to impute for missing data**

For some cost items there are only data for certain sections of the farming population. For the remainder certain systematic assumptions are made.

**Variable used for grossing-up to the population**

The statistics are based on estimates of totals and quotas. The estimates of totals are:

- Production value per product.
- Agricultural subsidy per product.
- Cost per type of cost.

The estimates of quotas are indexes of volume, price and value.

**Sample coverage**

It is difficult to give a measure of confidence for the data recorded, since they are based on statistics from a multiplicity of different sources, mainly price and production data, yield estimates and economic statistics for agriculture on a micro statistical level. On the income side certainty is high since it is based on reliable macro statistics. On the cost side it is more difficult to assess certainty, since a number of cost items are based on systematic assumptions. Estimates for the different types of costs are based on aggregated accountings from about 11 000 units. Uncertainty in the forecasts and preliminary calculations made is considerable, and the final calculations recorded later may diverge significantly from the forecast values. On the cost side there is under-coverage for certain items.

**Main variables collected**

Primary material is not included within the framework of this statistical product, apart from the horticultural side (which in the EU perspective forms part of agriculture) and costs for pesticides, fertilisers and machinery and equipment. Otherwise the sector calculation is based on compilations and processing of other statistical material.

**Variables**

Operating surplus for the agricultural sector together with income, costs and output values for the products and services, which leave the agricultural sector or are purchased by it.

In the final results for last calendar year, published in October, the following variables are reported:

- Yearly value of production by product/service in both current and fixed prices.
- Yearly costs by type of cost for agriculture production in both current and fixed prices.
- Yearly benefit by agricultural subsidies.
- Yearly value added by processing and value of other measures of result.

The prognosis and preliminary results only consist of development from last year. For groups of products and types of costs the following three indexes are reported:

- Volume index
- Price index
- Value index

### **Groups of accountings**

The prognosis and preliminary results consist of the following groups of products, other types of incomes and types of costs:

- Grain, industry crops, fodder-plants, garden- and nursery plants, potatoes, fruit, berries and other plants and vegetable products.
- Animals and animal products.
- Agricultural services.
- Secondary non-agricultural activities.
- Agricultural subsidies.
- Use of investments.
- Capital destruction.
- Wages and collective fees.
- Leasehold- and rental costs.
- Interest charges and incomes from interest.

In the final results are accounted in more detailed levels:

#### *Examples of income items*

Autumn wheat, Spring wheat, Rye, Total cereals (excluding feed grain), Barley, Oats, Cooking peas, Total other grains, Table potatoes, Processing potatoes, Sugar beet, Total potatoes and sugar beet, Feed for leisure horses, Export of hay, Oil crops, Kitchen vegetables, Milk for dairy production, Milk other than for dairy production, Milk for home consumption, Eggs, Slaughter of poultry, Mature cattle, Large calves, Smaller calves, Horses, Sheep, Pigs, Residual payments, Wool and sheepskin, Export of live animals, Low income action (includes money for stand-in schemes and social security), Residual payments from farmers' union, Compensation for crop damage, Direct disbursements.

Changes in livestock

#### *Examples of cost items:*

Motor fuels and lubricants, Fertiliser, Lime, Purchased feeds, Miscellaneous requisites, Electricity, Freight, Drying costs, Inspection costs, Insemination costs, Hire of machinery, Trade and processing margins, Personal transport, Other services, Insurance, Stand-in services.

Depreciation: Buildings, Ground installations, Machinery

Maintenance: Buildings, Ground installations, Machinery

Interest charges, Interest income, Net interest costs, Hired labour

### **Measures of result**

The measures of result in EAA in basic price are counted in the following way:

- + Value of production of vegetables
- + Value of animal production
- + Revenues from agricultural services
- + Revenues from secondary non-agricultural activities
- = Total value of production

- Costs for intermediate consumption
- = Gross value added by processing in basic price
- Capital destruction
- = Net value added by processing in basic price
- + Other so-called production subsidies.
- = Factor income
- Wages and collective fees
- = Net operating surplus
- Leasehold- and rental costs.
- Net interest costs
- = Incomes from enterprises

## Statistics on operations in large-scale and small-scale forestry (2011)

The statistics are produced in two separate inquiries known as “Statistics on operations in large-scale forestry” and “Statistics on operations and employment in small-scale forestry”.

### Link to inquiries conducted at European level

There is no EU regulation. The inquiry on large-scale forestry is produced by the Swedish Forest Agency (SFA).

### Reporting units

Large-scale forestry (more than 5 000 hectares): data are collected in a postal survey by the Swedish Forest Agency. Each enterprise questioned decides for itself what level in the enterprise should respond to the survey. As a rule the questionnaire is answered at management level. The data requested are normally readily available in the internal systems of the enterprises.

Small-scale forestry (between 5 and 5 000 hectares): the inquiry is conducted by telephone interviews by the personnel of Swedish Forest Agency who work close to the location of the landowners' property. Landowners are given prior notice of the interview and the questions 1-3 weeks before the date of the interview.

### Periodicity

Annual.

### Results availability

Five months.

### Sampling frame

All forestry enterprises in the forestry data register of the National Board of Forestry.

### Compulsory or voluntary?

There is no obligation to supply data.

### Main features of survey methodology

The Swedish Forest Agency has published statistics on forestry operations since the 1940s. The methods varied but the aim was to quantify the extent of the main silviculture operations in Swedish forestry.

Normally different routines are used for large and small forestry enterprises. Inquiries on large-scale forestry are conducted and the data recorded jointly with the inquiries on small-scale forestry. Together the two inquiries cover forestry as a whole. The present procedure for statistics on operations in large-scale forestry has been applied since 1983. The comparability of the statistics over time is considered very good.

### Population size

Large-scale forestry: all forestry enterprises in large-scale forestry. These are total approximately 120 enterprises.

Small-scale forestry: the population consists of all economic units which are not included in large-scale forestry and which have more than 5 hectares of forest land. These are total approximately 200 000 enterprises.

**Sample size**

Large-scale forestry: A total of approximately 120 enterprises are included. In the main all enterprises with over 5 000 hectares of forest land are included in the inquiry.

Small-scale forestry: stratified samples by counties and size categories according to area of forest land. The sample is approximately 2 240 economic units out of a total of 200 000 in the sampling frame.

**Survey response rate**

Large-scale forestry: the statistics are a full census and all large forest owners reported operations completed. The non-response rate varies normally between 15% and 20%, which is considered low.

Small-scale forestry: the non-response rate is normally approximately 25 %, which is considered low.

**Grossing method**

The variable used for grossing to population level is the population in relation to the number of responses received per stratum.

**Sample coverage**

Altogether the inquiries provide a complete picture of operations performed in timber felling and silviculture.

**Main variables collected**

The main variables are areas and volumes of timber felled, area of forestry operations performed and share of activity on own account in timber felling and silviculture.

*Timber felling:*

Area of regeneration felling

Area of thinning

Volume of regeneration felling

Volume of thinning,

Volume of other felling

Removal of branches and tops for energy purposes in regeneration felling,

Removal of branches and tops for energy purposes in thinning.

*Silviculture operations:*

Mechanical soil preparation

Controlled burning

Protective drainage

Planting

Sowing

Supplemental planting and replanting

Contort planting

Cleaning-thinning

Fertilisation

Pruning

*Other:*

Drainage

Forest road construction.

## **Felling volumes in forestry and wood measurement (2011)**

The annual estimates of the gross felling for the entire country are carried out continuously according to two methods: The Swedish Forest Agency's gross felling model and on the stump enumeration according to Swedish National Forest Inventory (NFI).

The model described below, which was developed at the Swedish Forest Agency, forms the main basis for the national accounts calculations of felling volumes in forestry. NFI is described in the next section.

### **Link to inquiries conducted at European level**

Roughly every five years statistics are supplied by the Swedish Forest Agency and NFI to international organisations such as the Food and Agriculture Organisation of the United Nations (FAO) and OECD. The statistics refer to national values and cover forested areas, timber stocks, biomass, increment and natural thinning.

The EU publication Forestry statistics presents Eurostat's forestry statistics for the EU for the period 1995-2005. Data on forest resources have thus been taken from FAO and the Forest Resources Assessment (FRA).

### **Reporting units**

Almost all delivery timber is measured by one of the country's measurement societies.

The production of saw timber products is calculated with the aid of data obtained partly from members of the Swedish timber goods producers' associations.

Data on the production of paper pulp are obtained from the trade association of forestry industries.

### **Periodicity**

Annual.

### **Results availability**

In August a final calculation is carried out for actual felling in the previous year.

In October there is a forecast of timber felled in the current year.

### **Compulsory or voluntary?**

There is no obligation to supply data on carried out felling. Forest owners are legally bound to give the Swedish Forest Agency at least six weeks advance notice of planned final felling exceeding 0.5 hectares. Notification of final felling is valid for five years (renewable) and permits for final felling are valid for five years. Statistics for notified felling or granted permits for final felling do not correspond with final felling statistics. Notified final felling and granted permit felling is not always carried out and default is more common in large-scale forestry than private ownership.

Because of this the Swedish Forest Agency's (SFA's) gross felling model is instead based on industrial production of sawn softwood and wood pulp.

### **Main features of survey methodology and imputation method**

SFA's gross felling model is based on industrial production of sawn softwood and wood pulp. Wood consumption figures are assumed with the help of consumption factor to produce different products. Addition for consumption of broad-leaved saw logs, wood in board industry, fuel wood and other wood are made. The figures are then adjusted from the foreign trade of round wood and chips, together with the changes in the stocks of round wood and chips. The gross felling is finally computed by adding the volumes of cut whole trees, left in the forest.



In the final model data used on round wood consumption is according to the Wood Measurement Societies. Measurement and scaling of round wood is almost exclusively carried out by three independent societies. Volume and quality class selection are calculated in the tables but the volumes are not to be mistaken for the volume of felled trees, as imported wood is also included in the measurement.

The calculation is performed on actual consumption from previous years but is adjusted for changes in the product mix during the year in question. However, adjustment also has to be made for cross-cut marking, waste etc. This is done with the aid of an adjustment factor.

Woodchips supplied by sawmills to the pulp industry must be deducted from the intermediate consumption of pulp wood in order to obtain consumption of stem wood. The production of woodchips is calculated by multiplying the production of sawn timber by a factor obtained from the latest Sawmill Inventory. The proportion of woodchip production going to the paper pulp industry was also obtained from the same report.

A supplement is included for the consumption of hardwood saw timber, wood in the board industry, firewood and other wood (piles, poles, charcoal wood, veneer timber and matchwood, props, mining timber and wood for agriculture, excluding saw timber). The data are corrected with data from international trade in round timber and woodchips and changes in round wood and woodchip inventories. The extrapolated consumption volume is taken to be the removal of timber, measured as net felling during the year in question.

### **Sample size, sample coverage and grossing method**

Full census.

### **Survey response rate**

The statistics of the Swedish Forest Agency's gross felling model are only marginally affected by non-response.

### **Main variables collected**

The report covers felling statistics, calculated annual removals and notified final felling areas. Some data about marking for cutting and wood measurement statistics are also included.

The calculation of net felling is based on round wood consumption broken down as follows:

- Softwood timber, including veneer timber.
- Hardwood timber.
- Stem wood for the paper pulp and fibreboard industry.
- Stem wood for fuel.
- Other timber.

## Fishing statistics

The statistics are produced by the Swedish Agency for Marine and Water Management and the Swedish Board of Agriculture, which are the agencies responsible for the presentation of fishing statistics. There are three sets of statistics, i.e. “Fishing in marine waters by commercial fishermen”, “Fishing in inland waters by commercial fishermen” and “Aquaculture in Sweden”.

Data on catches in marine waters are obtained from catch receivers authorised by the Swedish Agency for Marine and Water Management. See description of “Fishing in marine waters by commercial fishermen” below.

*Fishing in inland waters by commercial fishermen* is of considerably less importance, accounting for only approx. SEK 80 million (for 2011). Data are obtained from fishing operators on the major Swedish lakes. Recording is by volumes and sale prices. The statistics are not regulated by the EU but there is a national obligation to supply data (FIFS 2004:25).

*Aquaculture* in Sweden covers the breeding and cultivation of all species of animals and plants in water according to EEC Regulation No 762/2008. For Swedish purposes it covers fish for human consumption, fish for stocking and juveniles. All cultures for which the Swedish Board of Agriculture or the county councils have granted a licence are covered by the inquiry. Data are recorded by volumes and sale values. The values are relatively modest in context, sales amounting to approximately SEK 400 million (for 2011).

## **Production of commodities and industrial services (IVP)**

### **Link to surveys undertaken at the European level**

The statistics have been produced since 1996, in line with EU requirements, in a special inquiry separate from the industry-by-industry statistics. The statistics form part of a coordinated EU inquiry, PRODCOM (Production Statistics in the Community). A goods classification in accordance with the EU Combined Nomenclature (KN), which is also used for the international trade statistics, is used to report the production data. The inquiry is regulated by the EU in accordance with Council Regulation (EEC) No 3924/91 of 19 December 1991 on the establishment of a Community survey of industrial production. Commission Regulation (EC) No 912/2004 of 29 April 2004 implementing Council Regulation (EEC) No 3924/91 on the establishment of a Community survey of industrial production. Commission Regulation (EU) No 842/2014 of 4 July 2014 establishing for 2014 the 'Prodcom list' of industrial products provided for by Council Regulation (EEC) No 3924/91.

### **Reporting units**

Reporting units are kind of activity units (VE) belonging to industrial enterprises. For some large VEs, local units (AE) are reporting.

### **Periodicity**

The periodicity is annual.

### **Time of availability of results**

The first preliminary data are published six months after the close of the reference period. The final results are published 16 months after the close of the reference period.

### **Sampling frame**

The sampling frame is based on Statistics Sweden's business register. The frame is created from a frozen version of the business register in November the reference year. All (industrial) enterprises within NACE 05-33 with 20 or more employees and/or industrial enterprises with a turnover exceeding 75 million SEK are included in the frame. A small number of AEs classified within NACE 05-33 belonging to an enterprise with a NACE code not in 05-33 are also included in the frame. All the enterprises above the threshold are surveyed, i.e. there is no (probability) sample taken above the threshold.

### **Compulsory or voluntary?**

Supply of data on industrial goods production is compulsory under the following statutory provisions: Official Statistics Act (SFS 2001: 99), regulation of statistics (SFS 2009:400) and Statistics Sweden SCB's regulation (SCB-FS 2009:1).

### **Main features of survey methodology**

IVP is collected by web questionnaire. The statistics are intended to provide information annually on the distribution of goods in Swedish industrial production. The production of both goods and industrial services is covered by the statistics.

The following are included in industrial services:

- Repairs and maintenance for third parties
- Assembly and installation on site for third parties
- Other processing of products, e.g. bleaching, dyeing, grinding, printing, gilding, etching, painting and varnishing.

The statistics must provide a high level of detail and indicate quantities produced during the year and their market value. Because of the lack of scope for respondents to report production values, data are collected on products sold during the year, i.e. also products manufactured prior to the reference year in question. Reporting for periods, which do not coincide with a calendar year, a “split” accounting year is accepted.

For recording at detailed goods level, enterprises report according to KN used in the EU trade statistics. In order to satisfy the PRODCOM requirements, all codes can be aggregated to the PRODCOM list of products. For national purposes, subdivisions have been introduced to the eight-digit code in accordance with the KN for goods and supplements to the industrial services contained in the PRODCOM list.

Data must in principle refer to the calendar year. A number of enterprises, however, have an accounting year, which covers a different period. This is accepted in the statistics.

### **Population size**

The population in IVP consists of enterprises within NACE 05-33 who were active during the reference year. A small number of AEs classified within NACE 05-33 belonging to an enterprise with a primary NACE code not in 05-33 is also include in the population. The population size is about 55 000 enterprises.

### **Sample size**

All the enterprises above the threshold (read the section on sampling frame) are included in the sample. The sample size is about 4 000 enterprises.

### **Survey response rate**

The unweight non-response is approximately 6 percent and weighted non-response is approximately 1 percent (weights based on the sold value of enterprises production) in IVP.

### **Method used to impute for missing data**

Item non-response can occur in the survey. That means that information is missing for the quantity variable for one or several KN codes for an enterprise. The variable sold value is not accepted as a missing data in the data collection. Missing quantities are imputed by a unit value approach. Unit value for a KN code is calculated from different sources and used hierarchically. The first source is unit value from recent years for an individual enterprise. The second source is unit value calculated from enterprises in IVP which has reported production on the specific KN code. The third source is unit value from enterprises in the foreign trade statistics.

No non-response compensation is done if an enterprise has missed to report one or several KN codes (because it is difficult to identify this type of non-response).

For unit non-response, which means that an enterprise has not reported any information at all, the imputation is done at the enterprise level. For each enterprise the following three steps are executed. First step is to impute the enterprises total sold value (derived from administrative registers). The second step is to distribute the total sold value on KN codes, by using a distribution key (containing “representative goods” based on some characteristics for the specific enterprise). The third step is to impute the quantity variable.

### **Variable used for grossing-up to the population**

For the group of enterprises below the threshold (cut-off population) a mass imputation is done. That means that for each enterprise a full imputation is executed in the same way as for the unit non-response (read the section Method used to impute for missing data). The parameters, for example total sold value for a PRODCOM code, are then estimated by simply summing sold value over all the

surveyed enterprises (above the threshold) and the enterprises belonging to the cut-off population. Therefore, the final estimates cover the whole population.

**Sample coverage, as % in terms of variable used for grossing-up**

The surveyed enterprises covers about 90 percent of the total sold value in the population. However, the coverage rate varies between different NACE's and different PRODCOM codes.

**Main variables collected**

Sold values and quantities (totals produced and delivered) per type of KN code are collected. Other collected variables are sales from trade and other activities per industry.

Around 4000 codes are recorded in accordance with the Combined Nomenclature (which consist of 10 500 codes) plus about 700 industrial services based on the PRODCOM list.

A total of about 2 400 codes of products and industrial services are recorded in Sweden in accordance with the PRODCOM list (which consist of 4 500 codes).

**Further adjustments made to the survey data**

No further adjustments are made to the survey data in order to estimate the parameters than those described above.

## **Industrial consumption of purchased goods (Industrins förbrukning av inköpta varor, INFI)**

### **Purpose and history**

The survey Industrial consumption of purchased goods started in 1999 as an independent survey. Earlier it was a part of the Structural business survey (SBS). The main purpose of the survey is to give a breakdown of intermediate consumption in industrial enterprises when calculating Swedish GDP. The results of the survey are used by National accounts at Statistics Sweden and will not be published. The industrial sector contributes about 20 percent to GDP.

### **Link to surveys undertaken at the European level**

There is no EU regulation for this survey.

### **Reporting units**

Kind of activity units (KAU).

### **Periodicity**

Annual

### **Results availability**

The results are available for the National accounts about 16 months after the end of the year calculated, i.e. results for year 2013 are available in April 2015.

### **Sampling frame**

The survey has a rotating sample so that during a three year period all the industrial sectors (NACE 05-33) will be surveyed. A representative sample of businesses is selected every year and each individual business will only participate once during the three year period.

A cut off is used to further delimit the frame. The “sample” in strata k is then the nk enterprises with the highest expected industrial consumption. The aim is to cover as much consumption as possible with the sample.

### **Compulsory or voluntary?**

There is an obligation to provide information for this survey according to the Official Statistics Act (SFS 2001:99). The statistics are also regulated according to the Official Statistics Ordinance (SFS 2001:100) and Statistics Sweden regulations (SCB-FS 2015:14).

### **Main features of survey methodology**

A web-based questionnaire is sent to the purchasing manager of the responding enterprise. The questionnaire has lists of costs specific for each industry

### **Population size**

Approximately 15000 enterprises.

### **Sample size**

Approximately 700 enterprises

### **Survey response rate**

Year 2013: Inflow 82% (weighted 97%).

**Method used to impute for missing data**

This is done either with the distribution of the same object from a previous production run or the distribution of one or more objects in this year's round of similar production, using Procom survey (t-1).

**Variable used to impute missing data:**

The SBS (t-1) provide an overall industrial consumption-variable for the enterprise that is used for imputation. The variable is allocated to the expected goods of the enterprise, using the method above.

**Grossing-up:**

The industrial consumption variable provided by the SBS.

**Sample coverage, as % in terms of variable used for grossing-up:**

At least 70% in all industrial sectors. Some exceptions can be made if production in the industrial sector seems very homogenous.

**Main variables collected**

industrial consumption of purchased goods, divided into detailed groups of goods.

## **Intermediate consumption of service enterprises (TFF)**

### **Purpose and history**

Statistics Sweden has been commissioned by the Swedish parliament and government to describe the business sector in Sweden. The survey Intermediate consumption of service enterprises started in 2005. At first it was carried out apart from the Structural Business Statistics (SBS), but as of the second survey in 2006 data collection has been coordinated within the frameworks of the SBS. The main purpose of the survey is to fill the earlier information gap of intermediate consumption in service enterprises when calculating Swedish Gross Domestic Product (GDP). The information is checked with information about business costs from the SBS. The results of the survey are used by National accounts at Statistics Sweden and will not be published.

The service sector contributes about 50 percent to GDP.

### **Link to surveys undertaken at the European level**

There is no EU regulation for this survey.

### **Reporting units**

Kind of activity unit (VE).

### **Periodicity**

Multiannual, see sampling frame.

### **Results availability**

The results are available for the National accounts about 16 months after the end of the year calculated, i.e. results for year 2013 were available in April 2015.

### **Sampling frame**

The survey has a rotating sample so that during a five year period all the service sectors (NACE 45-96 excluding 64-66, 84) will be surveyed. A representative sample of businesses is selected every year and each individual business will only participate once during the five year period.

### **Compulsory or voluntary?**

There is an obligation to provide information for this survey according to the Official Statistics Act (SFS 2001:99). The statistics are also regulated according to the Official Statistics Ordinance (SFS 2001:100) and Statistics Sweden regulations (SCB-FS 2015:14).

### **Main features of survey methodology**

A web-based questionnaire is sent to the financial manager of the responding enterprise. There are a total of 52 distinct questionnaires depending on NACE-industry. Every questionnaire has lists of costs specific for each industry where all costs are to be divided between all raw materials and other external costs.

### **Population size**

Approximately 700.000 VE:s

### **Sample size**

Approximately 5.000 enterprises

### **Survey response rate**



2010 - 80%  
 2011 - 78%  
 2012 - 85%  
 2013 - 82%  
 2014 - 84%

### Method used to impute for missing data

Only a few items or units are imputed using expert imputation.

### Variable used to impute missing data:

We referenced the target company's annual report and the SBS survey.

### Grossing-up (e.g. turnover/ employment):

We use a calibration estimator on the following form:

$$\hat{T}_{CAL}(Y) = \left( \sum_r \frac{X_k^2 q_k}{\pi_k \hat{\theta}_k} \right)^{-1} \sum_r \frac{X_k Y_k q_k}{\pi_k \hat{\theta}_k} \cdot \sum_{U_M} X_k$$

where  $q_k$  describes the variance structure and

$\hat{\theta}_k$  is the response propensity, which in this case is put equal to  $\frac{m_h}{n_h}$ .

That is the number of responding units  $m_h$  divided by the number of selected units in stratum  $h$ .

$X_k$  is the total cost for unit  $k$  according to SBS.

**Sample coverage**, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): 17 per cent

### Main variables collected

In calculating the Total Costs we aggregated the sum of all companies total operating expenses such as goods for resale, raw materials and consumables and other external costs. Costs for personnel, depreciations and write-downs, items affecting comparability and other operating expenses are not to be included. Each NACE-industry has a tailor made list of variables.

## **Annual energy statistics for electricity, gas and district heating (2011)**

### **Link to surveys undertaken at the European level**

EEC Regulation No 2004/8/EC. The agency responsible for the statistics is the Swedish Energy Agency. The statistics are produced by Statistics Sweden.

### **Reporting units**

Enterprises with the following activity:

Transmission of electricity.

Sales of electricity.

Production of electricity. The power source must be at least 100 kW. For own use only, the limit is 400 kW.

Heat production.

District heat distribution.

Production and distribution of town gas, distribution of natural gas.

Power stations, combined heat and power plants, and non-integrated heat generating plants, which are included in the above-mentioned enterprises.

### **Periodicity**

The inquiry is annual. It covers a full calendar year, also in those cases when the calendar year is split.

### **Time of availability of results**

The final results are published 11 months after the close of the reference period.

### **Sampling frame**

Full census.

### **Survey is compulsory or voluntary?**

Supply of data annual energy statistics for electricity, gas and district heating is compulsory under the following statutory provisions: Official Statistics Act (SFS 2001: 99) and Swedish Energy Agency's regulation (STEMFS 2014:4).

### **Main features of survey methodology**

The statistics provide information on the supply and use of electricity, gas and district heating, costs and income, fuel consumption and technical equipment at power stations etc. Data are collected by postal surveys, mainly with the use of electronic forms. The inquiry, amongst other things, counts totals for variables relating to supply, use, costs, income, employment etc. Mean values: electricity transmitted per subscription and average prices for electricity and grid service.

### **Population size**

The population contains of:

Approx. 800 enterprises (whereof 170 grid companies and 630 others)

Approx. 1 500 power stations and heat generating plants (special data).

8 gasworks and natural gas distributors

### **Sample size**

Full census.

**Survey response rate**

Non-response arises at both unit level and in data reporting. The non-response is limited to approx. 50 smaller enterprises.

**Method used to impute for missing data**

Collected data undergo scrutiny and, where appropriate, correction on registration. In the case of obvious errors the respondent is contacted for verification/amendment. The data are checked automatically in conjunction with the transfer of data to Statistics Sweden's production system. A macro-check is performed prior to publication. Electricity production can be reconciled with the monthly electricity statistics. Fuel consumption in electricity and heat production can be reconciled with the quarterly fuel statistics. Agreement is good.

**Sample coverage, of variable used for grossing-up**

Full census. Over and under-coverage arise to a very insignificant extent. Extensive structural changes, however, have increased the risk of both under-coverage and over-coverage.

**Main variables collected**

The statistical targets covered by the inquiry can be grouped into three categories for the production and consumption of *electricity, district heating and gas*. Overall electricity production and technical equipment are recorded broken down by the industrial classification of the enterprises and by power station type. Transmitted electricity is recorded county-by-county for the consumer categories: industry, individual houses, multiple-occupancy buildings and total. Other variables are recorded at national level.

*Power stations:* data on technical equipment, gross production and own consumption of electricity and fuel consumption (quantity and value).

*Heat generating plants:* data on production and turnover for heat, consumption of electricity and fuels (quantity and values).

*Enterprises included in the population (see above):* sale (quantity and value allocated to the various sectors), other operating income/costs and employment. Grid companies must also indicate electricity transmitted broken down by different consumer categories and, where appropriate, different municipalities.

## **Financial corporations except insurance companies**

### **- Financial enterprises, annual financial data (2011)**

#### **Link to inquiries conducted at European level**

There is no EU regulation.

The agency responsible for the statistics is the Financial Supervisory Authority.

The statistics are produced by Statistics Sweden.

#### **Reporting units**

The inquiry covers institutions listed in the inspection register of the Financial Supervisory Authority. In addition to these, investment corporations and mutual funds are also covered by the inquiry. Units recorded are:

- 1) Credit institutions and securities brokerage companies according to the definition in Chapter 1 of the Act (1995:1559) on annual reports in credit institutions and mutual funds
- 2) Subsidiaries of Swedish credit institutions abroad
- 3) Groups in which a credit institution or a mutual fund is the parent company
- 4) Groups in which a financial holding corporation in accordance with the definition in Chapter 1 of the Act (1995:1559) on annual reports in credit institutions and mutual funds is the parent company
- 5) Foreign-owned banking subsidiaries
- 6) Mutual funds
- 7) Investment corporations.

#### **Periodicity**

Annual.

#### **Results availability**

The questionnaire with preliminary results is available about four months after the close of the year and the final results nine months after the close of the year.. They are published in Statistics Sweden's statistical database and financial enterprises, annual financial data.

#### **Sampling frame**

The sampling frame used in the inquiry is the Financial Supervisory Authority's register of financial enterprises supplemented by investment enterprises from Statistics Sweden's Business register.

#### **Compulsory or voluntary?**

The inquiry and supply of data is compulsory under the statutory provision FFFS 2008:14 for the Financial Supervisory Authority on annual and quarterly financial statements.

#### **Main features of survey methodology**

The statistical source for the annual production calculations for financial services, excluding ancillary services and insurance services, are the annual accounts statistics collected by Statistics Sweden. The questionnaire is drawn up by the Financial Supervisory Authority, and all financial corporations under supervision are to be covered by the inquiry. Reporting takes place with profit and loss account and balance sheet data set out separately for banks, credit market corporations, securities brokerage companies and mutual funds. In addition the statistics also covers investment corporations, which are

not subject to supervision. The purpose of the statistics is to provide information on the financial position of the institutions and the results of their activity in different areas in accordance with their annual accounts.

The inquiry is a full census and the data are collected via the so-called annual overview which is sent out to the institutions at the end of each year. The contents of the inquiry are based on the Annual Reports Act for credit institutions and securities brokerage companies (1195:1559) and statutory provisions of the Financial Supervisory Authority (FFFS 2008:25, and FFFS 2007:15) for annual overviews for credit institutions and securities brokerage companies.

For investment corporations there is a special form which is based on the Annual Reports Act, and for mutual funds a simplified form is used for certain profit and loss account data (based on the FFFS 2008:25).

Incoming data are registered and scrutinised and contact is made where necessary with the respondent.

Statistics Sweden's programme for the financial market has a programme council to assist the development of the financial market statistics. The members are representatives of the Financial Supervisory Authority, the National Institute of Economic Research (*Konjunkturinstitutet*, KI), the Swedish Central Bank, the research community, the Swedish Bankers Association and the market.

### **Population size**

The data from 2011 give the population size:

Approx. 504 units in recording category 1-5 according to the standard inquiry and also 817 mutual funds and 20 investment corporations.

### **Survey response rate**

There is in principle no non-response.

### **Main variables collected**

The main variables requested in the inquiry are:

#### **PROFIT AND LOSS ACCOUNT**

Interest income

Leasing income

Interest costs

Dividends received

Commission income

Commission costs

Net result of financial transactions

Other operating income

Total operating income

General administration costs

Writing-off and writing-down of tangible and intangible fixed assets

Other operating costs

Total costs before credit losses

Result before credit losses

Credit losses net

Change in value on acquisition of property

Writing-down of financial assets

Writing-back of financial assets

Operating result

Extraordinary income

Extraordinary costs  
Appropriations  
Taxes  
Result for the year

**BALANCE SHEET ASSETS**

Cash and credit with central banks  
Government debt instruments eligible to serve as security  
Loans to the public  
Bonds and other interest-bearing securities  
Shareholdings (not included in the next two rows)  
Shareholdings in associated companies  
Shareholdings in affiliated companies  
Intangible assets  
Tangible assets  
Other assets  
Prepaid expenses and accrued income  
Total assets

**DEBTS, PROVISIONS AND SHAREHOLDERS' EQUITY**

Debts to credit institutions  
Deposits and borrowings from the public  
Securities issued etc.  
Other debts  
Costs accrued and prepaid income  
Provisions  
Subordinate debts  
Untaxed reserves  
Result for the year  
Total debts, provisions and shareholders' equity

Profit and loss accounts relate to the calendar year and balance sheets relate to the position at 31 December, with the exception of institutions applying a split accounting year. Such institutions report data for the last accounting year ending before that date.

## **Insurance companies, annual financial data (2011)**

### **Link to inquiries conducted at European level**

EU regulation exists; the legislation applicable is: Directive 91/674/EEC and Regulations (EC) 1225/1999, 1226/1999, 1227/1999. There are possibilities for international comparison. The statistics are produced by the Financial Supervisory Authority.

### **Reporting units**

Units are grouped by type of enterprise: national Swedish non-life and life insurance companies (including unit link companies) and larger local non-life insurance companies (with a balance sheet total over 1 000 base amounts two years in a row). PPM (premium pension funds) are not included in the compilation of data.

### **Periodicity**

Annual.

### **Results availability**

The data are published eight months after the close of the year.

### **Sampling frame**

The sampling frame used is the inspection register of the Financial Supervisory Authority. The smaller larger local non-life insurance companies, not included, amount to less than 0.5 percent of the balance sheet total.

### **Compulsory or voluntary?**

Supply of data is compulsory under Chapter 19, Section 3, of the Insurance Business Act (1982:713), Section 49 of the Insurance Business Ordinance (1982:790), the Regulations on annual reports of insurance corporations (FFFS 2005:17) and the Regulations on the obligation of Swedish life insurance companies' obligation the supply annual data (FFFS 2005:21).

### **Main features of survey methodology**

The statistics cover insurance companies and pension institutions, excluding pension foundation and benevolent societies. PPM (premium pension funds) are not included in the compilation of data. Individual pension savings (IPS) are not included in these statistics and are published as part of Financial Market Statistics.

The data are based on the companies' annual reports. The statistics contain mainly data on the companies' profit and loss accounts and balance sheets, both at institution level and at overall level. The profit and loss account records are also broken down by branches of insurance.

Consistency and time series checks are carried out in each questionnaire. In some cases, checks are also made of the reasonableness of the responses and against other questionnaires. Checks are also carried out on the delivered statistics. Data providers are contacted where necessary. Obvious errors such as a large sum being placed in the wrong row in the questionnaire are usually detected during such checks.

### **Population size**

During 2011 there were 42 life insurance companies (of which 11 were fund insurance companies) and 88 non-life insurance companies (national companies). There were 39 larger local companies for non-life insurance (with a balance sheet total over 1 000 base amounts two years in a row).

### **Sample size**

The inquiry is a full census and has a very high level of reliability.

**Survey response rate**

The companies recorded comprise 100% of the institutions listed above. The data are used in the supervisory activities of the Financial Supervisory Authority. The data are scrutinised by auditors.

**Main variables collected**

Profit and loss account and balance sheet data for groups of insurance companies. For each branch of insurance there is information on premium income, capital yield, unrealised gains and losses, insurance settlements, bonuses and rebates, operating costs etc.

Examples of variables presented are premium incomes, compensatory payments, allocations to reserves etc.



## **Riksbank's (Sweden's central bank's) Financial Market Statistics (2015)**

### **Link to inquiries conducted at European level**

Financial market statistics (FMR) regarding monetary financial institutions are regulated by Council Regulation (EC) No 2533/98 of 23 November 1998 - concerning the collection of statistical information by the European Central Bank (ECB). This is specified in more detail in the guidelines ECB 2014/15 and in the regulation ECB 2013/33 concerning the balance sheet of the monetary financial institutions sector.

The agency responsible for the statistics is the Riksbank (Sweden's central bank).

The statistics are produced by Statistics Sweden, the Unit for Balance of Payments and Financial Market Statistics.

### **Reporting units**

Data on lending from housing credit institutions have been collected by the Riksbank from 1989 until March 2003 when Statistics Sweden took over on behalf of the Riksbank.

Data on certificates programmes on the Swedish market have been collected since December 1985, and the issuing of bonds and debenture loans since January 1996. As of March 2003, Statistics Sweden took over on behalf of the Riksbank.

Data on individual pension savings (RIPS) have been collected since 1994 and are regulated in the Individual Pension Savings Act (1993:931). RIPS is a long-term saving with the right to tax deductions. The statistics have been produced by the Riksbank until the reporting in March 2003 when Statistics Sweden took over on behalf of the Riksbank.

Certain time series in the reporting of Foreign assets and liabilities (RUTS) have been collected from banks since 1978. The statistics were developed during the 1980s with breakdown by countries and currencies. These statistics have been produced by the Riksbank until the reporting for March 2003 when Statistics Sweden took over on behalf of the Riksbank.

Derivatives statistics are collected every six months from the four large banks on a consolidated level, i.e. including subsidiaries and branches abroad, on behalf of the Bank of International Settlements (BIS).

In addition to the above, Statistics Sweden collects some data from or via the following sources:

- Data on the Swedish national debt are collected from the National Debt Office.
- The Riksbank's assets and liabilities are collected from the Riksbank, as well as data on the spot exchange flows at the end of the month. The foreign holdings of treasury bills are also collected from the Riksbank.
- From Statistics Sweden, the total placements of life insurance companies, AP funds and the Swedish Pensions Agency in money market instruments issued by the Swedish government in total currency are collected.
- Data on issued debt securities, incl. debenture loans (Swedish- and foreign markets) from the Securities statistics (FM9998) are used in the production of Financial Market Statistics. The collection covers the relevant Swedish issuing sectors such as Monetary Financial Institutions (MFI), non-financial corporations and the government. The Securities statistics is based on information on direct reporting from issuers, Euroclear's register and the securities database of the European Central Bank.
- Some balance and results items are taken from the Financial Supervisory Authority, such as income from interest rates and credit losses for MFI in total.

### **Periodicity**

The reference time for the balance values is the last calendar day in the month, quarter or six-month period. The reference time for the change value is the entire period from the previous to the current reference time.

### **Results availability**

Derivatives statistics are collected every six months and should be received by Statistics Sweden roughly 45 days after the end of December and end of June. The production time at Statistics Sweden is generally between eight to ten work days. A smaller number of statistical deliveries have a longer production time of around 20 work days.

The monthly balance and issue statistics should be received by the ECB at the latest on the 17th bank day after the end of the reference period. Other deliveries and publication on Statistics Sweden's website take place on the 19th bank day after the end of the reference period.

Quarterly data regarding balance statistics should be received by the ECB at the latest on the 28th bank day after the end of the reference period.

### **Sampling frame and population size**

The product FMR has a number of populations. The populations largely overlap each other but there are some differences. The main populations are MFIs, RUTS and RIPS but all the populations are presented in more detail below. Totally the population contains of around 200 institutions.

The MFI population consists of Swedish<sup>55</sup> monetary financial institutions (MFI) and their branches abroad. MFIs are defined as financial enterprises whose business it is to receive deposits and/or close substitutes for deposits from parties other than monetary financial institutions, and to grant credits or invest in securities on their own account. The following are considered MFIs: central banks (sector<sup>56</sup> 121000), banks (sector 122100), banking branches in Sweden of foreign banks (sector 122200), housing credit institutions (sector 122300), other monetary credit market corporations (sector 122400), monetary security and derivative dealers (sector 122500), other deposit-taking monetary financial institutions (sector 122900) and Money Market Funds (MMF) (sector 123000).

In the publication of data the MFI population usually refers to MFI excluding the Riksbank<sup>57</sup>.

For MMF sector data from the survey Investment fund, assets and liabilities (FM0403) are used (where the Swedish Financial Supervisory Authority is the responsibility authority). In Sweden the population of MMFs amounts to 3 institutions in December 2015.

The Riksbank provides a list of the institutions which are considered part of the MFI population.

The RIPS population includes all institutions which have special permission from the Financial Supervisory Authority for carrying out pension savings operations (IPS) in Sweden. The Financial Supervisory Authority compiles a list of all institutions with such permission and forwards this to Statistics Sweden.

The population for issue statistics consists of all MFI institutions which have permission from the Financial Supervisory Authority to issue securities on the Swedish market on their own or others' account. Data on permits is available on the website of the Financial Supervisory Authority.

The RUTS population consists of Swedish-owned banks (including subsidiaries and branches operating abroad) and foreign-owned banks operating in Sweden with considerable activity with other countries. The RUTS population is established on the basis of the institutions in sector 122100 banks

<sup>55</sup> Swedish means that the institution is operating within Sweden's borders.

<sup>56</sup> The sector divisions are according to INSEKT 2014, the Standard Classification by Institutional Sector, 2014.

<sup>57</sup> That which is here called MFI refers therefore primarily to that which is usually called OMFI (Other Monetary Financial Institutions), i.e. MFI excluding the central bank.

(and their branches abroad) and sector 122200 banking branches in Sweden of foreign banks, with considerable activity with foreign countries or have significant domestic position in foreign currencies. The population is reviewed once a year regarding the status on 30 September.

The population for Over The Counter (OTC) derivatives is made up of the largest domestically-owned institutions on the derivatives market, which in Sweden consists of the four Swedish-owned large banks. Reporting is made on a consolidated level, i.e. including subsidiaries and branches abroad.

Each institution (including branches to banks abroad) is a legal entity with the exception of the money market funds which are considered a tax object.

Balance and issue statistics are reported on a monthly basis. The statistics are based on data taken from the MFI form regulated by the Riksbank's statutes RBFS 2014:2, while Securities statistics are regulated in RBFS 2012:1. The MFI form is submitted on a monthly basis by the institutions which together have a balance sheet total amounting to 95 percent of the balance sheet total of all institutions which are obligated to report. The other institutions instead provide a statistical report for every quarter which Statistics Sweden uses as a basis for imputations in the in-between months. The delimitation of the 95 percent (monthly) and 5 percent (quarterly) is made for every calendar year, based on the circumstances on 30 September of the previous year.

RIPS and RUTS statistics are reported on a quarterly basis. RIPS is reported by pension savings institutions, i.e. institutions which have permission from the Financial Supervisory Authority to carry out pension savings operations, such as banks, securities companies, companies with permission to carry out securities operations and foreign securities companies with branches in Sweden. RUTS are reported by Swedish-owned banks (including subsidiaries and branches operating abroad) and foreign-owned banks operating in Sweden with considerable activity with other countries or significant local position in foreign currencies. The RUTS population is reviewed in September every year. The reporting of RIPS and RUTS is regulated by RBFS 2014:2.

### **Compulsory or voluntary?**

There is an obligation to report information according to Chapter 6 §9 of the Sveriges Riksbank Act (1988:1385).

### **Main features of survey methodology**

The Riksbank has for a long time produced statistics on Swedish MFIs and the financial markets, called financial market statistics. Data are collected primarily on a monthly basis. Some data are only collected quarterly or every six months.

The statistics provide a picture of the overall structure of

MFIs' assets and liabilities

The development of the money supply and credit flows (deposits and lending)

The securities market

Country and currency distribution of foreign assets and liabilities

OTC derivatives

All statistics are collected electronically via the FMBoP-system. The statistics are quick statistics, which means that Statistics Sweden can revise values afterwards. The statistics do not contain any balance sheet allocations, which means that the data are not completely comparable with the statistics based on data submitted after the accounts are balanced.

The statistics are primarily presented on the basis of a balance sheet structure containing assets and liabilities, which are broken down into more or less detailed levels and counterparts. Furthermore,

individual pension savings, the derivatives market, foreign assets and liabilities and the securities market are reported separately.

Part (in many cases the same as the reporting institution) are presented either using the whole population as one group or as one or several particularly interesting institution groups within the population, such as banks, housing credit institutions and finance companies. Regarding the MFI population, the statistics are presented either including or excluding the Swedish institutions' branches abroad, depending on the statistical delivery.

The counterparts are divided up per country or country group and per institutional sector/sub-sector. The divisions follow the Standard Classification by Institutional Sector (INSEKT), with the difference that the foreign counterparts are specified into different sectors. The usual country breakdown is Sweden, EMU countries, other EU countries and rest of the world. The usual sector breakdown is MFI with sub-sectors and Swedish non-MFI in which households and non-financial corporations are included for example.

Deposits and lending are two very central items in the statistics and, for example, lending to Swedish households can be mentioned as one of the most important study domains. Lending to households is presented as stock data at the end of the respective month. Specified parts being banks, housing credit institutions and finance companies.

The money supply (M0 and M3) are also very central reporting measures. M0 is defined as the general public's holdings of notes and coins (Swedish kronor) and is calculated based on the Riksbank's total amount of notes and coins in circulation minus the MFIs' holdings of notes and coins. M3 is defined as the general public's holdings of notes and coins (M0), the Swedish general public's deposits in MFI (all fixation periods excluding IPS and in all currencies) and the Swedish general public's holdings in certificates of deposit, denominated in Swedish kronor. MFI deposits from the Swedish general public are presented specified into households, NPISH, financial corporation (not MFI), local government and non-financial corporations. Shares of MMF:s, repos and debt securities issued by MFI:s, (< 2 years and held by Swedish non-bank public) are also presented separately.

Consistency and time series checks are carried out in each questionnaire. In some cases, checks are also made of the reasonableness of the responses and against other questionnaires. Checks are also carried out on the delivered statistics. Data providers are contacted where necessary. Obvious errors such as a large sum being placed in the wrong row in the questionnaire are usually detected during such checks. However, errors due to the data provider misunderstanding what data should be reported under each item may not be detected.

Deliveries of statistics to the ECB and BIS are also checked with regard to time series, consistency and reasonableness by the recipient and this is communicated back to Statistics Sweden.

These statistics do not include balance sheet allocations. They are therefore not completely comparable with other statistics based on balance sheets, such as financial enterprises, annual accounting (FM0402).

### **Sample size, sample coverage and survey response rate**

The coverage is very nearly total. There is a slight risk for undercoverage for newly-established institutions and foreign affiliates that have not started reporting at the first reporting time. It could alternatively be the case that the Swedish parent company has not informed Statistics Sweden that new branches or subsidiaries have been started abroad.

The main form for the statistics, the MFI questionnaire, is collected monthly with the exception of the smallest institutions, which together have a balance sheet total amounting to a maximum of 5 percent of the balance sheet total of all the institutions that are obligated to provide data. These institutions submit the questionnaire on a quarterly basis.

When the first round of results is delivered to customers, non-response can amount to 1-3 institutions of a total of around 200 institutions. These usually submit data within a month or so.

The statistics consist of a number of total surveys, which means that sample errors do not occur. However, it is very difficult to know whether all data are correctly filled in, despite several checks being carried out. For example, a submitted balance sheet can appear correct even if the figures reported are not correctly filled in. This is also the case for gross changes during the period, etc. To minimise reporting errors, the Riksbank's regulations and general guidelines (RBFS) and supplementary instructions for each form have been developed in consultation with the reporting institutions. Questionnaires and instructions are continuously adapted to capture institutional changes and changes in the study domains. This work is also carried out in consultation with the reporting institutions.

### **Method used for to impute for missing data and variable used for grossing up to the population**

When the first round of results is delivered to customers, non-response can amount to 1-3 institutions of a total of around 200 institutions. These usually submit data within a month or so. In cases where an institution does not submit the MFI report in time for delivery, the balance value is imputed from the previous month or quarter. This is the same as if no further financial events have occurred. For any non-response of other questionnaires, no non-response measures are taken. In conclusion, object non-response is considered to be negligible, as it is far too small to affect the results.

The partial non-response is not known. A submitted balance sheet always matches but it is still not possible to know whether the distribution of items has been correctly done. In certain cases, it is suspected that a large value has been placed under only a few items, for example the item "Other", instead of being specified into the various financial objects.

The main form for the statistics, the MFI questionnaire, is collected monthly with the exception of the smallest institutions, which together have a balance sheet total amounting to a maximum of 5 percent of the balance sheet total of all the institutions that are obligated to provide data. These institutions submit the questionnaire on a quarterly basis. For these institutions, the balance value is imputed for the in-between months from the previous quarter. This means that the months January, February, April, May, July, August, October and November are calculated as if no further financial events have occurred for these institutions. The 5 percent group's share of the total balance sheet is however so small that this estimation is not considered to significantly changing the results of the survey.

From December 2003 onwards, data on lending to the counterpart sector households by purpose have been compiled and delivered. However this variable is not collected. The purpose is instead approximated based on which collateral the loan has in combination with the sectors that the lender and the counterpart belong to.

### **Main variables collected**

All statistical data which an institution should report to Statistics Sweden are identified using 14 dimension variables:

1. Account : (balance value or changes)
2. Account type : (states page on balance sheet)
3. Account item : ( states type of asset or liability)
4. Duration (type of time-related conditions)
5. Purpose: (for lending and deposits and shares)
6. Collateral (underlying asset)
7. Country (where counterpart is located)
8. Counterpart (type of sector of other party)
9. Currency
10. Valuation (valuation type for object)
11. Sort (unit such as number, sum in kronor or such like)
12. Data provider
13. Year
14. Period

Every dimension variable has a value set with at least two actual values (members). The dimension variables 1-11 can also contain the value "X" which means "not specified". In the forms submitted by the data providers, the variable code is not visible; they fill in cells based on named columns and rows.

## **10.2 Statistical surveys and other data sources used for the income approach**

### **Gross pay based on income statements (2011)**

#### **Link to inquiries conducted at European level**

There is no EU regulation directly affecting statistics from the gross pay based on income statement register (KU-register). The statistics are produced by Statistics Sweden in the publication LSUM (kontrolluppgiftsbaserad lönesummestatistik).

#### **Reporting units**

The statistics from the income statement register are based on administrative material regulated in the Swedish tax legislation.

#### **Periodicity**

Calendar year.

#### **Time of availability of results**

The gross payment of income statement register and the payroll statistics per establishment is produced and published annually. A preliminary version is brought out in March and the final version in September the year after the income year.

#### **Sampling frame**

Full census. There is however a threshold, an income statement must be supplied if the total value of remuneration and benefits to a person is SEK 1000 or more for the whole year. Incomes that fall under this level are not included in the data.

#### **Compulsory or voluntary?**

Income statements have to be supplied for any person who has received a wage or salary, fee, other compensation or benefit which constitutes taxable income from employment as referred to in the Tax Returns and Income Statements Act (2001:1227). An income statement must be supplied if the total value of remuneration and benefits to a person is SEK 1000 or more for the whole year. If the remuneration/benefits were paid by a natural person or the Swedish estate of a deceased person and are not charged to a business activity, an income statement need not be supplied where the total remuneration has a value of less than SEK 1000 for the whole year. The income statements also include identification numbers, which is only included to enable Statistics Sweden to divide the data into different economic activities.

#### **Main features of survey methodology**

The gross pay based on income of statements (LSUM) is used as a basis for the production of wages and salary statistics. As the data are produced from full census material, recording for small groups, e.g. municipalities, is possible. Recording can also be undertaken according to sectors and industries. Total payroll can be calculated on the basis of both the municipality of residence and the municipality of the establishment.

Recording is undertaken according to

- Sector initiating payment
- Industry
- Compensation code
- County of the working site
- Sex

Since the payroll statistics are essentially registered at the level of the individual, many other recording groups can be specified. The income statement statistics have a dual purpose: direct use and indirect use for other statistical products.

The purpose of direct use is, on the one hand, to provide a picture of the distribution of taxable wages and salaries and social contributions and, on the other hand, to exploit the statistics on employers' payroll totals for economic evaluation and planning. The purpose of indirect use is to draw upon the register in order to supplement the variable content of a number of statistical products within Statistics Sweden (income statistics, the standard of living inquiry, the national accounts and regional accounts).

The KU register is the main source for the production of the annual regional employment statistics by reason of the facilities it offers for linking together individual data with enterprise data by way of an individual's personal identification number and the corporate identification number/establishment number of the enterprise. The direct use of the KU register exploits the possibilities of the register for the recording of amounts of taxable income and transfers to individuals. These statistics are used extensively by the national accounts statistics and the regional accounts and by local authorities in order to calculate their tax base by way of the total payroll statistics.

### **Population size**

The total population for the 2011 KU register consists of all income statements from employers and income statements covering payments from public or private insurance schemes. The total number of income statements were about 8 120 000 for the chosen year.

### **Sample size**

Full census. The reliability of the statistics depends on whether the income statement data are correct and whether Statistics Sweden receives all the income statements, which are supplied to the Tax Agency. With regard to the correctness of the data it can be said that reliance is usually on the employers' wage and salary accounting systems and personnel records, which form an important basis for the income assessment and taxation of employees. It is thus possible to assume that the data are checked by the employer before they are presented to the income recipient and recorded by the Tax Agency.

### **Survey response rate**

Full census.

### **Method used to impute for missing data**

Various processing routines are applied, amongst others plausibility checks of amount fields. The small number of income statements carrying implausible amounts is removed. This is not thought to affect the reliability of the statistics overall. No changes are made to the original income statements, since the main responsibility for the register rests with the Tax Agency. After the first preliminary version has been produced, supplementing work is carried out by Statistics Sweden. Multiple-establishment enterprises, which have not entered an establishment identification number on the income statement, receive a questionnaire in which they are asked to fill in the missing establishment number. This is done in order to facilitate the linking of establishments with persons for those persons who received income statements.

### **Variable used to impute missing data:**

No variable imputed since it is a full census.

### **Variable used for grossing-up to the population**

No variable used

### **Sample coverage, as % in terms of variable used for grossing-up**



100%

### **Main variables collected**

The basis for the variables in the KU register is formed by the income statements (KU), which Statistics Sweden receives from the Swedish Tax Agency (SKV). These can be viewed as falling into two categories:

- Income statements from employers
- Income statements from entities initiating social compensation payments.

The register of income statements from employers contains data supplied by KU10 (income statement from an employer), KU13 (income statement – special income record for persons resident abroad), KU14 (special income record – ATP [National Supplementary Pensions Scheme] and income statement) and KU16 (income statement for seafaring income). The data include personal identification number, corporate and establishment identification numbers, gross cash pay, preliminary “A” tax, various benefits and compensations etc. These variables are then supplemented with data on the institutional sector code of the enterprise making the payment and the industry of the enterprise and establishment from the Statistical Business Register (FDB). The data are also summed for enterprises and establishments.

The register of income statements from institutions initiating taxable social compensation payments contains the data presented on KU18 (income statement from institutions initiating pension and insurance payments). The main variables in this case are personal identification number, amount, preliminary “A” tax and compensation code (indicates what type of compensation is applicable).

The payroll statistics are recorded in SEK.

An income statement must be supplied to anyone who has received wages, salaries, fees, emoluments or other forms of compensation or benefits, which constitute taxable income for work performed. Even if there is no direct employer-employee relationship, an income statement must be supplied by a person who issues payment for work performed where there is a community of interest between the person issuing the payment and the employer. For example, a staff foundation which is linked to an enterprise and supplies some form of taxable benefit – e.g. free holiday accommodation – to the employees of the enterprise must issue an income statement. An income statement (KU) must be supplied if the total value of remuneration and benefits to a person is SEK 1000 or more for the whole year. There is however one exemption to this rule. If the remuneration/benefits were paid by a natural person or the Swedish estate of a deceased person and are not charged to a business activity, an income statement need not be supplied where the total remuneration etc. has a value of less than SEK 1000 for the whole year.

For wages and salaries or other forms of compensation (benefits) paid, a strict cash principle applies as wages and salaries are paid during the period in which the work is done. Sick-pay which is paid by the employer is counted as cash remuneration on the income statement and the classification of sick-pay is accepted in the national accounts. The income statement is sent to the income recipient and to the Swedish Tax Agency for filing at the latest on 31 January of the year following the income year in question. Preliminary results without forward adjustment can be obtained from March. Final results are normally available in September (see also discussion below). The gross pay data based on income statements include basic wages and salaries; enhanced payments; allowances; bonuses; holiday pay; savings schemes; and exceptional payment when leaving companies. The data does not include expenditure necessary for the production process; social insurance benefit; taxes or payment to outworkers.

## Labour force survey (2011)

### Link to inquiries conducted at European level

EU Regulation No 577/98 specifies the requirements in respect of both content and representativeness for the adaptation of the Labour Force Survey (AKU) to EU standards. The statistics are produced by Statistics Sweden.

### Reporting units

The reporting units are individuals of a sample. Telephone interviews are conducted by Statistics Sweden's interviewers.

### Periodicity

The Swedish Labour Force Survey (AKU) is conducted every month.

### Results availability

The results of the monthly surveys are published about 12 days after the close of the reference period. The results of the monthly inquiries are also used as a basis for the calculation of quarterly and annual averages. The annual statistics are published about four weeks after the turn of the year.

### Sampling frame

As of January 2010 the monthly sample for the AKU was increased by 8 000 persons and since this time includes a total of about 29 500 persons. In continuation we call the original sample, about 21 500 persons before the increase, for the regular AKU.

The sampling process for the regular AKU can be described as stratified systematic sample with rotating panel samples. Sample strata are created by different combinations of regions (24) and sex (2) for a total of 48 strata,

The supplementary sample includes a total of 8 000 persons aged 16-66. The sampling process can also be described as a stratified systematic sample with rotating panel samples. The sampling strata are created by using information from the Total Population Register (RTB), the database for health insurance and labour market studies (LISA) and the Register on income and taxation (IoT). A total of 70 strata are created for Swedish born by combining ages (3), regions (7), information from LISA and the IoT (2) and sex (2). A total of 35 strata are created for foreign-born persons by combining ages (3), regions (7) and information from LISA and IoT (2). Thus there is a total of 105 different strata.

### Compulsory or voluntary?

Participation in the AKU is voluntary.

### Main features of survey methodology

The Swedish Labour Force Survey is carried out monthly by Statistics Sweden (SCB). As of April 2005 a new EU-harmonised questionnaire has been introduced. This causes a break in comparability over time. For comparisons, historical data for 2004 have been recalculated and are presented in the tables as linked values.

Quarterly estimates are calculated as mean values of the three months in a quarter. In the same way annual estimates are calculated as mean values of the monthly estimates. Essentially, concepts and definitions follow the guidelines of the International Labour Organisation (ILO). The classifications of industry and occupation correspond to the NACE (Nomenclature Generale des Activités Economiques dans le Communauté Européennes) and the ISCO 88 COM systems respectively. The survey results regularly published refer to the population 16-64 years of age. Confidence intervals for the estimates are presented in the tables.

AKU is carried out on an on-going basis by Statistics Sweden. The objectives of the survey are to describe the current employment conditions and to give information on the development of the labour market.

The results are used, together with other labour market statistics, as the basis for the planning of and decision-making on labour market policy measures, as well as for the follow-up of investment in the labour market. AKU is also an important foundation for general short-term economic evaluations and international comparisons. The results of AKU also provide essential parts of labour market data required for economic and social research. Additionally, the statistics are used generally for mass media information to the public about the labour market.

Data are collected in the first instance by computer-aided telephone interviews conducted by Statistics Sweden interviewers, but by personal visits in cases where the person in the sample cannot be reached by telephone. The AKU sample consists of three separate samples, one for each month in the quarter. Each sample is rotated in such a way that one eighth is renewed between two successive inquiries. Each sample is thus used at three-monthly intervals. Hence persons in the sample are interviewed once a quarter and altogether eight times during a two-year period on their labour market situation. The results of the monthly surveys also form the basis for the calculation of quarterly and annual averages.

### **Population size**

The target population in the AKU consists of all persons with civil registration in Sweden who have reached the age of 15 but not 75, approx. 7 300 000 individuals.

Until 2007 the target population consisted of persons with civil registration in Sweden who have reached the age of 16 but not 65 (about 6 000 000 individuals).

### **Sample size**

From January 2010 the monthly supplementary sample was increased by 8 000 persons and includes a total of about 29 500 persons each month.

### **Survey response rate**

The response rate in 2011 was 74.6 % of the net sample.

### **Imputation method**

There is no substitution of measurement values for unit non-response and partial loss of data. In the estimation phase account is taken of unit non-response by flat-rate adjustment in each post stratum.

### **Sample coverage**

There is a certain over-coverage in the RTB and hence also in the AKU sampling frame. The over-coverage in the RTB is due to the fact that some persons born abroad leave Sweden without reporting the fact to the Swedish authorities. When such persons are included in the AKU sample, there is no indication that they have moved from Sweden. They cannot be reached for an interview and they are therefore classified as non-response. Studies show that the over-coverage is concentrated on non-Nordic immigrants and is of the order of 25 000-50 000.

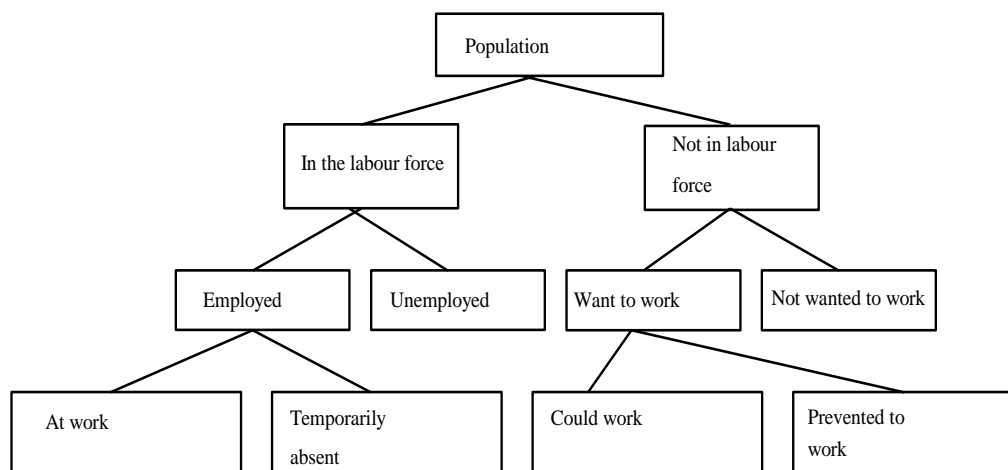
The fact that the AKU sample is drawn once a year and that sample persons are interviewed eight times during a two-year period means that the sample for year (t) does not cover persons in the target population who are registered in the country during years (t) and (t+1). This under-coverage is thought to have marginal effects on the LFS estimates.

### **Grossing method**

The interview results in the AKU monthly inquiries are grossed up to the total population. In the grossing process account is taken of the probabilities of selection for the sample persons and of relevant population data from the RTB.

### Main variables collected

For all persons in the database there are data such as personal identification number, civil status, number of children, nationality, county/municipality, presence in the labour force, attachment to the labour market, educational direction and level. For employed persons there are data on: working hours, occupation, area of business or industry, trade union membership, nature of employment, occupational status, secondary occupation, studies, absenteeism, reason for absenteeism etc. For unemployed persons there are data on number of weeks unemployed, desired working hours, method of seeking work, trade union membership, most recent job etc. For persons not in the labour force there are data on principal activity etc. The labour markets variables contain the individuals' status on the labour market, see figure below.



Estimates are produced for the following in the AKU:

**Totals:** Number of persons employed, number of persons in work, number of hours actually worked, number of persons unemployed, number of persons in the labour force, number of persons not in the labour force etc.

**Quotas:** Relative unemployment, relative absenteeism, relative labour force total, labour intensity, hours normally worked on average etc.

Apart from spot estimates, measurements of uncertainty are also recorded for all published estimates in the AKU.

## Short-term employment statistics (2011)

### Link to inquiries conducted at European level

In May 1998 the EU took a decision on a regulation (1165/98) concerning short-term employment statistics. This regulates the statistics from 1999 onwards.

The statistics are produced by Statistics Sweden.

### Reporting units

The entities are the establishments. The establishment is defined as each address, property or group of adjacent properties at which the enterprise conducts activity. All enterprises have at least one establishment.

### Periodicity

The inquiry is conducted every month and published quarterly.

### Results availability

Approx. six weeks after the close of the measurement quarter.

### Sampling frame and population size

This report contains employment figures for the entire Swedish economy including both market producers and producers for own or final use, Non-profit institutions serving households (NPISH) and public sectors. The public sector is subdivided into the following categories: the governmental sector, the municipal authorities and the county councils. The figures are based on both sample and total surveys depending on the size of the establishment.

The target population includes all establishments in market producers and producers for own or final use, NPISH and all organizations in the public sector with at least one employee in accordance with the Statistical Business Register (FDB). Public corporations are included in market producers and producers for own or final use, the central bank and public utilities are designated to market producers and producers for own or final use.

Market producers and producers for own or final use: The target entity is the establishment. The target population consists of establishments in market producers and producers for own or final use, having at least one employee. Strata in the market producers and producers for own or final use, containing establishments with more than 99 employees includes in total surveys.

The market producers and producers for own or final use, comprises private firms, partnerships, trading companies, incorporated partnerships, companies limited by shares, cooperative societies. Publicly owned limited liability companies are also assigned to this category. The industry Transport, storage and communications (SNI I) are covered with the exclusion of personnel on board ships in foreign and coastal trades registered in Sweden.

Local government sector: the target entities are municipalities. The target population also consists of municipalities. Strata in the municipal authorities containing organisations with more than 50 employees includes in total surveys.

County government sector: the target entities are county councils. The target population also consists of county councils. The Strata in the county councils contains all the organisations in the total surveys.

Central government sector: the target entities consist of agencies and departments of central government. The target population also consists of agencies and departments of central government. Strata in the governmental sector containing organisations with more than 299 employees includes in total surveys.

### Compulsory or voluntary?

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99) and Statistics Sweden's regulations SCB-FS 1992:28 as well as SCB-FS 200:26 for the public sector part.

### Main features of survey methodology

Short-Term Employment is an enterprise based survey covering market producers and producers for own or final use, NPISH and public sector. The survey indicates the development of number of employees for the entire Swedish economy. The report includes results of number of employees by branch of industry. Other variables like absenteeism and personnel turnover are also included in the survey.

The main purpose is to give a rapid indication of changes in the number of employees with a high degree of precision on a detailed industry level. Another purpose is to present employment data across the entire labour market broken down by county. The product also provides information on relevant enterprise-related variables such as absenteeism and staff turnover.

Data on the market producers and producers for own or final use, are collected with the aid of a web survey from a sample of establishments. The survey is used to collect data on the number of employees broken down by form of employment and sex plus data on absenteeism and staff turnover. The paper questionnaire is provided as alternative collection method.

Employment and absenteeism data are also collected for all county councils and local governments through web surveys.

For central government employment, data are collected by way of the Short-term statistics, salaries, governmental sector (KLS). The absenteeism data are collected through the web survey.

### Sample size

The sample for the market producers and producers for own or final use, comprises approx. 18 700 establishments. The public sector are covered by a sample of 650 organisations.

### Survey response rate

In the market producers and producers for own or final use, survey covering the second quarter of 2015, non-response was 13 % of the establishments sampled.

In the public sectors, non-response was 2%.

### Imputation method

Before the material is grossed up to totals, parts of the non-response are imputed and establishments with extreme values are checked by graphic scrutiny. The use of flat-rate adjustment for non-response compensation is based on the assumption that the non-response can be viewed as entirely random.

### Grossing method

The statistics consist of estimated values for aggregates.

Totals are estimated by the following formula

$$\hat{Y}_q = \sum_h^H \frac{N_h}{m_h} \sum_j^{m_h} w_{hj} y_{hj}^*$$

where

q = recording group, h = stratum, H = number of strata

$N_h$ = number of entities in the gross population

$m_h$ = number of entities which responded including entities not belonging to the survey population

$y^*_{hj} = y_{hj}$  if entity  $j$  belongs to recording group  $q$ , otherwise 0

$w_{hj}$ = calibration weighting

### **Sample coverage**

Between the time the sample frame is established and the survey period, changes in enterprises and establishments occur continuously. New establishments are formed, merged, split up or closed. Time-lags in the updating of the sample frame also give rise to coverage errors. In the statistics this means a minor underestimation in the levels of the number of employees, but the effect on the estimations of changes should be slight. In order to compensate for under-coverage new samples are drawn for the market producers and producers for own or final use, in March and August of each year.

### **Main variables collected**

The variables measured are number of employees, number of absentees and staff turnover. The recording takes place according to sector, industry, size category, county and sex. The main purpose is to provide a rapid indication to a high degree of precision of changes in the number of employees at a detailed industry level.

Standard errors are presented for selected estimates in the tables.

## **Labour statistics based on administrative sources, RAMS (2011)**

### **Link to inquiries conducted at European level**

There is an EU regulation relating to the RAMS product (Council Regulation No 3862/2007 on the compilation of statistics on foreign workers).

The statistics are produced by Statistics Sweden.

### **Reporting units**

In the SM presentation (Statistics Sweden's "Statistical Reports") economically active persons are grouped according to municipality of residence and of establishment, industry, sector etc. In the AMPAK (Labour statistics based on administrative sources, on a regional level

) compilation statistics are presented with a more detailed grouping by age, sex, industry (SNI-delimited level), children's ages etc. Special processing is also undertaken to order for the provision of statistics based on combinations of variables as requested, as also statistics to a more detailed level of classification, e.g. a five-digit SNI level.

### **Periodicity**

Annual.

### **Results availability**

The statistics are presented approximately 12 months after the measured period (November) each year.

### **Sampling frame**

Full census.

### **Compulsory or voluntary?**

Informations to produce RAMS are collected from the administrative registers of tax returns and income statements at the Tax Agency. Income statements have to be supplied for any person who has received a wage or salary, fee, other compensation or benefit which constitutes taxable income from employment as referred to in the Tax Procedure Act (SFS 2011:1244).

Other information are collected from the Total Population Register (RTB), the Statistical Business Register (FDB), the Register on incomes and taxations (IoT), Statistics Sweden's education register etc. Supply of data is compulsory for some of these but this is relevant in an earlier phase than for producing RAMS.

### **Main features of survey methodology**

Labour statistics based on administrative sources allow data to be presented in great detail. Flows in the labour market can also be reported.

The RAMS employment register covers all persons who were registered in the country in the previous December according to RTB, from which demographic data are drawn. Education codes are obtained from Statistics Sweden's education register and codes for students/non-students from the register of persons undergoing education. Subsequently data are added from the Income statements (KU) register and the Income and wealth register. With the aid of the latter and the Labour Force Survey (AKU) for October and November, persons are classified as economically active or not economically active during November. For persons with income statements or income from a business activity, the enterprise/establishment at which the person is deemed to have performed most of his or her work during November is selected. Additional data on this enterprise and establishment are taken from FDB.



**Population size**

The population in the Employment register consists of the population at 31 December each year according to the Total population register.

Individuals aged 74 or more are classified as or not economically active.

Individuals younger than 16 are classified as or not economically active.

**Survey response rate**

Statistics from RAMS are based on administrative material and hence have the advantage that they constitute a full census and are not subject to non-response.

**Main variables collected**

The variables are grouped in employment variables, work variables, variables on dynamics of enterprises, other variables and background variables.

Examples of employment variables are employment status, occupational status and variables on income. Examples of work variables are time of employment, wage, and industry code of establishment. An example of variable on dynamics of enterprises is year for start of the business. Examples of other variables are code for compensation from unemployment insurance fund, indication of whether the person has children aged 0-6 years etc. Examples of background variables are age reached on 31 December, sex, civil status, (Swedish Educational Nomenclature, SUN) code for highest level of education, county code of place of residence, name of country of nationality, county of birth.

Employment status is a derived variable. The classification of persons by employment status, i.e. whether they were economically active or not in November, is central to RAMS.

With effect from the 1993 income year a more differentiated method is used in which data are distributed in smaller groups linked to the age, sex and type of income statement (whole-year or part-year indication etc.) of the individual. For each group a wage limit is set which determines whether a person is considered to be economically active or not, at income levels deemed to correspond to four hours' work or temporary absence in November.

**Structural business statistics (SBS)**

This inquiry as a whole is described in another section of this chapter. As regards employment two questions arise: the average number of employees and the number of hours worked. "Average number of employees" is the figure given in the official annual report, i.e. number of employees converted to full-time persons on an annual basis. "Hours worked" refers to time actually worked, i.e. work during ordinary working hours, overtime and duty time. Standby time and travelling time during ordinary working hours are also counted as actual working hours.

**Statistical Business Register (FDB)**

This register is described in another section of this chapter. The business register contains data on number of employees.

## **10.3 Statistical surveys and other data sources used for the expenditure approach**

### **Turnover statistics - Trade in goods and services (2011)**

#### **Link to inquiries conducted at European level**

Council Regulation of Short Term Statistics, EG 1165/98 and amended by the regulation (EC) No 1158/2005.

#### **Reporting units**

The enterprise is the inquiry unit.

The turnover statistics are produced from a sample survey, which measures turnover trends on a monthly basis for retail trade and on a quarterly basis for wholesale trade and certain other service industries. The inquiry results are reported for different industries and groups of industries in accordance with the Swedish Standard Classification of Economic Activities (SNI 2007). The turnover statistics report total turnover, percentage trend figures and index series in total and broken down by the various sub-industries.

#### **Periodicity**

The reference period is the calendar month. Quarterly and annual values are calculated from the monthly data collected.

#### **Results availability**

The production time for the retail trade inquiry on a monthly basis is about 28 days. Text, tables and diagrams on turnover trends, index and time-series are presented in a sales index and press release about 45 days after the close of the reporting month.

#### **Sampling frame**

The sampling frame consists of active enterprises in the Statistical Business Register (FDB) with their principal activity in the retail trade, wholesale trade and certain service industries.

#### **Compulsory or voluntary?**

Supply of data for the inquiry is compulsory under the Official Statistics Act (SFS 2001:99), the Official Statistics Ordinance (SFS 2001:100) and Statistics Sweden's regulations (SCB-FS 2009:3).

#### **Main features of survey methodology**

Statistics Sweden has investigated turnover in the retail trade etc. since 1963, when the statistics were taken over from the National Board of Health and Welfare. The statistics have been extended to include quarterly data for the wholesale trade and certain service industries.

The Turnover statistics is one of the principal sources for the private consumption and the GNP. Almost 50 percent of the basis of the private consumption comes from the Turnover statistics.

The measuring instrument is a questionnaire, which is sent out every month to the respondent. On the form the enterprise has to fill in the turnover for the period in question. The survey instructions indicate whether turnover is to be stated inclusive/exclusive of Value Added Tax (VAT) or inclusive/exclusive of exports.

#### **Population size**

The population consists of all enterprises in SNI2007 45-96 excluding 64-66. The enterprise is the inquiry unit. In the 2011 survey year the frame population comprised 461 153 enterprises.

**Sample size**

In the retail industry turnover data is collected from approximately 2 600 legal entities. Those include approximately 5 500 enterprises due to the fact that some chain stores submit total turnover. For the rest of the service industries approximately 5 900 enterprises are examined monthly and another 4 200 enterprises quarterly. The total sample is about 10 100 enterprises each quarter for the rest of the services industries.

**Survey response rate**

The unweighted response rate in the retail industry was 82-87 % in the final calculation. The weighted response rate, where adjustment for enterprises relative turnover is made, was 94 %.

For the rest of the service industries the unweighted response rate was 80 % and the weighted response rate was 90 %.

**Method used to impute for missing data**

If the respondent supplied data using his telephone keypad (TDE), the data supplied were checked directly in terms of the values for the previous year and period. If the data seemed implausible the respondent was asked to confirm whether the data were correct. On manual registration these data are also checked in terms of the values for the previous year and period.

The macro-check begins with a check to ensure that the data are not cumulative. Subsequently each industry is checked to detect trend figures and confidence intervals, which are unnatural and divergent. In industries with a somewhat divergent trend figure, the data for the enterprises in the industry are studied. Enterprise data, which diverge appreciably from the data supplied to the VAT Register in the same period two years previously are studied at micro level and are verified by contact with the enterprise.

When the final check starts, a list is drawn up of the large enterprises (there are different limits for different industry groups but size categories 5-8 apply in most cases) which have not responded and which the examiner now for the last time asks to supply data. For large enterprises in the various industry groups from which it is still not possible to obtain data, other sources are used. The ranking is then as follows: 1. Turnover value supplied to the inquiry in the same month of the previous year. 2. Turnover value according to the VAT Register for the same month in the previous year. 3. Turnover value supplied to the inquiry in the previous month. If a turnover indication is not available for the first level, the process moves to level 2 and so forth. Use of these sources only applies to a few enterprise units and never to the largest ones in the various industry groups.

For the smaller enterprises (there are different limits for different industry groups but size categories 0-4 apply in most cases), which have not responded, the non-response is compensated via re-weighting.

**Variable used to impute for missing data**

Imputation is carried out by expert evaluation.

**Variable used for grossing-up to the population**

The level estimation in an industry is calculated with the aid of a combined ratio estimator, in which turnover according to the VAT Register in year  $t-1$  is used as auxiliary information in the denominator.

For those enterprises, which make up the non-response a method known as compensation weighting is used. The method gives the same results as use of the mean value for respondents in the same stratum; the difference is that a value is not explicitly assigned to the non-respondent units. Compensation weighting occurs both in the denominator and the numerator.

Under-coverage and over-coverage increase successively over the year since the surveyed population is dynamic, with a large number of closed and newly launched enterprises. Over-coverage in the form of closed enterprises and enterprises incorrectly assigned to industries which do not belong to the target population can usually be identified but cause the random error to increase. Incorrectly assigned

enterprises, which belong to one of the industries surveyed, are recorded in those industries from which they were sampled and to whose turnover they therefore contribute.

It is considerably more difficult to detect under-coverage, since it is difficult to capture newly launched enterprises during the survey year. The significance of under-coverage is difficult to assess.

A supplementary sample is drawn each year in order to limit under-coverage. In the ordinary sample the population is stratified by turnover according to the VAT Register two years prior to the inquiry year. The consequence of this is that those enterprises, which were launched during the year prior to the inquiry year, are not included in the sample. The frame population of the supplementary sample includes enterprises in the frame population of the ordinary sample which did not have any turnover according to the VAT Register two years prior to the inquiry year but which had paid wages according to their tax declarations (UBD) in the year prior to the inquiry year. Stratification in the supplementary sample is geared to payroll total.

### **Sample coverage, as % in terms of variable used for grossing-up**

Sampling error for turnover in retail trade as a whole is calculated according to the 95% confidence interval at approx. plus/minus 0.7 %. Newly launched enterprises are not captured in the survey year, which means that under-coverage increases successively and hence causes total turnover to be underestimated. The trend compared with the corresponding period in the preceding year is not affected in the same way if the under-coverage can be assumed to affect both periods in the trend figures to an approximately equal extent.

Turnover is produced for enterprises which have been assigned a five-digit industry code describing their principal activity, which need not be the only activity pursued by the enterprise. This means that turnover data can cover activity in other industries within or outside the retail trade. For example the clothing industry contains turnover from other industries, while at the same time other industries contain activity, which belongs under the heading of the clothing industry.

### **Main variables collected**

Turnover

### **Comments**

From 2015 the design of the survey has changed. VAT-data are used for non- surveyed enterprises so that all enterprises are covered.

## Household expenditure, HUT (2003-2005)

### Link to inquiries conducted at European level

Household budget surveys are conducted in all EU-countries. There is no EU regulation, but there is an agreement to use the “Household budget surveys in the EU” methodology and recommendations for harmonization 2003”. The statistics are produced by Statistics Sweden.

### Reporting units

Private household units resident in the country, i.e. households with a common place of residence and shared catering.

### Periodicity

Annual from 1999.

### Results availability

The results are presented in June the year after the close of data collection.

### Sampling frame

Systematic sampling of persons aged 79 and under to the end of last year from the Total population register (RTB).

The method of selection for persons in a household inquiry sample means that larger households have a greater probability of selection than smaller households. From certain points of view this makes for an effective distribution of the sample over different household groups. Account is taken of this over-representation in the grossing procedure.

The sample survey is distributed over 52 starting weeks for record-keeping.

### Compulsory or voluntary?

There is no obligation to supply data.

### Main features of survey methodology

The main objective of HUT is to illustrate expenditures for goods and services among different household groups. The intention is to show the level of consumption and consumption structure for different groups of households.

Telephone interviews, postal surveys and record-keeping are used. The survey continues for a whole year. All household expenditure must be indicated over a period of two weeks. In addition expenditure for infrequent purchases is reported retrospectively for one year. Some other types of expenditure are indicated for two months retrospectively (clothes, shoes and local travel).

Computer-aided telephone interviews are used for household mapping. Entry of records by telephone from 1999 onwards (previously records were entered in conjunction with a home visit). Self-managed record-keeping for two weeks (previously four weeks).

Expenditure is recorded for different types of household with respect to age, number of children, type of housing, socio-economic group, “H” region and disposable income. For clothes and shoes data are also recorded for individuals by sex and age. Averages per household and year are calculated as well as percentage distributions.

### Population size

Number of households in the country with persons aged 79 and under. For 1999 this was around 4.4 million households.

**Sample size**

4 000 households randomly sampled from RTB.

**Survey response rate**

Non-response is about 42 %. Measures to limit non-response:

Incentives (gifts to a value of approx. SEK 100) are offered in order to increase the response rate.

Special interviewer training.

Measures to simplify record-keeping (reduction of burden on respondents).

**Imputation method**

In the survey, data were obtained, for example, from the motor vehicle register on changes in car ownership for the households participating in the survey. Expenditure on motor vehicle purchases could be calculated with the aid of price data. Petrol consumption was calculated with the aid of data on average distances driven and price data.

If a household don't remember the cost of a purchased product, the average cost for the product is imputed.

**Grossing method**

*Number of households:* The Total population register gives the frame population with negligible coverage error. Each household is weighted by a factor depending on the number of members with a probability of selection. In order to compensate for non-response and bias, the weightings were subsequently changed and calibrated. The calibration method used here is asymptotically equal to the general regression estimator. The method requires access to auxiliary information, i.e. some form of external information, which varies coincidentally with the inquiry variables. The auxiliary information used consists of certain demographic variables according to the RTB, such as number of persons in the household, "H" region and income. In order to guarantee representative annual estimates, compensation was also made in the calibration for variations in the number of participating households over time.

**Sample coverage**

The inquiry does not cover households consisting only of persons over 79. There is a risk of underestimation of small expenditure items due to forgetfulness and a risk of overestimation of major items due to "telescope effects".

**Main variables collected**

All household expenditure is collected. The expenditure is recorded in terms of goods groups and goods or services. From 1999 onwards the Classification of Individual Consumption by Purpose (COICOP) is followed.

The two most essential variables are:

- Average annual expenses per household and type of expense
- Average annual expense share per household and type of expense

**Further adjustments**

Annual data are collected for infrequent purchases. For certain items, consumption is requested over the most recent two months. This applies, for example, to clothes, shoes and local travel.

**Other comments**

After the description of the HUT for the period 2003-2005 above, the HUT has been conducted for the years 2006, 2007, 2008, 2009 and 2012. However, due to the decreasing responding rates and the low quality of the estimates the HUT has been used only for verification purposes.

## Food sales (2011)

### Purpose and history

The Swedish board of agriculture has carried out the calculations over the consumption of food since 1940's. The Swedish board of agriculture stopped measuring the value of the consumption of food the year 2000 while it continued to calculate volume figures. From the year 2000 Statistics Sweden produces statistics on foods sales within the trade industry with different methods compared to those of the Swedish board of agriculture in order to better satisfy the needs of National Accounts and Consumer Price Index.

### Link to inquiries conducted at European level

The inquiry is conducted by Statistics Sweden. There is no EU regulation.

### Reporting units

Retail trade enterprises.

### Periodicity

Annual.

### Results availability

Nine and a half months after turn of the reference year.

### Sampling frame

The sampling frame is registered retail trade enterprises (SNI 47) in Statistics Sweden's Business database (FDB) in November the reference year.

### Compulsory or voluntary?

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99).

### Main features of survey methodology and population size

The aim of the publication is to show turnover by type of product within the trade of food and beverages.

The first four levels of the Swedish classification by industry (SNI) are identical with EU standard NACE Rev. 1 (Statistical Classification of Economic Activities in the European Community).

The following sources are used in the Food sales.

- The Statistical Business Register (FDB).
- Inquiry of sales of fresh fruit and vegetables in the wholesale trade.
- Inquiry to companies in the retail trade, which don't belong to any of the large everyday commodities' groups ICA, Kooperationen, Axfood, Bergendahl, Reistan Servicehandel and Statoil.
- The Value Added Tax (VAT) Register
- Register of companies belonging to the groups ICA, Kooperationen, Axfood, Bergendahl, Reistan Servicehandel and Statoil.
- Data register of sales from these food sales groups.

The data register from the large everyday commodities' groups is the most important source of information.

The definition of food products is the same as for the value-added tax (12 %) for food and beverage products. The assumption that all the products that have 12% VAT are either food, beverage or health



product is made. Then the health product are removed from the figures In total there are about 70 000 products.

**Sample size**

Full census for the five large groups.

Sample of 520 of the enterprises that are not part of the large groups.

Data on the total food sales from the VAT register.

**Survey response rate**

The response rate is about 63 %.

**Imputation method and grossing method**

Using the VAT register.

**Sample coverage**

Over coverage: companies with wrong industry code, inactive companies and closed-down companies.

Under-coverage: companies with wrong industry code and newly started companies.

**Main variables collected**

The main variable collected is turnover (including taxes).

The turnover is presented for types of product such as food, beverages, tobacco, pharmacies, perfume, repair and service etc. The products are grouped in about 50 groups for the national accounts.

The food sales are shown for groups of products according to the Classification of Individual Consumption by Purpose, (COICOP). The groups of products in these statistics are within COICOP 01 (food and non-alcoholic drinks) and 02.1 (Alcoholic drinks). In total there are 39 groups reported in the food sales.

## **Retail trade (2007)**

The Retail Trade survey is nowadays integrated as a part of the Structural Business Statistics (SBS). The same rules are thus applicable for the Retail Trade as for the SBS.

### **Link to inquiries conducted at European level**

The inquiry is conducted by Statistics Sweden.

### **Reporting units**

Retail trade enterprises.

### **Periodicity**

Annual.

### **Sampling frame**

The sampling frame is all registered retail trade enterprises (SNI 47) in the Statistical Business Register (FDB) in November the reference year.

### **Compulsory or voluntary?**

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99) and Statistics Sweden's directive (SFS-FS 1998:17).

### **Main features of survey methodology**

The survey contains economic statistics on retail trade. The aim of the publication is to show turnover by type of product within the retail trade.

The following sources are used in the Retail trade survey.

- The Statistical Business Register (FDB).
- Inquiry of sales of a) sales by products, b) internet trade, and c) shops per sales unit.
- Food sales (described in another section of this chapter)
- Register of companies belonging to the groups ICA, Kooperationen, Axfood, Bergendahl, Reistan Servicehandel and Statoil.
- Data register of sales from these food sales groups.
- VAT register

The data register from the large everyday commodities' groups is the most important source of information.

### **Population size**

The population size was 59 250 enterprises in 2007.

### **Sample size**

Full census for the five large groups.

Sample of 638 of the enterprises who are not part of the large groups.

### **Sample coverage**

Over coverage: companies with wrong industry code, inactive companies and closed-down companies.

Under-coverage: companies with wrong industry code and newly started companies.

### **Survey response rate**

The response rate is about 63 %.

**Grossing method** Using the VAT register.

### **Main variables collected**

Sales and turnover broken down by product and industry. VAT is included in the figures.

## Revenues and expenditure survey for multi-dwelling buildings (2011)

### Link to inquiries conducted at European level

The inquiry is conducted by Statistics Sweden in the programme for housing. No EU regulation has been introduced.

### Reporting units

Three ownership categories are used:

Municipally owned housing corporations,

Private ownership

Tenant-owners' associations

For municipally owned housing corporations and tenant-owners' associations data are obtained on the enterprise or association. Because of this it is easier to obtain the relevant data for them than for the private ownership group, in which data only cover individual properties/tax assessment units or groups of such units. For privately owned dwellings and tenant-owners' associations recording is by age (year of construction, valuation year) and size (number of dwellings). Municipal housing corporations are only recorded in terms size. All categories are reported by region.

### Periodicity

Annual. The inquiry covers the calendar year. The respondent can also reply to a broken financial year

### Results availability

Production time is 9 months.

### Sampling frame

Sampling is used for the coverage of privately owned houses and tenant-owners' associations. The sampling frame is drawn from Statistics Sweden's real estate tax assessment register.

### Compulsory or voluntary?

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99) and Statistics Sweden's directive (SFS-FS 2009:16).

### Main features of survey methodology

The main purpose of the inquiry is to provide information on income, costs and operation net in multiple-occupancy buildings. In addition information is provided on such aspects as long-term borrowings, tax assessment values and expenditure on reconstruction (also new construction for municipally owned housing corporations).

In its present form the inquiry has been conducted since 1975. Comparability over time diminishes, for example, because of changes in tax rules, subsidy rules, recording principles and changes in industry structures. The rapid changes in the real-estate industry over much of the 1990s have increased uncertainty in the statistics. It is mainly in the field of operating costs and capital costs for the private ownership group that uncertainty has increased. One reason for this may be that company overheads are not fully apportioned or are not apportioned at all to the reporting unit in the company's accounts and/or in Statistics Sweden's questionnaire.

For privately owned dwellings and tenant-owners' associations data for Statistics Sweden are collected by questionnaire. For municipal housing corporations affiliated to the Swedish Association of Public Housing Companies (SABO), SABO handles data collection (questionnaires). After scrutiny and supplementing, the data are transferred to Statistics Sweden. For corporations, which are not members of SABO, data collection is carried out by Statistics Sweden using questionnaires.

**Population size**

The population comprises municipally owned housing corporations, multiple-occupancy buildings owned by tenant-owners' associations and dwellings owned privately (by legal and natural persons, not municipal housing corporations or tenant-owners' associations).

For municipally owned housing corporations the entire housing stock is included.

All tenant-owners' associations with a maximum of 20 percent of individual houses in the association are included.

For privately owned dwellings tax assessment units conforming to the following criteria are included; rented accommodation units with tax assessment code 320 or 321 (mainly dwellings and mixed residential and commercial premises, respectively) a minimum of 500m<sup>2</sup> of residential space in the tax assessment unit maximum 25 percent of the total area is used for business activity completion two year before the inquiry year.

The population does not include real estate owned by central or local government and municipally owned housing corporations comprising mainly special-category dwellings (e.g. retirement homes and student accommodation) or owners who mainly let furnished apartments or accommodation in which the area of commercial use exceeds the area for residential use. In addition it does not include privately owned tax assessment units and tenant-owners' associations in the following categories; properties consisting mainly of furnished apartments, secondary residences or special-category dwellings, properties whose area for commercial use exceeds 75 percent of the combined residential and commercial space, properties under reconstruction and properties in shared ownership.

**Sample size**

Municipally owned housing corporations are covered by a full census, i.e. all corporations in the population are included in the inquiry. Sampling is used in the coverage of privately owned dwellings and tenant-owners' associations. Sampling method is stratified sample with simple random sampling within strata with the tax assessment unit as the sampling unit. However, it is also rotating sample in which about 20 percent of the respondents are new each year. Stratification is by three variables; ownership category, size, region and age category (valuation year). New samples are drawn approx. every five years with supplementary samples for new construction in between inquiries.

The sample size in 2011 was approx. 4576 tax assessment units, of which 2536 for the privately owned portion and 2040 for tenant-owners' associations.

**Survey response rate**

Non-response from in year 2011 was around 28 percent for privately owned dwellings and 12 percent for tenant-owners' associations, calculated on the basis of the number of units in the sample. The total non-response rate corresponds to around 21 percent. For municipally owned housing corporations (full census), which did not respond to the survey, the rate was around 15 percent.

The risk of bias is greatest for privately owned dwellings, where the non-response rate is 28 percent. No studies or quantifications of the effects of the non-response have been carried out.

In order to minimise non-response, 2-3 reminders are sent out for privately owned properties and tenant-owners' associations. The questionnaire is reviewed before each inquiry. A separate letter is sent to owners/managers with several non-responding units.

**Imputation method**

The most common problems in data preparation are partial non-response and combination of variables in the return of data. This is remedied by amendments from the respondent or, in certain more straightforward cases, by imputation.

### Grossing method

The inquiry is a descriptive survey intended primarily to estimate mean values for different income and cost variables. Adjustment for non-response for privately owned properties and tenant-owners' associations are carried out by approximating the mean value for the stratum in question with the mean value for the respondents ("flat-rate adjustment").

For the grossing to population level of privately owned properties and tenant-owners' associations, weightings are used in inverse proportion to the sampling probabilities of the tax assessment units. The weightings are adjusted for non-response (flat-rate adjustment). For municipal housing corporations, which are covered by a full census, no adjustment is carried out for non-response (low non-response rate).

### Sample coverage

For samples covering privately owned properties and tenant-owners' associations sampling frames are constructed from Statistics Sweden's real estate tax assessment register. The frame population covers the target population well. For privately owned properties and tenant-owners' associations, tax assessment units build up to two year before the inquiry are included. Municipally owned housing corporations are surveyed by a full census. Coverage is good.

### Main variables collected

The statistical measurements are:

- Mean value (for income, costs, and long-term borrowings).
- Total (long-term borrowings, tax assessment value, interest, Interest allowance, reconstruction).
- Number (dwellings, commercial units, garage, and other car spaces).
- Surface areas (dwellings, commercial units).

#### Incomes

- Income for housing
- Income for commercial premises
- Income for garages and parking spaces
- Subsidies from the EU (only municipally owned housing corporations)
- Financial incomes (only municipally owned housing corporations)
- Other income (including interest income, only applies to privately owned properties and tenant-owners' associations)
- Local government grant (only municipal housing corporations)
- Central government grant (only municipal housing corporations)

#### Costs

- Rental loss
- Capital costs (specified by interest, depreciation, ground rent, other capital costs)
- Maintenance expenses
- Upkeep, management, administration
- Administration (only municipal housing corporations)
- Fuel costs
- Assessment-related costs (combination of water supply and sewerage, refuse collection and electricity for the property)
- Insurance
- Other operating costs
- Real-estate tax

Income tax

Interest allowance

Reconstruction expenditure (including standard improvements)  
New construction expenses (only municipal housing corporations)  
Tax assessment value  
Net operating income (calculated from other variables)

Other

Number of dwelling units  
Number of commercial units  
Number of heated garage spaces  
Number of parking spaces  
Area of residential space  
Area of commercial space  
Heated garage area  
Total area

## Survey of rents for dwellings (2011)

Survey of rents for dwellings (HiB) is a survey with its origin in the Survey on housing and rents (BHU).

The BHU consisted of two parts.

(1) The “Owners” part, which was an annual survey of rentals and charges in multiple-occupancy buildings with property owners supplying data by postal surveys. As from 2003 only tenanted dwellings are part of the new survey (HiB). The BHU also covered tenant-owner's associations.

(2) The “Households” part, which provided information on the housing conditions, composition, accommodation expenses and incomes of households, was published for the last time in 2002. Corresponding statistics are now published within the framework of Household's finances (HEK). The Household's finances as a whole are described in another section in this chapter.

### Link to inquiries conducted at European level

The inquiry is conducted by Statistics Sweden. No EU regulation has been introduced.

### Reporting units

Data collection is by postal survey, web questionnaire or file transfer sent to the property owner (property manager). (Around 90 percent of the responses coming in through web questionnaires year 2015). Important classification criteria are region, completion year and dwelling type.

### Periodicity

Annual sample survey.

### Results availability

Production time is 6 months for the final report and it is published in October.

### Sampling frame

The sampling frame is the Population and Housing Census supplemented by Statistics Sweden's register of newly produced dwellings. From the year 2014 the national apartment database is used for year 2013 and forward.

### Compulsory or voluntary?

Supply of data to the inquiry is compulsory under the Official Statistics Act (SFS 2001:100) and Statistics Sweden's regulations (SCB-FS 2011:2).

### Main features of survey methodology

The main purpose is to provide information on rentals, changes in rentals and on the composition of the housing stock and its distribution by various forms of tenure, dwelling types and age.

The main statistical features are:

Number of flats

Mean annual rental/charge

Mean rental/charge year 0

Percentage change in rental/charge between year 0 and year 1.

Mean rental/charge per area in square metres

Mean area in square metres per flat

### Population size

The population includes all tenanted dwellings which were counted in the 1990 Population and Housing Census and new dwellings completed up to and including the year before the inquiry year, which are included in Statistics Sweden's housing construction statistics. From year 2014 the national apartment database is used year 2013 and forward for completed apartments.

The population does not include the following categories: agricultural properties, properties consisting mainly of furnished apartments or special-category dwellings (for example student housing), properties whose area for commercial use exceeds 75% of the combined residential and commercial space, properties under reconstruction, rent-free properties and properties that changed tenure during the survey year. The housing construction statistics include all new buildings with at least one dwelling intended for a private household, which is structurally separate from other housing.

### **Sample size**

Sampling errors are relatively small, since the sample is large and the population relatively homogeneous. The sample is drawn annually from around 12 300 tenanted dwellings. The sample is stratified by region, completion year and dwelling type.

### **Survey response rate**

In the 2011 inquiry there was a residue of 1723 dwellings, i.e. 14 % for which, after written reminders, no data could be obtained from the property owners.

### **Imputation method**

Through statistical imputation approximations are developed for records where values are missing. Imputation is carried out with multiple regressions and is estimated to have reduced failure error. Imputation is made differently for different variables. When space is missing last year averaged is added. The average is calculated in the apartment size where the apartment belongs. When the annual rent is missing a predicted value is set. It is based on a regression relationship between the annual value and the explanatory variables of floor space and completion year. The estimated regression is calculated from the corresponding items in each apartment size.

### **Sample coverage**

Under-coverage stems from non-response in the Population and Housing Census. Another source of under-coverage is that there is no indication when the premises have been converted into flats. Register of newly built apartments are of good quality, but may provide some coverage when the newly built apartments is not always reported in time.

Over-coverage stems from tenanted dwellings that, for example, has changed category to special-category dwellings during the year. The over-coverage is discovered in the survey and is not causing any errors in the final results.

### **Grossing method**

The estimates for the population are carried out by means of information from the sample on strata's. The estimates are covering the population with 95 % confidence intervals.

### **Main variables collected**

The main variables collected are:

- Dwelling type
- Ownership category
- Dwelling surface area in square metres
- Completion year
- Valuation year
- County, municipality, parish assembly code



- Regional grouping at 1 January in the year of the inquiry
- Monthly rentals in year 0. (Including heating supplement, excluding domestic electricity and garage.)
- Annual rental/charge year 0. Including heating supplement, excluding domestic electricity and garage
- January rental/charge year 1. Including heating supplement, excluding domestic electricity and garage

The statistical measurements published are number, mean value and mean error for rental/dwelling, rental/square metre and change in rental.

## Household's finances (2011)

The Survey of Household's finances (HEK) is a survey with its origin in the Survey on housing and rents (BHU). Income Distribution survey has been conducted every year since in 1975.

Statistic Sweden undertook the years 1969-2002 annual housing and rental inquiries. The "Households" part of BHU, which provided information on the housing conditions, composition, accommodation and expenses of households, was published for the last time in 2002. Corresponding statistics are now published within the framework of HEK. Accommodation statistics from HEK has published every year since the income year 2003

The HEK is a far-reaching survey, covering a large quantity of information. The aim of the survey is to map the distribution of disposable income among different households, to illustrate income structures and to describe the living situation and living expenses for various types of households.

In the following only the housing part of the survey is described, as source for the Gross National Income (GNI) accountings. Since information on tenanted dwellings are collected in Survey of rents for dwellings, only data on simple/private ownership (individual houses), tenant-ownership is received from Household's finance.

### Link to inquiries conducted at European level

The inquiry is conducted by Statistics Sweden. There is no EU regulation.

### Reporting units

Sample survey covering individuals and they are also asked questions of their whole household.

### Periodicity

Annual, the survey covers the calendar year.

### Results availability

Production time is approx. 12 months.

### Sampling frame

The Total Population Register is used for the sampling frame. The sample is made up of people aged 18 or over.

### Compulsory or voluntary?

The inquiry is voluntary.

### Main features of survey methodology

HEK is a sample survey carried out every year. From the income year 2000, the sample was coordinated with Statistics Sweden's Longitudinal Individuals Database (LINDA). The coordination with LINDA provides the possibility to follow sample persons and their households over several years.

The main purpose of the housing part of the survey is to provide information on the housing conditions, composition, incomes and accommodation expenditure of households in combination with accommodation data. The data are recorded for the three forms of tenure: simple ownership (individual houses), tenant-ownership rights and ordinary tenancies. Since information for the GNI on tenanted dwellings are collected in Survey of rents for dwellings, only data on simple/private ownership (individual houses), tenant-ownership is received from Household's finance.

For the GNI accountings the two most important items are:

- Number of dwelling and surface area in square metres for own homes and multiple-occupancy buildings, tenant-ownership rights.
- Costs for maintenance and repair in own homes
- Reconstruction and extension (Gross Fixed Capital Formation, GFCF) in own homes

Most of the data were obtained from a computer-aided telephone interview with the sample person. Data to create variables such as disposable income, aggregate income and tax effects were obtained from Statistics Sweden's tax assessment bands for the income year. Housing allowance data were also obtained from Statistics Sweden's registers, and data on tax assessment values etc. were obtained from the real-estate tax assessment register.

### **Population size**

The population for the survey consists of all households and people who were registered in the population register in Sweden on December 31 the survey year (income year).

### **Sample size**

In total the coordinated gross sample comprises approx. 17 000 individuals and information is collected from them for about 40 000 household-members.

### **Survey response rate**

Refused to take part of survey	19.7
Not reached	19.1
Could not take part of survey	2.5
Total non-response	41.3 percent

Non response is not weighted

### **Imputation method**

Extensive checks are made where they created variables including cross-checked against information from administrative registers.

Administrative records are used whenever possible using the imputation for partial loss. If a solution cannot be found through the records a regression or mean value imputation is performed.

### **Sample coverage**

Over-coverage: Emigrant who not report their move to other country.

Under-coverage: Immigrants who not report their move to Sweden.

The total over- and under-coverage amount to about 1 % of the total sampling frame.

### **Main variables collected**

The main variables collected are:

- Number of dwelling and surface area in square metres for Own homes and multiple-occupancy buildings, tenant-ownership rights.
- Annual maintenance and repair, to keep the building in its original condition (excluding maintenance of garden etc.) in Own homes.
- Annual reconstruction and extension (GFCF) in Own homes.

## **Basis of central government net lending, UFS**

### **Organisation collecting the data, and purposes for which it is collected:**

The data is collected by the Swedish National Financial Management Authority (ESV). The purpose of the data collection is to compile accounting information for the central government.

### **Reporting units:**

The reporting units are the departments and other constituting the central government sector (S.1311) as well as the social security funds (S.1314), based on ESA10 definitions.

### **Periodicity:**

The units report their accrued expenditures related to each of their appropriations on a monthly basis to ESV. All other data is reported on a quarterly basis, using ESV's so called "statistical reporting codes".

### **Variables collected:**

The data delivered to Statistics Sweden contains all expenditure and income of the reporting units. The expenditure is classified as consumption, investment or transfers variables. Further, the purpose for any given expenditure is also specified. The income variables are specified by type of income, for example different kind of taxes, transfers and interest rate income.

### **Methods used to allow for missing data:**

N/A.

### **Adjustments made for conceptual differences from national accounts concepts:**

The data source does not contain all necessary information needed for the national accounts. Some parts have to be calculated using other sources, for example consumption of fixed capital and VAT.

### **Further adjustments made to the data:**

All elements of the data set correspond to the national accounts in at least one way. However, there is a greater level of detail in the data than is requested in the national accounts, which means certain aggregation is needed to construct the National Accounts transactions.

## **Annual accounts for municipalities and county councils**

### **Reporting units**

Reporting units is local government units: Primary municipalities, county councils and regions (county councils and regions hereafter together called county councils) and municipalities associations.

**Periodicity** Annual

### **Time of availability of results**

The first preliminary data are published six months after the end of reference period. The final results are published nine months after the end of the reference period.

### **Sampling frame**

The frame is municipalities and county councils in Sweden. Sweden's division into municipalities and counties are described in the Swedish Code of Statute (Svensk författningssamling (SFS)) 2007: 229.

The frame for Municipality associations is provided by Statistics Sweden's business register. The units included are associations classified with legal form 83.

### **Compulsory or voluntary?**

The survey for reference year 2011 is compulsory, except for the municipalities associations, in accordance with Official Statistics Act (SFS 2001:99) and Statistics Sweden's regulation SCB-FS 2012:2. From reference year 2014 the survey is compulsory also for municipalities associations according to Statistics Sweden's regulation SCB-FS 2015:6.

### **Main features of survey methodology**

The data collection is carried out using three customized electronic forms. There is one form for primary municipalities, one for county councils and another one for municipalities associations but the content is designed in similar manner. For the primary municipalities and county councils there is also pre-printed data in the forms, audit controls and financial ratios that are calculated automatically.

Definitions of the variables in the survey are in the user manuals for each form. All variables in the survey are based on accounting plan K-Bas-05 (primary municipalities and municipal associations) and L-Bas -05 (county councils) published by the Swedish Association of Local Authorities and Regions (SKL) From 2013 the standard chart of account is updated with K-Bas-13 and L- Bas-13.

### **Population size**

The population consists of 290 primary municipalities, 20 county councils (16 county councils and 4 regions) and 186 municipal associations.

### **Sample size**

Total

### **Survey response rate**

The response rate among the primary municipalities and the county councils amounts to 100 %. The response rate for the municipality associations is larger than 90%.

Quality on a nationwide basis is good at aggregate level. Quality at local government level may be poorer for certain municipalities, county councils or municipality association. The profit and loss account and balance sheet data are of very high quality. Measurement problems can arise in connection with the allocation of overheads and the recording of internal items.

Primary municipalities and county councils answer all sections in the survey, though there may be missing data for some occasional variables. This is primarily in the sections with detail information of

educational activities and care in municipalities. There is no imputation where data are missing in these cases.

There is no imputation for the missing data from municipalities associations.

### **Main variables collected**

The survey comprises annual economic information from municipal and county financial statements. The survey comprises about 3 000 variables.

The annual accounts for municipalities consist of the following sections:

*Operating accounts.* Presentation of the municipalities' current costs and income during the year. It is the most detailed section, in which the municipalities' activities are recorded broken down by major expenditure and income types. Internal costs (e.g. accommodation costs, capital costs and joint activity) and internal income are allocated to activities.

*Specification of operating accounts.* This section provides information on purchases of activity, grants and transfers with a breakdown by counterpart (from whom the activity is purchased or who receives the grant). Specification of certain income is also included, for example operating grants from central government and the National Labour Market Board. The activity classification is less detailed than in the operating account.

*Investment account.* Investment expenditure and investment income for the year are recorded here. The activity classification is less detailed than in the operating account.

*Profit and loss account.* This section contains information on both the municipality and the municipal group. The profit and loss account presents the financial results of the municipality for current activity.

*Balance sheet.* This section contains information on both the municipality and the municipal group and gives a presentation of assets, debts and proprietor's capital.

*Revenue and expense.* This section includes costs/expenditure and revenue from both operating accounts and investment accounts broken down by type of expenditure and revenue.

The annual accounts for county councils consist of the following sections:

*Operating account.* The income in the operating account is allocated to the following accounts; patient contributions and other charges, sale of activity, sale of services, sale of materials and goods, grants received, other income, income outside the activity and internal income. The costs in the operating account are specified in the following accounts; wages and salaries excluding tax-free benefits, other staff costs, costs for purchased activity, grants provided including transport, materials, services, depreciation and losses on the disposal and writing off of assets, costs outside the activity result and internal costs.

*Investment accounts:* specified by investment expenditure and investment income. Investment expenditure is further broken down by buildings and land, medical technical equipment and other inventories.

*Costs for certain activities* are grouped according to employment policy measures, industrial promotion measures, tourism and public transport.

*Certain cost and income items* also form part of the summary accounts and are specified at the level of individual accounts.

The part *End-of-year accounts data* contains the profit and loss account, the financial analysis and the balance sheet. These follow the accounting practice of these bodies.

The annual accounts for municipalities associations consist of profit and loss account, balance sheet, investment account and operating account.

## **Non Profit Institutions Serving Households**

### **Link to surveys undertaken at the European level**

There is no EU regulation on this survey.

### **Reporting unit**

Enterprises

### **Periodicity**

Annually

### **Results availability**

The results are published 16 months after the end of the period in question.

### **Sampling frame**

The sampling frame is based on Statistics Sweden Business Register

### **Survey is compulsory or voluntary?**

Voluntary.

### **Main features of survey methodology**

The survey is conducted by postal questionnaire.

### **Population size**

173 781 Enterprises/Institutions

### **Sample size**

2178 Enterprises/Institutions

### **Survey response rate**

About 60 %.

### **Method used to impute for missing data**

Try to compare wages to data on wages from other sources, then if possible get data by using a quota.

### **Variable used for grossing-up to the population**

Comparisons are made on wages from other sources.

### **Sample coverage**

Institutions whose assets and capital gains exceed a certain level.

### **Main variables collected**

Business statistics, revenues, costs, wages etc.

### **Further adjustments made to the survey data:**

None.

### **Comments**

There are no religious institutions in the survey.

## **Economic report Church of Sweden**

### **Link to surveys undertaken at the European level**

There is no EU regulation. Producing agency is Statistics Sweden.

### **Reporting units**

The inquiry is conducted for church districts at local level and for diocesan bodies and property boards. The survey covers all church districts at local level with employers' obligations. In order to cover the whole local level, i.e. including church districts with no employers' obligations, the figures collected are grossed up. Diocesan bodies and property boards receive a separate questionnaire.

### **Periodicity**

The economic report is published annually.

### **Results availability**

Approximately 6 months after the reference year.

### **Sampling frame**

All church districts.

### **Compulsory or voluntary?**

The Swedish church is obligated to give an annual economic report under the church regulation chapter 44, paragraph 21 for the Church of Sweden (SvKB 1999:1). The report describes the economic development for the church districts and includes consolidated statement of income, balance sheet and operation accounts.

### **Main features of survey methodology**

The inquiry gives an overview of the finances of the church districts. The report is issued by Statistics Sweden in cooperation with the Church of Sweden – Board of the Church (Kyrkostyrelsen) and Association of Parishes in the Church of Sweden (Svenska kyrkans Församlingsförbund).

The report contains profit-and-loss accounts and balance sheets for church districts at local level and for diocesan bodies and property boards (which manage real estate assets). For church districts at local level and diocesan bodies the material also includes analyses of financing and a statement of costs and income for operations and for investment.

### **Population size**

Full census.



## International trade statistics in goods

The purpose of the statistics is to provide information on Sweden's international trade by goods and countries. A consequence of Sweden's membership of the EU was that Statistics Sweden introduced an entirely new system for the publication of data on international trade with effect from January 1995. Up to the end of 1994 the statistics could be based entirely on the data supplied by enterprises to Swedish Customs on all exports and imports of goods. In order to show the statistics to the same extent as previously, data had to be collected from 1995 onwards by the following procedures:

### Link to surveys undertaken at the European level

The statistics on trade in goods with EU Member States and other countries are regulated by the following EU regulations and amendments to them:

#### Intrastat

- Regulation (EC) No 638/2004 (Basic act)  
As amended by Regulation (EC) No 222/2009  
As implemented by:
  - Regulation (EC) no 1982/2004 (Implementing provision)  
As amended by Regulation (EC) No 1915/2005  
As amended by Regulation (EC) No 91/2010  
As amended by Regulation (EC) No 96/2010

#### Extrastat

- Regulation (EC) No 471/2009 (Basic act)  
As implemented by:
    - Regulation (EC) No 92/2010
    - Regulation (EC) No 113/2010
- Combined nomenclatures
- Regulation (EEC) No 2658/87

#### Nomenclature of countries and territories

- Regulation (EC) No 1833/2006

### Reporting units

The suppliers of data to the Intrastat system are defined as enterprises or organisations. The data are obtained from the Swedish Tax Agency (SKV), to which it is compulsory to supply EU Value Added Tax (VAT) data. As regards the Extrastat system, enterprises trading with countries outside the EU report all exports and imports of goods to Swedish Customs.

### Periodicity

Monthly reporting and statistics are published by month, quarter and year.

### Results availability

Statistics Sweden's international trade statistics, i.e. Intrastat and Extrastat, are published partly as aggregated statistics (total trade and net trade balance), 25 days after the close of the reference month, and partly as detailed statistics, 56 days after the close of the reference month. Volume indices are published each quarter, approx. 60 days after the close of the reference month.

### Sampling frame

Intrastat: The VAT Register of the Swedish Tax Agency. Data are collected from all enterprises with total exports of goods to other EU countries or imports of goods from other EU countries to a minimum value of SEK 4 500 000.

Extrastat: Full census of total record from Swedish Customs.

**Compulsory or voluntary?**

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99). The statistics for this survey are also regulated according to the Official Statistics Ordinance (2001:100) and Statistics Sweden's regulation (SCB-FS 2010:15) relating to Sweden's trade with EU Member States (Intrastat).

The regulation of Statistics Sweden (SCB-FS 2010:16) regulated data for statistics on certain specific movement of goods.

**Main features of survey methodology**

The purpose of the statistics is to provide information on Sweden's international trade by goods and countries.

Intrastat: Census with cut-off value based on the value of arrivals/dispatch from/to other EU countries. About 10 percent of the data are reported on paper forms.

Extrastat: Full census.

**Population size:**

The population is defined as all units, which import or export out of the country in trade with other countries. Some specific goods are included even though they do not follow the principle of physically moving between Sweden and other EU countries, for example vessels and aircrafts which follow the rule of ownership.

**Sample size:**

Intrastat: units, which import or export in trade with other EU countries with an annual export of at least SEK 4.5 million or import of at least SEK 9 million. According to the EU legislation, the survey has to cover at least 97 percent of the dispatch value and 95 percent of the arrival value. During 2011, approximately 14 000 companies were obliged to provide information to Intrastat; approximately 8 400 companies for arrivals and 5 600 for dispatch.

**Survey response rate:**

The proportion of data suppliers responding and the proportion of value received are used to estimate the response rate. In 2011, the response rates (first publication) for arrivals from the EU were 87 percent of companies and 97 percent of value. For dispatches the corresponding response rates were 91 percent and 98 percent.

**Imputation method**

The collected trade data does not cover the total EU trade, as the survey is a cut-off sample from the total traders and also affected by non-response.

Under-coverage and non-response are continuously adjusted for enterprises by supplementing with data from their EU VAT declarations and historical Intrastat data. The trade of enterprises from which no returns is received because of failure to respond is allocated into goods groups and countries in accordance with five different statistical methods:

Method 1 and 2 are based on a time-series-linked updating method, exponential smoothing, in which method 1 concerns non-response estimation which does not take account of seasonal influences.

Method 2 estimates non-response by taking account of seasonal variations.

Method 3 uses monthly VAT data to impute for missing data.

Method 4 is a manual imputation that is commonly used for partially missing data.

Method 5 uses an average of a period of 12 months adjusted with a seasonal component. Method 5 is used when no other method is applicable.

VAT data is being used when estimating for enterprises that are below the threshold. With the aid of a statistical method Statistics Sweden allocates the enterprise's monthly value to certain goods groups by goods X country level in accordance with SITC, Rev. 3. Hence total trade with EU countries can be allocated to these goods groups and reported in published tables.

For trade with non-EU countries (Extrastat) no estimations of missing data is needed since the import- and export declarations submitted to the Swedish Customs covers the total trade.

Variable used to impute missing data:

VAT data, 3-digit NACE code and historic values collected from previous survey rounds.

### **Grossing method**

Not applicable in this survey since it is a total survey with a cut-off.

### **Sample coverage**

Cut-off inquiry covering 95 percent of imports of physical goods in the EU and 97 percent of exports.

### **Main variables collected**

Commodity goods code according to the Combined Nomenclature (KN) on eight digit level.

Partner country;

Exports: country of destination,

Imports: country of consignment (and country of origin in Extrastat)

Transaction type

Value (invoice value in Intrastat and statistical value in Extrastat)

Net weight

Supplementary quantity for certain goods

The conversion rates to SEK used are either the day rate of the delivery or the customs rate set for the month. Hedged rates may not be used.

Further adjustments made to the survey data:

For Intrastat, the collected invoice value is converted into statistical value with the help of special conversion factors. The conversion factors are produced with the help of a special survey conducted at Statistics Sweden approximately every fifth year. The last survey was done in 2013.

## External trade in services (2011)

### Link to surveys undertaken at European level

The regulation EC-184-2005 regarding the balance of payments includes these statistics (foreign transactions concerning services, wages and transfers).

### Reporting units

The suppliers of data to the survey consist of enterprises and organisations.

### Periodicity

Quarterly survey

### Results availability

The results are published quarterly by Statistics Sweden on behalf of the Riksbank (Sweden's central bank) in the balance of payment, this usually occur around 2 months after end of the actual quarter.

### Sampling frame

The target population includes all enterprises, public authorities and other organisations having had foreign transactions concerning services, wages and transfers during the previous year. This basic sampling frame is also supplemented with data from other sources for example VAT, money transfer organization and foreign owned companies etc., which are deemed to indicate foreign trade in services. There are companies, which occur in more than one source. With the help of sales data and indicators created with information from the source material, those companies that are unlikely to have foreign trade in services are removed from the sampling frame.

### Sampling

A random sample is drawn each year, stratified by industry and size. Where, industry affiliations are determined based on the main SNI code, the company reported to the Swedish Tax Agency and the size is based on the company's turnover. However, size and industry affiliation may vary from year to year, which means that companies sometimes change stratum.

The largest companies as well as selected companies, which are considered important actors in foreign trade, are placed in stratum. The companies are likely to be included in the sample. These companies are those who are considered to be of major importance in their industry group based on annual turnover (limits vary according to industry) and represent about a quarter of the total sample.

Moreover, collected data from previous versions is used as auxiliary information in the allocation.

### Main features of survey methodology

Statistics Sweden has since 2003, at the request of the Central Bank of Sweden, compiled statistics on foreign transactions concerning services, transfers and wages. The statistics, which are primarily based on surveys aimed at enterprises, public authorities and other organisations, have replaced the statistics previously compiled by the Riksbank (Central Bank of Sweden) which was based on the banks' reporting of foreign payments on behalf of clients.

Foreign transactions and the sectors to be covered by the statistics are defined in accordance with the Fifth Balance of Payments Manual of the International Monetary Fund (BPM6), which is consistent with SNA 2008 and ESA 2010. Quarterly statistics are compiled on foreign transactions concerning services, wages and transfers.

The system of surveys does not cover transactions by households. For balance of payments' items (e.g. travel currency and transfers) where households' direct foreign transactions are deemed to be of such magnitude that they cannot be disregarded, supplementary data are collected or models are calculated.

To facilitate the transmission of data, forms have been adapted to take account of respondents' activity and the magnitude of the foreign transactions, resulting in 16 different questionnaires.

**Population size**

For the 2011 statistics, the sample framework encompassing approximately 53 000 enterprises was drawn up with the aid of data from the Statistical Business Register, the 2010 sample framework, Value Added Tax declarations, 2010 business statistics, the register of foreign trade statistics, the register of the Financial Supervisory Board and other registers.

**Sample size and coverage**

In 2011, a sample of approximately 5200 units is used, stratified by sector, industry groups and giving an indication of trade in services and size (turnover).

**Survey response rate and imputation method**

Of the approximately 5200 enterprises in the sample, over-coverage (bankruptcy, transfer of activity etc.) is just under 2 %. About 6% of the selected enterprises stated that they never have foreign trade in services.

*Non-response*

The response rate in the surveys conducted to date has varied between 76% and 85%. In the case of unit non-response, i.e. when data are totally missing for a respondent, non-responses of strata which are the subject of total surveys are compensated by imputations using data from previous surveys and of other strata by compensation using average values.

*Measurement errors*

It can be difficult to assess the magnitude of measurement errors. To reduce the risk of such errors, all the questionnaires are subjected to a logic check. For example, all enterprises which report major changes in the export or import of services are the subject of a more detailed check, through comparisons with other statistical sources and through direct contacts with the enterprises.

*Imputation methods*

The larger companies are imputed with the value of previous quarter if available. If previous quarter is also missing then go back one more quarter. If several quarters are missing, a weight adjustment is finally made so that the company is represented by the other companies in the sample (so-called straightforward listing within the stratum). In some cases imputation is made with the data for the corresponding quarter of the previous year. In many cases transactions follow seasonal patterns, which would be missed if the previous quarter is used for imputation.

**Variables used for grossing-up to the population**

Full census.

**Grossing method**

Not applicable since no grossing up.

**Main variables collected**

Transaction with foreign countries; asset and debts; portfolio trade and salaries.

## **The income and costs of the Scandinavian Airlines (SAS) consortia**

Data of the income and costs of the SAS consortia are collected by product in a quarterly survey. The survey is used to obtain data on production and intermediate consumption by product and also export and import data by product. The questionnaire contains questions on income and costs by product with the extra information whether the goods and services are sold to or bought from units in each of the ownership countries of the consortia (Denmark, Norway and Sweden). When deciding each country's income/cost by product the share of ownership is central: share of ownership \* income/cost of product. Export and import by product is then estimated by deduction of the data received for sales/purchase of units in your "own country". This model is used by all three ownership countries. The questionnaire is collected by Statistics Sweden and is distributed to Statistics Denmark and Statistics Norway.

## Statistical register for vehicles (2011)

### Link to inquiries conducted at European level

There is no EU regulation. The agency responsible for the statistics is The Swedish Transport Agency (Transportstyrelsen). The statistics are produced by Statistics Sweden.

### Reporting units

Motor dealers and vehicle owners.

### Periodicity

Stock data are recorded annually. Reported data are published quarterly with monthly data. Registrations are recorded on a monthly basis.

### Results availability

Production time for the stock statistics is about two months after the year-end. The quarterly statistics are recorded around two weeks after the close of the quarter.

### Compulsory or voluntary?

Vehicles are subject to compulsory registration. Supply of data to the inquiry is compulsory under the Official Statistics Act (SFS 2001:99), Statistics Sweden's regulations of the Official Statistics (SCB 2001:100) and the Swedish Transport Agency (Transportstyrelsen) regulations (TSFS 2010:112).

### Main features of survey methodology

The purpose of the statistics is to describe the Swedish vehicle population: in the first instance, the stock of vehicles, registrations (number and in certain case their economic value), categories of persons owning the vehicles and vehicle density at regional level.

Official statistics on vehicles subject to registration are based on extracts from the common motor vehicle register for the country. The central registration authority for the motor vehicle register is the National Road Administration (Trafikverket).

### Population and sample size

The inquiry population consists of the vehicles registered in the Central Motor Vehicle Register of the National Road Administration, which covers passenger cars, goods vehicles, buses, trailers (including caravans), motorcycles, off-road scooters, tractors, off-road vehicles, off-road trailers and motor-driven machines in accordance with the Road Traffic Ordinance (2001:558). This means that only vehicles subject to compulsory registration may be included in the statistics, hence only EU mopeds are included, but not other mopeds. Military vehicles belonging to the State and vehicles used only within fenced-in areas and for which there is no compulsory registration are not covered by the statistics.

Number of units in the population: 7 170 422 according to the stock at 31/12/2011. The number of registrations and deregistrations in 2011 was 542 635. Passenger cars form the largest group at around 5.5 million vehicles, followed by trailers at around 1 million vehicles.

### Main variables collected

Passenger cars, goods vehicles including trailer tractors, buses, trailers including caravans and semi-trailers, motorcycles including EU mopeds, farm tractors and off-road scooters, including snow scooters, are the main units and are shown in the register. The main variables are county, municipality, year/model, make and status.

Primary variables common to the main units:

Registration number  
Owner number, postcode, age, sex, owner category  
Municipality code  
Group code (makes code + group number)  
Model code identity  
Year/model  
Registration status  
Data indicating various changes  
Reason for deregistration  
Number of owners  
Leased vehicle indication  
Directly imported vehicle indication  
Type-inspected  
Body code  
Chassis number  
Vehicle designation  
SNI2007 code, institutional code  
Commercial transport indication  
Natural/legal person  
Recording month (year-month)  
Registration details stored  
Make code (two letters)  
Institutional sector text for the code  
County code  
“A” region code  
Name of municipality  
Number of inhabitants  
County code  
Name of county

Primary variables common to several of the main units:

Power unit  
Type of fuel  
Environmental class  
Service weight, Total weight (kg)  
Vehicle length, width (cm)  
Axle distance 1.2 (cm)  
Type of tractor coupling  
Number of axles  
Indication of equipment of various types  
Type of tractor coupling  
Individual variable for all registered vehicles: Direct import  
Individual variable for passenger cars and buses: Number of passengers  
Individual variable for passenger cars: Colour code  
Individual variable for goods vehicles: Charge (registrations)  
Individual variable for motorcycles: cylinder capacity (cc)



## **Research & Development (R&D) – Frascati Manual (2011)**

### **Link to inquiries conducted at European level**

The inquiry are conducted by Statistics Sweden covered at EU-level by Commission regulation No 753/2004. The surveys follow the guidelines published by the OECD in the Frascati-manual

### **Reporting units**

1. The survey of business enterprises covers enterprises having at least 10 employees.
2. The survey in the Government sector covers all government units as well as public research foundations and universities and high schools (census).
3. The survey on NPISH covers the units within the NPISH sector from the Statistical Business Register.

### **Periodicity**

The data are supplied every second year, available approximately 11 months after the end of the survey period. The surveys are web-based but it is also possible to answer in paper form.

### **Sampling frame**

Business enterprises: The selection framework consists of enterprises, with at least 10 employees which were active in November 2011. It does not include foreign subsidiaries. The sampling frame is obtained from the Statistical Business Register (FDB). The frame used is from November of the current survey year.

Comprehensive surveys (all units are surveyed) are performed for government units, public research foundations, universities and high schools.

The NPISH survey is a sample based on Statistic Sweden's survey on Non-profit institutions serving households. In addition, some units are always surveyed when they are known to have R&D activities (from other sources).

### **Compulsory or voluntary?**

The business and government surveys are compulsory under the Official Statistics Act (SFS 2001:99) and Statistics Sweden's regulations (SCB-FS 2012:12)

### **Main features of survey methodology**

The surveys show the characteristics of Research and Development (R&D) for the units covered. It follows the international guidelines described in the OECD Frascati Manual.

### **Population size**

The population for the business survey consists of enterprises from all Swedish NACE-industries and sectors. The population covered 37 973 enterprises in the business sector in 2011.

It includes all enterprises with at least 200 employees, moreover all enterprises in NACE 72, all industrial research institutes, all enterprises which in the previous survey showed more than SEK 5 billion of R&D.

All other enterprises with at least 10 employees are included in the sampling procedure, which is built on a stratified sample with optimal allocation (Neyman-allocation). An addition is made for enterprises with less than 10 employees. This estimate is based on a special study of this group at 2 separate occasions.

The survey of government units is a census

The NPISH survey population was 57 891 units in 2011.

**Sample size**

The sample amounted to 7 568 enterprise units and 236 NPISH units in 2011.

**Survey response rate**

The response rate was approximately 92 percent for the business survey and 51 percent for the NPISH survey in 2011. The NPISH survey is not compulsory.

**Imputation method**

Compensation for non-response is made by assuming that non-responding enterprises have the same characteristics as the responding ones.

**Sample coverage**

The number of enterprises measured in the survey is determined with the aid of the FDB, Statistics Sweden's Business database. The sample coverage includes companies with at least 10 employees that were active, according to the FDB, when the sample was chosen. Enterprises having more than 200 employees and enterprises in NACE-section M72, Research & Development, are surveyed in total, while smaller enterprises and other NACE-sections than M72 are surveyed by selection.

Over-coverage: Mainly enterprises in so called joint units where the underlying operation is already included in the sample and also enterprises not active at the time of the survey.

Under-coverage: Enterprises that have been added after the sample was chosen.

**Main variables collected**

The survey shows resources spent on R&D in terms of economic values and labour.

Main economic variables are type of cost, product groups, purpose/use and financing. For R&D assigned to an external part the receiving part is to be categorized, i.e. university or municipal.

The number of employees and years employed in R&D is reported by gender and profession. The variables total R&D expenditure, number of persons, full-time employment per year by scientists, product developers etc. are divided regionally. Estimates for all variables but number of persons are also collected for the year after the surveyed year.

## **Investment survey (2011)**

### **Link to inquiries conducted at European level**

The Investment survey is not covered by any EU regulation. The inquiry is produced by Statistics Sweden.

### **Reporting units**

Enterprises within mining and quarrying, manufacturing, sewerage, waste management and remediation activities, transportation and storage, construction, financial and insurance activities with at least 20 employees. Cut off rules for electricity, gas, steam and air conditioning supply, water supply are at least 5 employees, for other service activities at least 10 employees and for enterprises within real estate activities an assessed value (Taxeringsvärde) of more than SEK 10 million.

### **Periodicity**

The inquiry is conducted three times a year: in February, May and October. Production time for the statistics is about 8-9 weeks, counting from dispatch of the surveys to recording of results.

### **Sampling frame**

The number of enterprises measured in the survey is determined with the aid of the Statistical Business Register (FDB).

### **Compulsory or voluntary?**

Compulsory questions regarding executed investments and voluntary questions regarding investment predictions.

### **Main features of survey methodology**

A sample is drawn once a year and then used for the following three surveys. The sample is then stratified on the basis of industry and the size of each enterprise (measured by the number of employees), with an exception for real estate enterprises. Stratum with enterprises having more than 200 employees are surveyed in total, while stratum with smaller enterprises are surveyed by either selection or estimations performed by Statistics Sweden.

The survey is web-based but it is also possible to answer the survey in paper form.

### **Population and sample size**

The population cover about 30000 units and the sample about 7800 units.

### **Survey response rate**

If non-response is measured as the proportion of enterprises, which fail to submit a return, this is normally about 20%. If instead non-response is measured in terms of SEK invested (rate of coverage), the non-response is very small. This is because additional measures to ensure data collection are targeted selectively at the large companies.

### **Imputation method**

The companies are first contacted, to persuade them to supply the missing data. After that data are automatically checked. Finally the missing data is imputed by regression analysis and the correlation between previous forecasts and outcomes for each stratum.

### **Main variables collected**

The investment survey collect investment values of buildings, machinery, dwellings, vehicles, other transport equipment, Sales of objects, leasing of machinery for manufacturing, administrative computer equipment, transport means and other machinery.

**Further adjustments made to the survey data:**

Statistics Sweden perform an assessment (up or downward adjustment) of the forecasts submitted by the companies. This because in some cases the companies' expected investments normally tends to deviate in a systematic way from its actual investments.

## **Industrial inventories (2011)**

### **Link to inquiries conducted at European level**

The industrial inventories survey is not covered by any EU regulation. The statistics are conducted by Statistics Sweden.

### **Reporting units**

Local Kind of Activity Unit (LVE)

### **Periodicity**

The data are supplied on a quarterly basis, available 45 days after the end of the surveys period

### **Compulsory or voluntary?**

Enterprises are obliged to submit inventory data to Statistics Sweden on request under statutory provisions SFS 1992:668 and SFS 2001:99 (Official Statistics Act).

### **Sampling frame:**

The name of the used business register is Statistical Business Register (FDB) . The population is divided in stratas based on kind of activity units and size (number of employees) in the mining and manufacturing industries, NACE department B and C. In order to ensure that the statistical results are as industry-specific as possible, activity units are used as the inquiry unit while the sampling frame is defined in terms of business entity, but activity units are the used sampling object within the selected business entity.

### **Main features of survey methodology**

The survey method is stratified random sampling with a cutoff by 50 employees. The questionnaire is electronic. The survey is conducted by questionnaire (Excel document). It is possible for the respondent to submit information by e-mail or traditional paper forms.

### **Population size**

The number of objects in the population consists of about 6500 enterprises.

### **Sample size**

All companies with more than 500 employees are included in the inquiry. The sample also covers industrial establishments in non-industrial enterprises and enterprises owned by the government. The number of units surveyed is about 1100.

### **Survey response rate**

In the statistical surveys for which data are collected quarterly, non-response is regularly between 30 and 40 percent in terms of respondent numbers, then when quarterly data are used in annual calculation the data gets revised so that the non-response rate is between 3 and 6 percent. The quarterly results are treated as preliminary on first reporting. Updating is in many cases normally carried out in conjunction with the next quarterly reporting, when the updated results are considerably more reliable.

### **Method used to impute for missing data:**

The imputation method depends on availability and feasibility. A list of imputation rules exists where the first alternative is used if requirements are met; otherwise the second alternative is used if requirements are met. And so on and so forth. The main alternatives are imputing with a development based on other developments in a similar group of objects and applying that figure to either a previous or a future figure depending on availability.

**Variable used to impute missing data**

The collected data itself.

**Variable used for grossing-up to the population (**

The frame is stratified based on employment.

**Main variables collected**

Input goods, goods in process, finished goods, goods for resale.

**Further adjustments made to the survey data:**

Adjustments are made for recurrent inventory losses and gains. Also, inventory values are deflated for fixed prices.

## **Monthly fuel, gas and inventory statistics**

### **Link to surveys undertaken at the European level**

With reference to Commission Regulation (EC) No 2390/96/ECSC and the Commission's recommendation No 88/96/ECSC, both dated December 16, 1996, the Member States as of January 1997 are obliged to answer questionnaires regarding fuels.

### **Reporting unit**

Enterprises

### **Periodicity**

Monthly

### **Results availability**

The results are available approximately 6 weeks after the reference month.

### **Sampling frame**

Oil trading companies and other enterprises with contingency inventories selling petroleum products, major importers of petroleum products which do not belong to the first category, coal trading companies, coking plants and producers and suppliers of FAME and ethanol for vehicles.

### **Compulsory or voluntary?**

Compulsory

### **Main features of survey methodology**

The survey is conducted by questionnaire (Excel document). It is possible for the respondent to submit information by e-mail or traditional paper forms.

### **Population size**

The number of objects in the population consists of about 70 companies.

### **Sample size**

Complete survey of carbon trading and oil trading companies.

### **Survey response rate**

Non-responses (objects and partial) in 2011 survey was limited to single objects.

### **Method used to impute for missing data**

Received information are examined and when errors are noted the enterprises are contacted for additional information. For those companies that have not responded to the survey, imputations are used with data collected elsewhere and information previously provided.

### **Main variables collected**

Data on quantities relating to opening and closing stocks of inventories, import, export, production, own consumption, bunkering for foreign shipping and delivery to consumers and retailers for the following products: Coal, coke, crude oil, gas fuel, intermediates, ethane, refinery gas, kerosene, light petroleum, others light oils, petroleum naphtha, gasoline, kerosene, other kerosene and other medium oils, diesel, domestic heating fuel and bunker oils (EO 1, EO 2 incl. WRD and EO 3-6), LPG (propane

and butane), lubricating oils, bitumen (asphalt), paraffin wax, additives, sulfur and FAME and ethanol for vehicles, both E85 and E95. Details of own consumption of natural gas and biofuels are also included. Deliveries to dealers and consumers are allocated to consumer groups. Deliveries of motor gasoline and diesel fuel are also reported divided into environmental classes.



## **Survey on Inventories in trade and services**

### **Link to surveys undertaken at the European level**

There is no EU-regulation for this survey.

### **Reporting unit**

Enterprises

### **Periodicity**

Quarterly

### **Results availability**

The results are available 50 days after the quarter has ended. In 2015, 45 days after the quarter has ended

### **Sampling frame**

Business Register static in March each year.

### **Compulsory or voluntary?**

Compulsory.

### **Main features of survey methodology**

The survey is conducted by postal questionnaire, possibility for the respondent to submit information by web, traditional paper forms or telephone.

### **Population size**

About 100000 enterprises.

### **Sample size**

About 2000 enterprises.

### **Survey response rate**

Normally 80-85 % depending on which quarter.

### **Method used to impute for missing data**

In strata with no sample we impute with the development of similar enterprises. In sampled strata we adjust the sample weights for missing values.

### **Variable used to impute for missing data**

Change in inventory of similar enterprises

### **Sample coverage**

The sample frame covers all enterprises with a turnover of 1 MSEK and inventories over 1.5 MSEK.

### **Main variables collected**

Inventories of commodities distributed among 19 commodity groups at the end of each quarter.

### **Further adjustments made to the survey data**

A coefficient is used to calculate the inventories in enterprises under the cut-off. The inventories are valued by the enterprises in acquisition cost but revalued to replacement costs by Statistics Sweden.

## **National Forest Inventory, NFI (2007-2011)**

**Description of the forest status, forest increment, felling operations performed and some descriptive variables in Sweden's forests**

### **Link to inquiries conducted at European level**

Roughly every five years statistics are supplied by NFI to international organisations such as the Food and Agriculture Organisation of the United Nations (FAO) and MCPFE/Forest Europe. The statistics refer to national values and cover forested areas, timber stocks, biomass, increment and natural drain. The statistics provide good international comparability. The agency responsible for NFI statistics is the Swedish University of Agricultural Sciences, SLU (Department of Forest Resource Management).

### **Reporting units**

Field collection is carried out by survey teams from SLU.

### **Periodicity**

Annual.

### **Results availability**

Data collection is carried out in the period May-September. The material is normally ready by the end of the year. The annual publication "SKOGSDATA" is normally published in Mars-May.

### **Sampling frame and population size**

All area of land in the entire country, include since 2003, national parks and nature reserves. On the tree-bearing land the inventory process is organised in such a way that estimates of timber stocks, increment and felling can be made. However, the following categories of land are excluded from this type of inventory in the ordinary surveying process:

- Mountainous areas, including mountain birch forest
- Urban land
- Certain military areas

### **Compulsory or voluntary?**

There is no obligation to supply data. The material produced is collected by authorised officers and, amongst other things, provides a basis for the formulation of the nation's forestry policy.

### **Main features of survey methodology**

NFI estimates the annual gross felling, however this is not the official statistics, by recording the stumps from the latest finished felling year. A felling year is the period between two consecutive buddings (the time when the buds are opening in the spring). One of the variables measured is occurrence of the fresh stems on the plots. Stumps with diameter equal to five centimetres or exceeding five centimetres are included in the inventory.

NFI is a nationwide, annual sampling inventory of the country's forests and has been conducted since 1923. Its main purpose is to provide a relevant basis for forestry policy, but it also serves the forestry industry and forestry research. Over the years methods have changed, and the content has been expanded to cover more than forestry as such. Thus the inventory of types of ownership, which can be attributed to forest land, has been expanded and the content has become more comprehensive. It can be said that the inventory has come to provide an ever increasing amount of information of an ecological and environmental nature, a development moreover which will in all probability continue. (see e.g. <http://www.silvafennica.fi/article/1095>)

The overriding aim of the inventory process has not undergone any major changes. Comparisons over time are therefore possible and form an important part of the recording. This applies in particular to variables of importance from a forestry point of view, such as timber stocks and annual increment allocated to tree species, for which there are time series going right back to the first NFI of 1923-1929.

The annual felling statistics of NFI involve a degree of systematic underestimation. The official felling statistics of the National Board of Forestry are based on timber consumption and changes in inventories. The felling statistics of NFI, however, are necessary in order to allocate felling to ownership categories, methods of felling, tree species etc.

### **Sample size and grossing method**

NFI covers both land and vegetation. Since the first survey in 1923-1929, dead trees have also been recorded provided decomposition of the wood has not progressed beyond suitability for firewood. In 1994 an inventory of all dead wood was introduced.

The main units covered by the survey are areas of forested land and trees growing on it. Dead trees in varying states of decomposition are also included. The main emphasis is on land, which is productive from a forestry point of view, the "forest land". Other types of property bearing trees are also inventoried as regards land and vegetation.

NFI is a spot-sampling inventory. A sample of the stumps, trees, ground vegetation etc. are chosen at random and are used to estimate the total volume of all trees, total area covered with a certain type of vegetation etc.

The samples for NFI consist of temporary or permanent "tracts" or clusters of sample plots. The permanent tracts are re-inventoried at intervals of 5-10 years. The sample units, i.e. the tracts, are thus systematically distributed over the entire country. The sample is successively concentrated and is sized in such a way that reliable data can be obtained at county level from five years of material.

In the normal instance a tract of sample plots is disposed at equidistant intervals along at the sides of a square. The size of the tract, i.e. the length of the side of the tract, number of sample plots per tract, size of sample plot etc. are scaled so as to provide a day's work for a survey team. This means that a permanent tract consists of eight sample plots and a temporary tract of 12 sample plots. In total approximately 11 000 sample plots are inventoried each year, of which approximately 6 000 on forest land.

The density and formation of the tracts vary between five regions, which constitute the strata of the survey in the statistical sense, i.e. not reporting areas. The distances between the tracts are shorter in the south of Sweden than in the north. The following factors serve as a guide in the delimitation of the regions:

- Variation of important variables in space
- Size and structure of the counties
- Operational difficulties

In the sample plots all trees are recorded and their diameters measured at breast height (1.3 m above the ground). In areas in which felling took place in the previous season, the stumps of felled trees are recorded. A small proportion of the trees are reserved as specimen trees and subjected to more detailed measurements, for example height and height to first live branch and any damage. The specimen trees are used to estimate volume and increment for all the trees. The probability that a tree will be taken as a specimen rises in line with its basal area at breast height. About 12 000 specimen trees are registered annually. The age of specimen trees in random sample plots is determined by drilling. The drilling cores are sent to the office, where they are aged and the radial increment of the last 60 years is measured under a microscope. In sample plots with forest in the regeneration phase, a selection is made of so-called of main crop plants whose number is recorded.

**Survey response rate**

The statistics of NFI are only marginally affected by non-response. Non-response proper is rare since completeness tests are carried out both during field collection and at later stages. Data from individual sample plots and sub-sample trees may be lost, but this shortfall is such that the risk of it generating systematic errors is virtually negligible.

**Sample coverage**

Uncertainty in the statistics of NFI stems primarily from the fact that they are calculated from a sample. The survey is constructed in such a way that it provides data of satisfactory certainty for individual counties or large parts of a county with material for five years. The design and coverage of the sample were determined primarily in order to allow estimates of forest land and its timber stocks.

National values for the area of forest land and timber stocks are estimated with a relative mean error of approximately 0.9-1.1%. For individual counties the corresponding mean error is greater, between 2 and 15%, and usually somewhat less for area estimation. The other ownership categories usually account for smaller areas than forest land and are estimated with a greater degree of uncertainty. The same applies to data on forest land in the breakdown by ownership categories and age or cutting classes. In certain counties individual ownership categories are poorly represented. In order to avoid the recording of data with a very high degree of uncertainty, ownership categories are sometimes merged in the recording.

Area distributions are always recorded in full, although individual area fractions are subject to considerable uncertainty. Timber stocks and increment require a minimum sample for recording purposes. Each item of data recorded is based on a minimum of about 20 sample plots.

Annual felling and regeneration factors affect a smaller proportion of the area of forest land. Although the sample has been concentrated for areas affected by these aspects, the estimates have greater uncertainty than the estimates covering all forest land. Total felling in a single year is estimated with a relative mean error of approx. 8.5%. The recording of annual felling and regeneration factors is therefore carried out with a smaller breakdown compared with the other recording.

The assessments and measurements of the authorised officers are improved on field excursions undertaken following the start of the field work. Information is obtained on possible weaknesses in data collection by continuous monitoring surveys. In this way it has emerged that total timber stocks are underestimated by 1-2% because of the fact that individual trees in the sample plots are not recorded. One of the effects of heavy brushwood cover is that certain stumps are not measured and, in addition, there is underestimation because of incorrect assessment of the felling date. In the recording in tabular form no correction is normally carried out for these systematic errors. However, estimated felling is adjusted upwards in diagrams showing increment and drain over time for the country as a whole.

**Imputation method**

None of the statistics recorded from NFI are based on model assumptions. On the other hand, mean error estimates are based on certain model assumptions regarding the variation in space in a number of aspects.

**Main variables collected**

Variables from different steps and levels are used. For area descriptive variables are specified in classification by strata or group. Some of the most important examples are:

- County/large county districts
- Ownership category
- Land use class

- Type of ownership
- Age classes
- Cutting classes
- Fertility
- Operations performed

In the inventory a large number of variables are collected to classify the units as correct as possible. How fertile different areas are is for example estimated by type of earth, dampness etc.

The statistical measures used are areas and mean values (primarily per hectare) and total values of timber stocks, annual increment and felling for strata and groups. Numbers of trees and plants also arise as statistical measures, for example in the recording of the regeneration situation and damage to trees. Development of timber stocks can be compared from 1920 and the annual growth and felling since 1950. The statistics are published annually, normally as means of five years.

The general level of detail in the breakdown is by county or large county district. Areas and the situation etc. in respect of forest land and forest are recorded for ownership categories and cutting and age classes. Recording for groups of trees in terms of tree species and diameter classes is normally only carried out for counties or large county districts. Statistics on damage to trees, felling and regeneration status are recorded for larger strata, normally regions or groups of counties. The basic material for these estimates is limited.

Variables at tree level provide a basis for the calculation of timber stocks, increment and felling allocated to tree species and diameter classes, extent of damage to trees and plant occurrence in regeneration areas. Examples of tree-related variables are:

- Tree species
- Living/dead
- Breast-height diameter
- Height
- Five years' diameter increment (measured on drilling cores collected)
- Stump diameter
- Crown thinning and other damage
- Type of plant

Completeness and validity tests on data collected are undertaken at the stage of data collection in the field. Complete tests are carried out at the office. Any errors remaining are corrected by the field teams or at the office. A large number of the variables used in the production of the statistics are of the calculated variable type. Examples are variables, which describe the important tree characteristics volume and increment. To begin with an estimate is carried out with functions for the individual specimen trees. Subsequently a simulation procedure is applied in order to assign values to all trees measured. By a similar procedure volumes are assigned to measured stumps of felled trees.

## **10.4 Statistical surveys and other data sources used for the transition from Gross Domestic Product (GDP) to Gross National Income (GNI)**

### **Foreign Direct Investments – assets and income**

#### **Link to inquiries conducted at European level**

None

#### **Reporting units**

Enterprise or Local Enterprise Group

#### **Periodicity**

The survey is an annual survey measuring Foreign direct investment (FDI) earnings according to the Current Operating Performance Concept (COPC) and dividends:

Foreign Direct Investment in Sweden (report form 1346) / Swedish Direct Investment abroad (report form 1347)

The monthly survey measures interest on debt instruments and dividends:

Direct investments – Loans and dividends (report form Di45)

#### **Time of availability of results**

Annual survey: Preliminary results are reported to international organizations at T+9 months after the reference period. The final results are included in the quarterly publication of the Balance of Payments 3<sup>rd</sup> quarter as well as in a separate survey report in December.

Monthly survey: Preliminary results are reported to international organizations T+44 days after the reference period. The results are included in the quarterly publication of the Balance of Payments at Statistics Sweden's website.

#### **Sampling frame**

Annual survey: The sampling frame is built from business registers including register of group structures in combination with direct investment data from Statistics Sweden's internal FDI database.

Monthly survey: Cut-off survey covering enterprise groups with the largest FDI positions and transactions.

#### **Survey is compulsory or voluntary?**

Both surveys are compulsory for respondents.

#### **Main features of survey methodology**

Annual survey: Stratified random sampling

Monthly survey: Cut-off survey covering enterprise groups with the largest FDI positions and transactions.

#### **Population size**

Annual survey:

Inward FDI (2014): 8420 enterprise groups

Outward FDI (2014): 5509 enterprise groups

#### **Sample size**

Annual survey:

Inward FDI (2014): 1152 enterprise groups

Outward FDI (2014): 987 enterprise groups

Monthly survey (cut-off): 200+ enterprises with the largest FDI positions and transactions.

#### **Survey response rate**

Annual survey:

Inward FDI (2014): 91%

Outward FDI (2014): 91%

Monthly survey: 90-100% for the T+44 days reporting to international organization. Over time the response rate is 100% or close to 100% for monthly reporting enterprises.

#### **Method used to impute for missing data**

Annual survey: Adjusted grossing up and in very few cases imputation of data.

#### **Variable used to impute missing data**

Annual survey: Survey response from previous year with adjustments according to data from the monthly survey (if available).

#### **Variable used for grossing-up to the population**

Annual survey: Stratification is made by estimated absolute size value of total FDI stock. If the enterprise has not responded in previous surveys, the total FDI stock is estimated based on information on total equity or share capital from business registers.

#### **Sample coverage, as % in terms of variable used for grossing-up**

Annual survey:

Inward FDI (2014): 93%

Outward FDI (2014): 96%

Monthly survey: 80%

#### **Main variables collected**

Annual survey: measuring FDI earnings according to the Current Operating Performance Concept (COPC) and dividends. Main variables collected to calculate COPC earnings: *Profit/loss after financial items, write-downs, reversals of write-downs, capital gains, capital losses, dividends and tax.*  
Monthly survey: Interest on debt instruments and dividends.

#### **Further adjustments made to the survey data**

Annual survey: Reinvested earnings are calculated by Statistics Sweden as FDI earnings (according to COPC) minus distributed earnings. The calculated reinvested earnings are distributed by counterpart country, by activity as well as by sector classification.  
Withholding taxes on distributed earnings (dividends) are also calculated by Statistics Sweden.

## **Balance statistics for non-financial companies, including statistics for the balance of payment**

### **Link to inquiries conducted at European level**

The European System of Accounts (ESA2010) regulates the financial account and thereby also the Balance Statistics for non-financial companies (BAST).

Within the framework of BAST Statistics Sweden by direction from Sweden's Central Bank (Riksbank) also collects balance statistics for the Balance of Payment (BB-BAST).

### **Reporting units**

Enterprises.

### **Periodicity**

Every quarter of the year.

### **Results availability**

The results are published every quarter by Statistics Sweden, as a part of the financial accounts. The results are available 11 weeks after end of a quarter.

### **Compulsory or voluntary?**

Supply of data is compulsory under the Official Statistics Act (SFS 2001:99) and Statistics Sweden's regulation SCB-FS 2012:6.

Supply of data for the BB-BAST data is compulsory under the Central Bank Act (1988:1385).

### **Main features of survey methodology**

The Balance statistics (BAST) and the BB-BAST illustrates the significance of the non-financial enterprises on different financial markets. This is done by reporting balance and transactions of the non-financial enterprises. The other purpose is to provide data on the enterprises' financial savings to the quarterly financial accounts.

Statistics Sweden is assigned to inquire into some foreign transactions and report opposing country and currencies (BB-BAST). These data are used in the Balance of Payments.

### **Population size**

All non-financial enterprises (sector 111000), the general government public service companies (sector 112000) and branches in Sweden of foreign non-financial corporations (sector 113000) with minimum total assets/liabilities of SEK 5 million. Both active and inactive companies are included in the population. The total population 2015 was 2507 enterprises. Foundations are not part of the population.

### **Sample size and frame**

Random stratified sample of enterprises with minimum total assets/liabilities of SEK 5 million. There are 10 stratas in total.

Four stratas (strata 7-10) are full census stratas (407 companies in 2015):

All companies with total assets/liabilities of at least SEK 5.3 billion are part of the survey.

All companies who have reported at least SEK 1 billion in foreign transactions are part of the survey.

From the rest of the companies a stratified sample is conducted (strata 1-6). The sample frame is determined with the aid of the Statistical Business Register (FDB). In 2015 the sample size was 2100 companies. The smaller companies are only surveyed the first quarter. For quarter two to four the



changes for the smaller companies are estimated using the reported values for the companies in strata 7-10.

**Survey response rate**

The non-response rate is usually 18-20 % of the companies in the sample stratas.

The non-response is about 2-4 % in the full census stratas.

**Sample coverage**

Over coverage is assumed to be zero.

Under-coverage (newly started companies etc) is unknown and the statistics are not adjusted with regard to under-coverage.

**Imputation method**

The foreign items are assumed to be zero for companies who reported no foreign items in the last BAST survey.

The companies in the full census stratas (total assets/liabilities of at least SEK 5.3 billion) are imputed using reported values from the last quarter. If there are no reported values from the last quarter data from other companies in the same strata are used.

Companies selected in the random stratified sample are not imputed. Instead the weight used for grossing up the population is increased.

**Grossing method**

Estimations of the population are made from information from the survey, the individual observations are weighted (inverted sample probability).

The companies below the cut-off (SEK 5 million) are assumed to have zero assets and liabilities.

**Main variables collected**

Financial assets

Financial liabilities

Balance

Transactions

Financial derivatives

Lending

Income from interest

Cost of interest

All variables with foreign counter parties are divided and reported in countries and currencies.

