

# The Swedish economy

## Statistical perspective

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# Summary

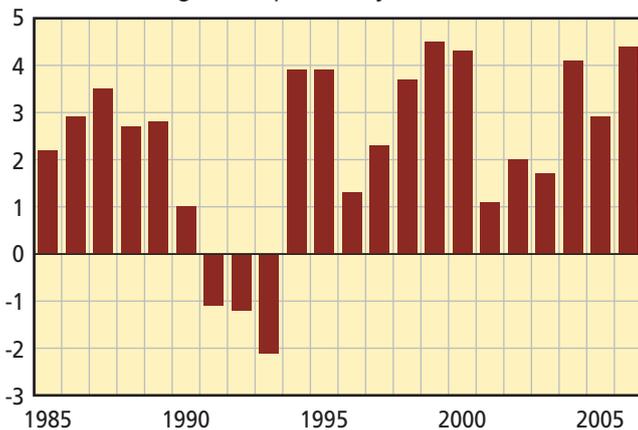
## GDP growth at a very high level

The economy grew stronger in 2006 and GDP growth was at one of its highest levels since the 1970s. GDP grew by 4.4 percent. Optimism rose in the Swedish economy, causing an increase in consumption and investments as employment grew. Household consumption expenditure and gross investments both contributed by 1.4 percentage points to GDP growth, while net exports contributed by 1.2 percentage points.

The alternative method for calculating contributions to GDP growth, where demand components are import-adjusted, shows that exports, as with last year, are most important for GDP growth. In 2006 exports contributed to the major part of GDP growth, or 2.5 percentage points.

### Gross domestic product 1985–2006

Percent change from previous year



Source: National accounts

Strong foreign demand continues to positively affect Swedish exports. A global growth rate of approximately 5 percent and growth in the Euro area of close to 3 percent gave a continued demand for Swedish goods and services. During the fourth quarter, merchandising contributed more to GDP growth than any previous quarter.

The manufacturing industry showed strong development in 2006, but retail and trade were equally strong during many years in the late 1990s and early 2000s. During this year, the production of goods and services has grown at approximately the same rate. Services were stronger during the spring while goods production increased during the latter part of the year. A country comparison of productivity in the OECD area shows that, during the period 2001–2006, Sweden had the highest annual average productivity growth rate in the OECD area of 3 percent.

Growth in investments strengthened by the end of last year. Investments contributed the most to GDP growth during the fourth quarter. The present rise in gross investments is, in a historic perspective, both strong and persistent. The rise in investment has been constant for three and a half years and amounts to close to 30 percent, which is considerably stronger than the previous investment upturns. The investment ratio, measured as gross investments as a share of GDP, rose to 17.9 percent in 2006. This is the highest level since 1992 and close to the long-term average of 18.5 percent.

Household consumption expenditure rose faster than income, which resulted in a fall in the savings ratio to 8 per cent of disposable income. Higher employment and expectations of increased incomes are the probable causes behind this development. The fact that 2006 was an election year led to a higher level of government consumption. Employment and investments in the public sector increased during the year.

During the fourth quarter, premium pension savings (PPM) were transferred from the government sector to the private insurance sector, in accordance with an EU decision from 2004. This has put some focus on the financial surplus in the government sector. The connection between financial savings and government debt is analysed from a statistical perspective. An arithmetic example shows how government debt will develop under different assumptions of GDP growth and different levels of surpluses.

The concept of purchasing power parity (PPP) is used to compare the economic situation and development in one country to other countries. Using PPP and the exchange rate, a price index can be calculated that shows differences in comparative price levels between countries. High productivity countries tend to have a higher comparative price level and higher GDP per capita than low productivity countries.

Gross regional product (GRP) is GDP by region. Volume growth for GRP was for the first time presented on a regional level in December 2006. During the period 2000–2004, Örebro region has shown the strongest growth, followed by Halland and Blekinge.

# Exports and imports

## Merchanting more important for GDP growth than ever

Exports of goods and services for the fourth quarter contributed more to GDP growth than it did during the preceding quarter. The contribution was 1.1 percentage points, while it was marginal for the previous quarter. Net trade of goods improved more than services. The contribution from net trade of services was a comparatively modest 0.3 percentage points, in spite of a larger contribution from merchanting than for any previous quarter.

In the last two quarters the growth rate for exports of both goods and services accelerated, compared to the preceding quarter, in seasonally-adjusted figures. Especially remarkable during the last quarter was the increasing growth rate for imports of goods. A possible reason for this was the comparatively fast increase in retail trade sales at the end of the year, but also growing production in manufacturing as well as increasing investment activity.

## Exports and imports of goods and services

	Fourth quarter 2006			All year 2006	
	Billion SEK. current prices	Percentage change. volume Compared to Q 3/2006 <sup>1</sup>	Compared to Q 4/2005 <sup>2</sup>	Billion SEK. current prices	Percentage change volume Compare to 2005
<b>Exports</b>					
Goods and services	389.6	2.4	9.3	1 455.9	9.1
Goods	288.9	2.6	10.0	1 083.8	8.0
Services	100.7	3.5	7.2	372.1	12.0
<b>Imports</b>					
Goods and services	331.2	3.0	8.2	1 223.7	7.8
Goods	251.0	3.5	8.8	927.1	7.6
Services	80.2	1.6	6.4	296.5	8.5

Source: National accounts

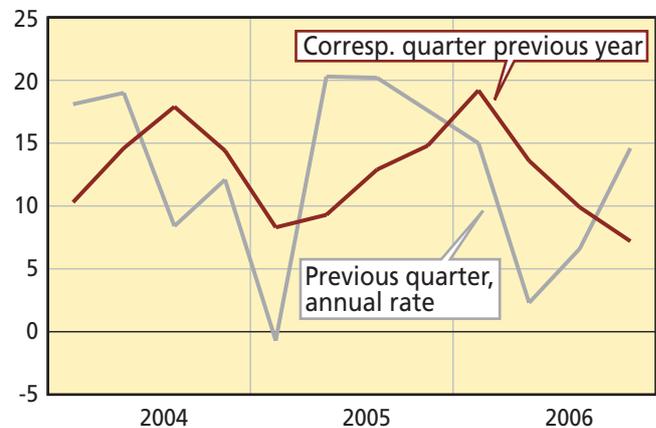
The growth rate for exports of services has also risen in the last two quarters, compared to previous quarter. The growth rate measured over four quarters has, on the contrary, decreased for three quarters. Different choices of comparison periods give quite different pictures of the development. This is partially a consequence of strong development for several quarters during 2005 (see also graph below).

<sup>1</sup> The seasonally adjusted growth rates in the table should be treated with some caution. The growth rates for exports from previous quarter are not consistent. This is due to "direct seasonal adjustment". Each time series has been adjusted separately, which can imply, as seen in the table, that the figures for development of all exports show a more positive (or negative) development than each separate component.

<sup>2</sup> Unadjusted figures.

## Exports of services

Percent change from corresponding quarter previous year, and from previous quarter, annual rate



Source: National accounts

Data up to and including fourth quarter 2006

The contribution from net exports to GDP growth was considerably larger for the fourth quarter than for the preceding one. The contribution was 1.1 percentage points (compared to the fourth quarter of 2005) of the actual GDP growth of 4.2 percent. The primary reason for this was a marked upturn in the net trade of goods, while the contribution from trade in services was more moderate than during the preceding quarters of the year. It should be noted that the calculation is based on change over four quarters. For the third quarter, the contribution was revised downwards from 0.5 percentage points to a marginal 0.1 percentage point.

## Contributions to GDP growth from net exports 2006 By goods and different services

Contribution to GDP growth	Q 1	Q 2	Q 3	Q 4	Year
Total	2.5	1.0	0.1	1.1	1.2
Goods	1.7	0.4	-0.6	0.8	0.6
Services	0.9	0.6	0.7	0.3	0.6
- merchanting	0.3	0.3	0.2	0.7	0.4
- net travel	0.3	0.3	0.3	0.2	0.3

Source: National accounts

Merchanting was more significant than previously and contributed 0.7 percentage points to GDP growth, more than half of the contribution from net exports. Tourism payments were at approximately the same level as previously. The conclusion can be drawn from this that the trade in services, merchanting and tourism payments were holding back GDP growth. When assessing these figures, it must be observed that the deflation in the trade in services, especially for merchanting and tourism payments, is connected to a rather large degree of uncertainty. This means that volume changes should be considered with some caution.

Exports of goods and services corresponded to more than 51 percent of GDP for 2006, which was more than for any previous year.

Revisions have been made since the last release of figures in December, most notably for the exports of goods for the third quarter that were lowered by between three and four billion SEK in current prices. This revision was mainly due to a correction of the foreign trade statistics, based on new information that became available and an extrapolation of the difference for 2005 between the national accounts and foreign trade figures, but also due to the withdrawal of a previous reconciliation correction. For imports for the third quarter, and for preceding quarters during 2006, more limited revisions have been made.

### Moderate increase in exports for telecom products in 2006

Exports of goods increased according to foreign trade statistics by 11 percent in current prices (value) and by slightly more than 9 percent in constant prices (volume), from the fourth quarter 2005 to the fourth quarter 2006. Export prices increased during the same period slightly more than import prices. This means that the terms of trade developed in a moderately favourable way. For the full year 2006, exports increased by 12 percent in current prices and 8 percent in volume, the largest increases occurring at the beginning and the end of the year. Exports increased for most commodity groups. Metals were up by 27 percent in current prices for the fourth quarter and by 16 percent for the full year 2006. Pharmaceuticals increased by 19 percent for both the fourth quarter and for the full year 2006. The price increases that have occurred for metals resulted in no volume increase, but there were considerable volume increases for pharmaceuticals. Oil products increased sharply both in current and in constant prices, which is a contrast to the development for imports. Electronics and telecom products had a comparatively moderate growth rate for the last quarter and also for the full year 2006. With falling prices on telecom products, this resulted in a volume growth of about 13 percent.

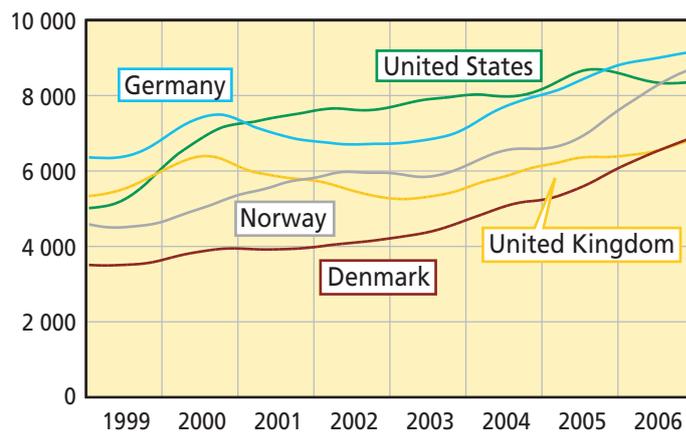
Total imports grew by 12 percent from 2005 to 2006. Most commodity groups increased. Imports of energy products increased by 18 percent in value and mineral products by 19 percent. The volume of imports of energy products during the fourth quarter of 2006 were considerably lower than the corresponding quarter in 2005 and the volume was also down for the full year 2006, partly as a result of a lesser need for heating.

### Stagnation for exports to the United States

Foreign trade by country is expressed in current prices only, which are affected by changes in prices and exchange rates. In 2006. Germany was the largest export market for Swe-

dish goods. The value of the German exports was SEK 108 billion. Germany was followed by the United States, where exports decreased by 2 percent and by Norway, where the exports increased by 18 percent. Exports to United States have recently shown considerably weaker growth than to Norway and Norway must thus be considered to be the second largest export market for Swedish companies. The decrease in exports to the United States is an effect of the gradually decreasing exchange rate for the US dollar over the course of 2006. This means that Swedish products have become more expensive for American buyers.

**Exports to important destination countries**  
Trends in current prices, SEK millions



Source: Foreign trade statistics Data up to and including December 2006

Exports increased considerably last year to many of the largest export markets, not least to Denmark (an increase of SEK 11 billion, 17 % higher than in 2005) and to Finland (an increase of SEK 10 billion, also 17 % higher than in the preceding year). Export growth to Poland was 30 percent. Increases to the large Asian countries were somewhat more moderate – 14 percent to Japan and 10 percent to China. The latter figure may seem a little low, considering the fast economic development in this country. Growth in exports to Russia was also comparatively modest, slightly less than 12 percent.

In 2006, the value of exports to the European Union increased by 14 percent while total exports, as mentioned earlier, grew by 12 percent. Accordingly, exports to countries outside the EU increased by a somewhat slower pace than for EU countries, by about 8 percent. Imports from countries outside the EU, on the other hand, increased at a faster rate. This could largely be explained by the increasing prices of oil products. However, it should be observed that the country of origin is unknown for imports from the EU. Therefore the reason for these changes may be that imports originating in a non-EU country were imported directly from that country instead of via an EU country.

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# Exports most important for GDP growth

## Exports account for more than half of GDP growth

Now that the first results of the GDP calculations concerning 2006 are available, it can be interesting to make another analysis of growth and what lies behind growth, taking into account that the import content in the demand components are different. Statistics Sweden's input/output tables from 2000 and the import structures calculated there are used as a tool for the analysis. The same relations are applied on 2006 and the import adjusted contributions to GDP growth are calculated. However, reservations must be made for the fact that import structures may have changed somewhat between the years 2000 and 2006.

In 2006, GDP growth was calculated to 4.4 percent, the highest growth so far during the 21<sup>st</sup> century. All components on the demand side of the GDP increased, and there was particularly high growth in gross capital formation and exports. The volume changes in demand from 2005 to 2006 and their respective contribution to GDP are:

	Volume	Contribution
Household consumption expenditure	2.8	1.4
Government consumption expenditure	1.8	0.5
Gross capital formation	8.1	1.4
Net exports	1.2	1.2
Exports	9.1	4.4
Imports	7.8	-3.2

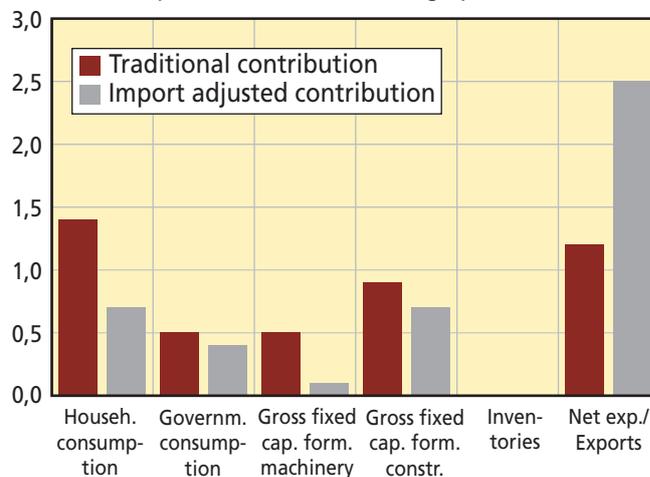
Using the input/output tables it is possible to adjust for imports in final demand and to calculate the adjusted contribution to GDP. The corresponding calculation for 2005 is presented for comparison.

	Contribution to GDP	
	2006	2005
Household consumption expenditure	0.7	0.5
Government consumption expenditure	0.4	0.2
Gross capital formation	0.8	0.6
Exports	2.5	1.5

From this presentation it is clear that exports accounted for more than half of GDP growth. The contribution from household consumption is adjusted downwards considerably, because of the high import content. For gross capital formation, it is mainly the high increase in investments in buildings and construction that contributes to GDP. Investments in machinery have considerably higher import content than building investments.

## Contribution to GDP growth before and after adjustments for imports

2006 compared to 2005. Percentage points



Source: National accounts

It is, of course, interesting to study which products contribute the most to the import-adjusted exports, and thereby to Swedish employment and GDP growth. Using the input/output technique, it is possible to make some progress in such a study, however it is necessary to be aware of the fact that there are limitations with basic data as well as with model assumptions. It should also be considered that it is the demand for products (goods and services) that is studied and that it is not possible to make direct conclusions concerning industries/activities. The Swedish economy is characterised by a high degree of "industry mix", i.e. some products classified to a certain industry may be produced by an enterprise belonging to another industry. For example, manufacturing enterprises may also produce services.

A study of the export structure in 2006 indicates that it is exports of engineering products that gave the highest contribution to exports of goods, primarily machinery but also telecom products and motor vehicles. Chemical products, including pharmaceuticals, also gave a high contribution to the exports produced in Sweden.

When calculating the contribution to GDP from service exports, tourism payments consumption of foreign visitors in Sweden is excluded, because it is very difficult to calculate the import content of this. Service exports according to this definition have, with the exception of transport services, a relatively low content of imported products and account for more than a third of the import-adjusted total demand of exports.

The services with the highest contribution to demand are different kinds of business services and merchanting.

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# Household consumption

## Household savings decrease

Household consumption continued to increase during the fourth quarter. The contribution to GDP growth was 1.4 percentage points, close to one third of the total GDP growth. Demand for services such as culture and entertainment, including home electronics, gave the largest contribution to total consumption growth. Households' real income grew at a slower pace than household consumption during 2006. This led to a fall in savings during the year.

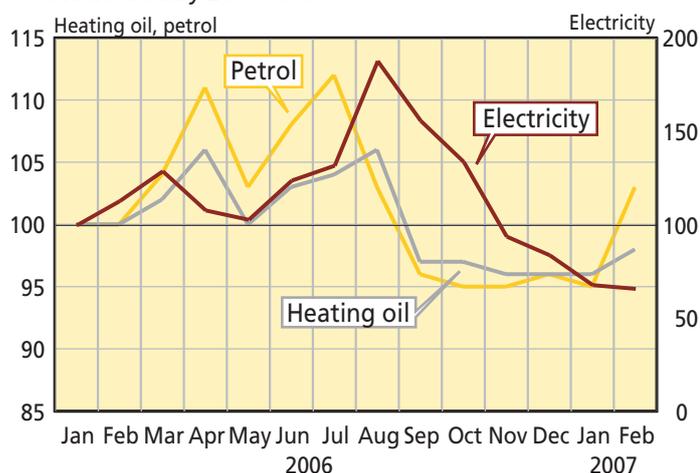
The increase in household consumption was 2.7 percent during the fourth quarter. The increase in household consumption for the full year was 2.8 percent. Households' real disposable income grew by 1.9 percent, which was considerably lower than the consumption growth. The increase in consumption led to a fall in savings during the year.

During 2006, households became more optimistic and consumption showed a stable growth. The most popular goods were home equipment, cultural activities and leisure, food products and non-alcoholic beverages. Home electronics increased by 20.8 percent during the year.

Electricity, district heating and heating oil gave the largest negative contributions during the fourth quarter. The mild weather is one explanation for this pattern.

## Energy prices in Sweden

Index January 2006=100



Source: Ecwin

Data up to and including February 2007

Savings in PPM (premium pension system) were transferred from the public to the private sector during the fourth quarter. Revisions have been made back to 1999. This implies a transfer of consumption from the social service sector to the household sector.

## Household consumption fourth quarter 2006

	Share of total household consumption, %	Volume change compared to Q 4/05, %	Contribution to increase in household consumption, %
Housing	24.2	-0.7	-0.2
Leisure, recreation and cultural activities	13.2	7.9	0.9
Transportation	12.4	3.9	0.5
Food products and alcoholfree beverages	11.6	2.3	0.3
Other goods and services	9.8	4.3	0.4
Furniture, etc.	6.6	10.8	0.6
Clothing and shoes	5.8	6.7	0.4
Restaurants, hotels	4.5	5.4	0.3
Consumption abroad	3.9	9.7	0.4
Alcoholic drinks and tobacco	3.8	6.7	0.2
Post and telecommunications	3.4	1.2	0.0
Households' non-profit organisations	3.2	-2.5	
Health and medical care	2.5	1.1	0.0
Education	0.4	1.0	0.0
Visitors' consumption in Sweden	-4.9	23.9	-1.0
Total consumption	100.0		2.7

Source: National accounts

## Increase in household but fall in savings ratio

In 2006, disposable income increased by 3.2 percent, in current prices compared to 2005. In real terms, the increase was 1.9 percent. As a consequence of the transfer of PPM savings from the social security sector to the household sector, household savings are higher compared to previous figures. As households consumed most of their disposable income, the savings ratio decreased somewhat to 8.9 percent in 2006. Household financial savings amounted to SEK 85 billion in 2006, a decrease of SEK 11 billion compared to 2005.

The new level of household savings is 1.5 percentage points higher than previously. Following the peak years of 2002–2003, when the savings ratio was more than 10 percent, the falling trend has continued. A few things are worth noting:

Firstly, household savings are now dominated by collective savings (employment-related pensions and PPM). These savings are in principle mandatory for all households and liquidity is zero. However, these savings are included in the savings ratio as they affect the level and portfolios of other types of savings. The savings ratio only amounted to 2.6 percent of disposable income in 2006, if these mandatory savings are excluded. This is approximately one third of the total household savings.

Secondly, other (voluntary) financial savings have weakened considerably. The decline is confirmed in the savings barometer produced by the Financial Supervisory Authority and Statistic Sweden, showing a continued decrease in

stocks and fund savings in 2006. Other financial savings decreased to 0.4 percent, while households' total financial savings' amounted to 5.9 percent in 2006. The total debt ratio amounted to 143 percent of disposable income while interest rate costs were only 5 percent (before tax).

Finally, real savings (mainly investments in houses and secondary/holiday homes have increased considerably in

recent years. It should be noted that the line between real savings and "other" financial savings is by no means clear. Debts created by the financing of new construction and renovations are accounted as a decrease in the financial savings but should instead be a part of the real savings.

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## General government consumption

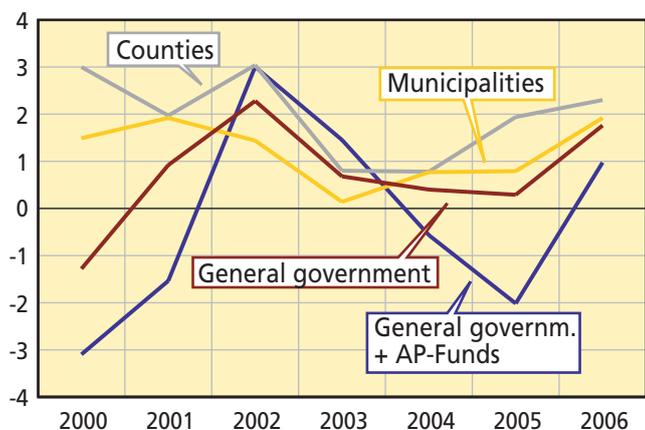
### Strong and steady growth in general government consumption

General government consumption continued to increase last year. At first, during the first quarter, there was a fall in the volume of central government consumption but over the remainder of the year all parts of general government consumption increased. Because PPM (the Premium Pension Authority) has been transferred to the private sector, a completely new time series has been calculated for central government expenditure including the social security sector. Central government consumption is not affected by the transfer.

Consumption by the municipalities, the counties and central government all increased during 2006. This development was strongest in the counties, followed by the municipalities and central government. After two years of reduced central government consumption it turned upwards and thus made a positive contribution to increased consumption by the general government.

#### General government consumption

Volume change, percent



Source: National accounts

Data up to and including 2006

The volume increase in wages and social security charges, consumption of intermediate goods (primarily the purchase of services) and social security benefits in kind, and the reduction in sales<sup>1</sup> all contributed to the increase in consumption by municipalities during the year. In the municipi-

palities the continuing significant volume increases in social security benefits in kind may be regarded as a trend. In the counties the increase in consumption is due primarily to increased consumption (purchase of materials and services) and a higher volume of social security benefits in kind<sup>2</sup>. The volume growth in wages and social charges also contributed, as did a dip in sales. The increase in consumption at the central government level during the year is chiefly the result of a strong volume development both in durable goods for the defence sector and in social security benefits in kind<sup>3</sup>. The volume development of wages and social security costs has only a marginal effect on the development of central government consumption.

#### General government consumption, by quarter

Volume change, percent

	Q 4 2005	Q 1 2006	Q 2 2006	Q 3 2006	Q 4 2006
General government	0.3	0.7	2.0	1.9	2.5
Municipalities	1.7	1.5	1.8	1.6	2.7
Counties	2.0	1.6	2.2	2.6	2.8
Central government + AP Funds	-3.4	-1.7	1.9	1.6	2.0

Source: National accounts

#### Consumption is not affected by the transfer of the PPM

The transfer of PPM resources from the public sector reduces the figure for central government consumption reported in the accounts (which includes the social security sector) by the order of SEK 250 million per annum. During the years when the PPM was built up (2000–2003) consumption amounted to approximately SEK 0.5 billion annually. The greater part of PPM consumption consists in wages and social security charges for employees. The whole time series

1 Negative sub-heading

2 Examples of social security benefits in kind at the county level are the provision of care arrangements and the supply of medicines.

3 The provision of social security benefits in kind at the central government level includes labour-market training schemes and the like, dental healthcare, legal aid, rehabilitation and subsidies for car-transport.

has been recalculated as from 1999 and general government consumption is thus not greatly affected by the transfer in the statistics. There was a significant increase in consumption both in the counties and in the municipalities during the fourth quarter 2006 compared with the same period in the previous year.

### Sources and corrections

Data on consumption by municipalities are based on their quarterly reports. Since the previous quarterly calculation new data for the counties have been received from SKL (the Swedish Association of Local Authorities and Regions). In calculating central government consumption the 'UFS' (Report on Central government financial saving by ESV (the Swedish National Financial Management Authority) has been used. The calculation for the slimmed down social security sector was based both on the UFS and on the Swedish Social Insurance Administration's information on revenue and expenditure by the AP Funds (the Swedish National Pension Funds).

With the calculation of general government consumption in the final quarter of the year the first outturns for the whole of 2006 become available. This information is very valuable because of its topicality but it must be regarded as preliminary. More accurate source material will be delivered to Statistics Sweden during 2007, which will lead to corrections with a view to making successive improvements in the quality of the information published subsequently. The final results for 2006 will not be determined until autumn 2008.

Since publication of the outcome for the third quarter 2006 figures for consumption and its components have been corrected. All those submitting information have an opportunity to submit revised data on this occasion. Municipalities, counties and central government have all revised their figures for the first three quarters. The most common reason for making revisions during calculation for the final quarter of the year is the reallocation of the figures for the fourth quarter to other quarters. The price index has also been adjusted on the basis of new sources.

### Volumes and significant changes

Elements which weigh heavily in the calculation of general government consumption are wages and social security charges, consumption of intermediate goods, sales and social security benefits in kind. The volume development under these sub-headings is therefore of interest.

Wages and social security charges in relation to consumption are highest for the municipalities and lowest at the central government level. Social security benefits in kind, as a proportion of consumption, are highest for the counties and lowest for central government. They are included in total consumption but not in public sector production costs. Durable goods for the defence sector and social security benefits in kind are the major components that change most, both from quarter to quarter and from year to year, and therefore they usually affect the outturn for the

volume change in total consumption. The volume change in the municipalities' social security benefits in kind alone accounts for 0.3 percent of the 1.8 percent increase in total public sector consumption during 2006. Social security benefits in kind have shown the strongest development of all major sub-headings of municipality consumption during the period 2000–2006.

The importance of intermediate goods consumption, including repairs, has diminished in all sub-sectors, while wages and social security charges and sales have diminished for municipalities and counties but increased somewhat at the central government level since 2000. If sales, which are a negative item in the calculation of consumption (production – sale), develop negatively, consumption increases. This occurred in both 2002 and 2006.

### General government consumption in total and sub-sector Distribution of the most important sub-sectors in relation to data on total consumption. 2000 and 2006 at current prices

	Public sector in total		Municipalities		Counties		Central government + AP Funds	
	2000	2006	2000	2006	2000	2006	2000	2006
Defence sector								
durables	2	2	0	0	0	0	8	7
Intermediate goods, incl. repairs	39	36	39	35	32	31	43	42
Wages incl. social security charges	58	58	69	66	52	51	47	50
Capital depreciation	8	7	6	5	5	5	12	13
Social security benefits in kind	10	11	7	10	23	22	4	4
Sales	19	16	22	19	15	12	16	17
Sub-sector shares, %	100	100	47	48	24	25	30	27

Source: National accounts

### The volume change in employment is calculated centrally in NR (National Accounts)

The National Accounts draw on three sources to calculate the quarterly development of employment in the economy: the Labour Force Survey (LFS), the Short-term Employment Statistics (KS) and the Short-terms Statistics, Salaries (KL). For the number of employees in central government, municipalities and counties the chief source is data from KL. The number of hours worked is taken from LFS and KL. The sources for the total sum of wages are the LAPS (wages, employers' social security contributions and preliminary labour tax), KL and quarterly reports by municipalities and counties. The reliability of the sources is carefully assessed before the National Accounts determines the volume of development of employment centrally for all parts of the Swedish economy. The calendar effect is important in the quarterly calculations while the number of hours actually worked provides a more reliable basis of assessment for the year as a whole.

Since consumption in the public sector mainly consists of wage costs, which are calculated at fixed prices with the development of hours worked. National Accounts' calculations of employment are extremely important for the development of general government consumption.

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# Public finance

## Budget balance target and debt stability

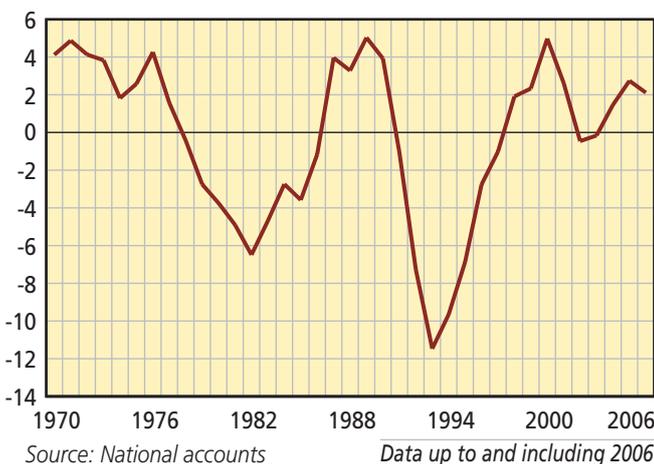
The transfer of the premium pension savings outside the government sector has sparked the debate on the budget balance target for the surplus level in public finances in Sweden. In this article, the links between the balancing item (net lending) and the government sector's outstanding assets and liabilities are analyzed from a statistical perspective. Furthermore, in a hypothetical calculation it is shown how the central government net debt changes on the basis of different assumptions on GDP growth and alternative budget balance targets.

## The debt stability equation

In a simplified case, the government holds no assets and there is perfect correspondence between the budget balance (net lending) and the change in outstanding public debt. If net lending (normally in deficit) then develops at the same rate as the total debt, debt stability is achieved. This can be expressed by the formula  $d = b \cdot y^1$ ;  $d$  is deficit and  $b$  is debt both in relation to GDP at current prices  $Y$ . It has been generally understood that the Maastricht criteria were not primarily based on economic theory. However, when applied to the debt stability equation, it appears that if nominal GDP growth is 5 percent, a 3 percent deficit would stabilize debt at exactly 60 percent of GDP.

### Government net lending

Percent of GDP



The Swedish consolidated gross debt amounts to, as mentioned above, about 45 percent of GDP. Under the assumption that the future average nominal GDP growth is 4 percent<sup>2</sup>, that net lending surpluses are 1 percent and that the surpluses are used entirely for the amortization of the Maastricht debt, then the debt would be abolished at around 2030.

<sup>1</sup> Prof. J Muysken, Maastricht University. Seminar 16 September 2004

<sup>2</sup> This is an estimate based on the assumption that both growth and inflation will be approximately 2 percent.

## Public finance – some definitions and concepts

Net lending is income minus expenditure for an institutional sector. Property income in the form of interest and dividends forms part of income as well as debt interests of expenditure.

A financial surplus (positive net lending) improves net financial wealth, i.e. the outstanding value of all financial assets minus the value of all debts. When liabilities are greater than total assets, a net debt is shown. Correspondingly, a deficit deteriorates the financial net position. This can however change for other reasons, such as holding gains and losses preferably on marketable instruments (bonds and shares).

In the public sector the accounting of the two concepts budget balance and net lending is close. The differences apply mainly to timing differences, realized holding gains and sale of government assets.

The general government net lending has shown a surplus amounting to roughly 2 percent of GDP in recent years. The major part of this surplus comes from the pension system (of which PPM is 1%). For the central government sector, therefore, net lending has been around zero.

The main aim of the Swedish surplus target (+2 % on average over a business cycle) is to strengthen public finances in order to face future demographic trends and also to avoid large deficits in periods with weaker economic development. Since the premium pension is now classified outside the government sector, the surplus target would automatically be lowered to 1 percent, if economic ambitions remain unchanged. However, the margin in relation to the Maastricht 3 percent deficit criterion will get smaller.

According to EU budget rules, the government consolidated gross debt at nominal value may not exceed 60 percent of GDP unless it decreases satisfactorily. Consolidation means that internal claims/liabilities within government are withdrawn. The Swedish Maastricht debt amounted to about 45 percent at the end of last year.

Central government unconsolidated gross debt was, at the same time, 48 percent of GDP, the consolidated gross debt was 43 percent and the net debt 19 percent of GDP.

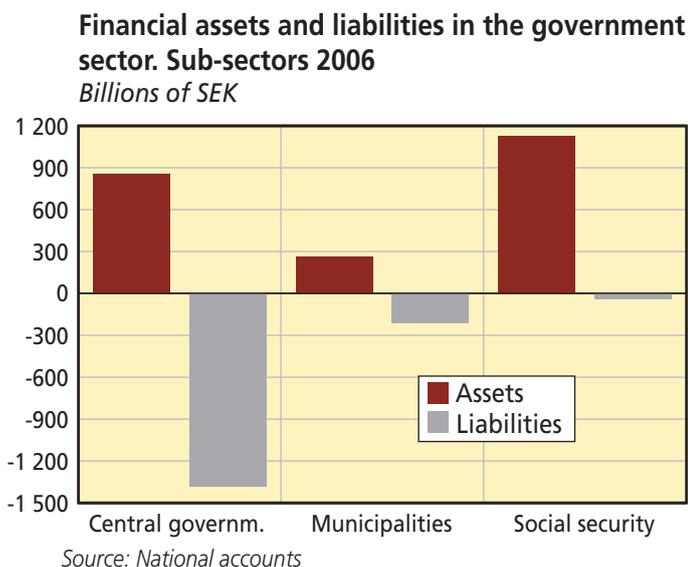
After that, the subsequent surpluses would generate a net asset; to a maximum level of 25 percent of GDP (the balancing value according to the debt equation).

Such a scenario is however only in theory and it has little relevance to the current situation in Sweden as for most other highly developed economies. The reasons to this are the following:

## Large public assets

The first reason why the debt equation can not be applied in its simple form is that the government sector in Sweden owns huge assets, approximately around SEK 2 000 billion

(exclusive of the value of mutual funds in the PPM). This means that the assets exceeded total government liabilities by approximately SEK 360 billion, corresponding to about 13 percent of GDP. A presentation of how assets and liabilities are distributed into sub-sectors is presented in the diagram below.



### New pension system has a life of its own

The second reason is that a major part of the assets are dedicated to pensions, in which the funds are bound. This is much more the case in the new system than in the old ATP. The buffer funds in the new system are strictly linked to the level of pensions (current and future payments) and represent a part of the government sector's commitments. The pension funds, shown as social security assets in the accounts, are not available for use, for example for the consolidation of the balance sheet in the form of amortization of the national debt.

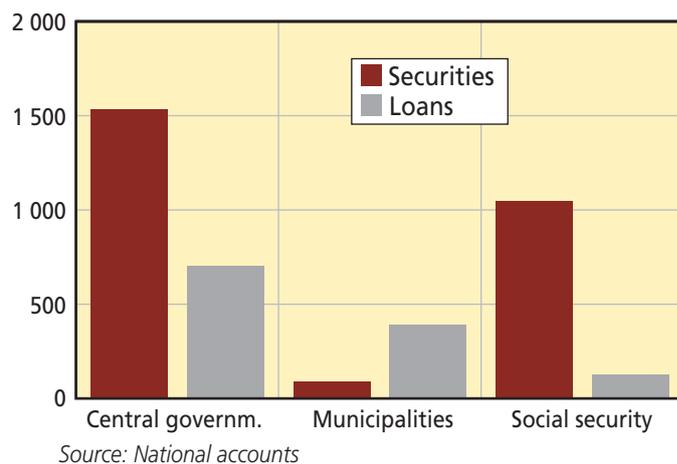
It is not only that the pension funds are bound. Contributions are fixed at 16 percent of pensionable income and pension disbursements are regulated using a balancing mechanism, whereby notional assets and liabilities, together with the above-mentioned buffer fund, determine the balance ratio. If this ratio falls below 1 then pensions will automatically be reduced. Thereby the system is completely self-financed. All financial risk is borne by the individuals and not, at any degree, by the government. There should not therefore be any reason to mix pension system contributions and disbursements with other kinds of public income and expenditure, either in the statistics or in discussions on economic policy targets etc.

### Securities dominate the balance sheet

The third reason is that the financial balance sheet is dominated by financial instruments, such as shares, bonds, derivatives etc. See the diagram below. One implication of this is that stock exchange movements and market interest rates fluctuations have a considerable impact in changes of assets and liabilities, without having any effect on net lending (surplus or deficit).

### Government sector securities. Assets and liabilities 2006

Billions of SEK



### Comparison of "stock – flow adjustment" in the EU25

Factors that disturb the link between financial transactions and the change in government gross consolidated debt, such as those mentioned above, together with exchange rates movements and statistical discrepancies are important components that are sometimes named "stock – flow adjustments" or SFA. Eurostat has undertaken a comparable study for the years 2002–2005. The results show that SFA is relatively low for the EU25, less than 0.5 percent of GDP. Sweden is, however, in the group of countries with highest SFA, together with Finland, the Czech Republic and Estonia. In these countries, the SFA can be up to 5 percent for certain years.

### Sale of government assets can reduce public debt but has no immediate effect on net lending (savings)

The Maastricht debt and the national debt are in principle recorded as gross figures, meaning that financial assets are not to be deducted. This method has its advantages in certain conditions, e.g. from a capital market perspective or if the assets are not available for sale due to special restrictions.

Generally, assets can be acquired or sold for economic or policy reasons. If the total expected revenue (including holding gains) is lower than the expected marginal cost (mostly interest) on the corresponding amount of debt then this should be an economic argument for a sale.

By selling a disposable asset, the cash amount can be used to repay on the public debt. Thereby the gross debt decreases while, in principle, the net debt remains unchanged as is the case with net lending. The sale of an asset gives rise to at least two financial transactions which are identical in value and thus balance each other out in the accounts.

## Calculation is best suited for central government

The reasoning so far leads us to the conclusion that the formula for debt stability,  $d = b \cdot Y$ , should be applied only to government net debt, i.e. the national debt, assets in the form of shares, loans, bonds etc. and central government net lending. The old age pension (social security sector) should be excluded. Local governments are a borderline case but are also excluded.

## Keeping the surplus target unchanged gives a moderate reduction of the central government's net debt till 2030

Finally, we can look at the draft calculation based on national and financial accounts data for 2006, or only at the third quarter of 2006. Central government assets (shares, loans, bonds, tax accruals etc.) amounted to SEK 855 billion and the national debt to SEK 1381 billion. Consequently, the net debt was SEK 526 billion, corresponding to 19 percent of GDP at the end of 2006.

Two interesting questions arise:

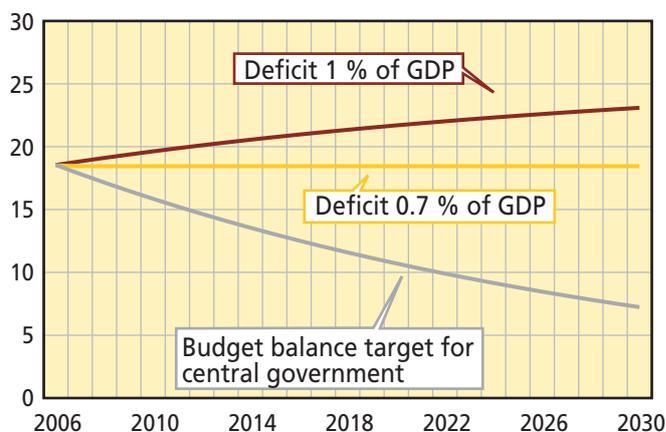
1. What size of net lending is required to keep the debt at a constant level according to different GDP growth alternatives?
2. How will the central government net debt develop at different net lending alternatives?

The answer to the first question is a deficit of 0.7 percent of GDP when the average nominal GDP growth is assumed to be 4 percent if the growth is faster, either due to increased

real growth or higher inflation, then a bigger deficit can be accepted, e.g. 1.3 percent if the nominal growth is 7 percent. A lower GDP growth means that a stricter budget policy is needed.

The second question can be illustrated in the diagram below. It can be pointed out that the present budget balance target, approximately zero net lending for central government, means that net debt decreases at a moderate pace, about seven percentage units during the coming decade. The faster GDP grows, the faster the debt decreases, of course, as part of GDP. If the budget balance target would be changed, to a 1 percent deficit, for example, then the national debt would successively increase in our draft calculation.

**Central government net debt at an annual GDP growth of 4 per cent, current prices**  
Percent of GDP



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# The premium pension system and savings

## New statistical picture of public savings

*Changes in the reporting of the premium pension system in the national accounts have resulted in a different picture of public savings. Savings in the government sector, as share of gross domestic product (GDP), are about 1 percentage point lower after the change in accounting principles. This is in line with the assessment in the previous edition of Swedish economy – a statistical perspective.*

In accordance with a decision by Eurostat, the statistical agency of the European Union. Statistics Sweden has changed the sector affiliation for the premium pension system. From the statistics produced for the fourth quarter 2006,

this system is included in the financial sector. The premium pension system is a system with defined contributions that is administrated by the Premium Pension Authority, PPM. Pension systems of this kind should not be a part of the government sector when reporting public deficits/surpluses to Eurostat. On the contrary, PPM should be looked upon as a public financial corporation that has a pension liability with regards to households.

## Gradual restructuring

The restructuring of the statistics regarding 1995 and later years will take place when new information is compiled for

the different statistical areas in the national accounts. The release of national accounts data for the fourth quarter 2006 also included the change of institutional sector for PPM. When the financial accounts (FiR) are published at the end of March, the corresponding restructuring will take place. During autumn 2007, the restructuring will be finalized when the changes will be implemented in the annual national accounts and in the regional accounts.

### Consequences for the national accounting

The consequences are small for the compilation of figures according to the expenditure approach (government consumption and household consumption expenditure) and according to the production approach (value added, compensation of employees, employment etc.), only affecting the period from 1999 and onwards. For the savings of the different sectors, which are settled on the basis of the premiums that are paid, the changes will be more significant and refer to the period when allowances for the PPM system have been made, i.e. from 1995 and onwards.

The new accounting principles mean that what was previously defined as government production and employment will now be defined as production and employment in financial companies. Previous government consumption will be accounted as household consumption expenditure.

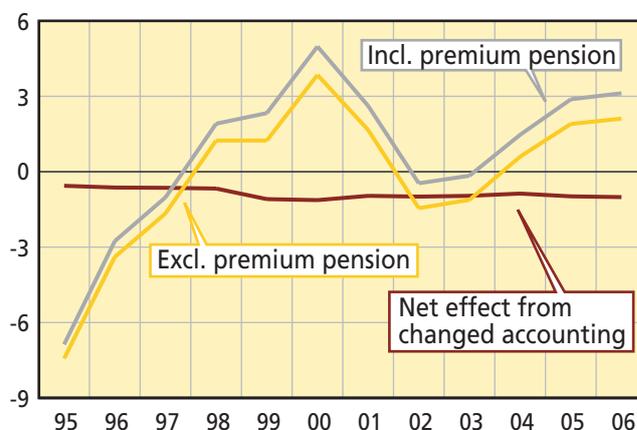
### New savings

The modified accounting principles will have the greatest effect on savings. Household savings will be higher after the change and government sector savings will decrease correspondingly. For the government sector the change will

imply a decrease in the savings for 2006 by SEK 29 billion, corresponding to 1.0 percent of GDP. The household savings rate for 2006 will be 2.0 percentage points higher than according to the previous accounting principles.

### Government financial savings

Percent of GDP



Source: National accounts

Data up to and including 2006

An important political consequence of the altered accounting principles is that the margin according to the requirements of the Stability and Growth Pact will decrease by 1 percentage point. These requirements by the EU imply that the annual deficit should not be in excess of 3 percent of GDP. The EU may, in exceptional cases, depart from this rule, e.g. if there is negative economic development.

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## Gross fixed capital formation

### Sharp increase in investments

*The strong investment trend in Sweden continues and grew stronger towards the end of last year. The gross fixed capital formation increased sharply by 2.4 percent from the third to the fourth quarter of last year. This is twice as large an increase as seen for GDP as a whole, which means that the investment ratio for the economy continues to grow and is now close to the long-term average. As with the third quarter, investments in housing were by far the largest item in the fourth quarter.*

The strong investment trend in Sweden is continuing and grew stronger towards the end of last year. After some moderation during the second and third quarters last year, an upturn was seen in the fourth quarter. The gross fixed capital formation then increased sharply, by 2.4 percent, seasonally-adjusted and compared to the preceding quarter. This is equivalent to a rise of 10 percent, calculated as an annual rate. The upturn in investments corresponds to 1.5 percentage points of actual GDP growth in the fourth quarter of 2006 of 4.2 percent.

Adding to the new more positive picture, the investment levels in the latest national accounts have been revised upwards somewhat for the first three quarters of last year, in total, by slightly over one half of a percent. This upwards revision primarily applies to investments in the business sector. This means that the gross fixed capital formation for the full year 2006 was 8.2 percent higher compared to the year before, which is marginally larger than the upturn between 2004 and 2005 and a rising growth rate for the fourth year in a row.

**Gross fixed capital formation**  
Index 2000=100, Constant prices, seasonally adjusted



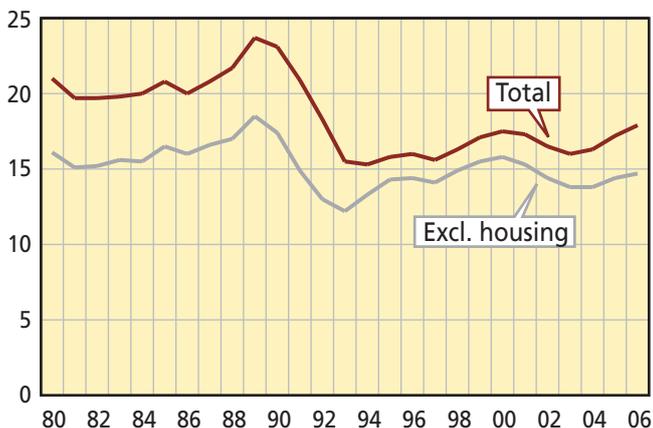
Source: National accounts Data up to and including fourth quarter 2006

Seen from a historical perspective, the current increase in the gross fixed capital formations is both strong and persistent. There has now been a continuous rise in investments over a period of three and a half years with a combined increase of close to 30 percent. The two most recent periods of increase for investments seen previously in Sweden, in the middle and at the end of the 1990s, stretched over a time period of roughly two and a half years, with a combined increase of 22–23 percent during both of these two periods of growth.

### Highest investment ratio since 1992

Investments continued to increase faster than in other sectors of the economy, with a growth rate for the full year 2006 that was over twice as high as GDP growth excluding investments. This means that the investment ratio, i.e. gross fixed capital formations' share of GDP, rose even further to 17.9 percent for the full year 2006 and by roughly one percentage point more during the final quarter of last year. The investment ratio in the economy is thereby the highest seen since 1992, when it was 18.3 percent. This also means that the investment ratio, after a long decline, is now coming close to the long-term average for the period 1980–2005 of 18.5 percent.

**Gross fixed capital formation as percentage of GDP**



Source: National accounts Data up to and including 2006

However, excluding housing investments – which were the largest item in the overall investment picture last year – the investment ratio showed a markedly lesser increase during last year, of 14.7 percent, and is still one half of a percentage point lower than the peak years of investment around the millennium. Even calculated in this way, however, the investment ratio is now close to the long-term average of 15.1 percent for the period 1980–2005.

### Fastest rise in general government sector

During the fourth quarter, investments from government authorities increased at a faster rate than in the business sector for the first time in three years. The rise of 16.5 percent, compared to the corresponding quarter in 2005, implied a growth rate that is three times as high as previously in the year. The increase was of the same size for both the central government and municipal sectors. In the central government sector, the upturn was due to a sharp increase in investments in roads.

In the business sector, developments during the last quarter represented a change for the better even if the upturn of 6.8 percent was considerably less dramatic than in the general government sector. The previous downward trend was thereby broken last year. Furthermore, the developments during the second and third quarters of last year – after the revision upwards of the results for services-producing industries – were stronger than previously presented. If we then look at the coming year, the investment picture for the business sector brightens even further, based on the optimism and the expansion plans reported by enterprises in the latest business survey on investments.

For the full year 2006, investments increased roughly the same amount in the business sector and the general government sector, by slightly over 8 percent. For the business sector, this implied a slight weakening in the rate of increase, after an increase three years in a row, while the increase for the government authorities came after a weak decrease seen the year before.

### Two-sided picture for business

In the business sector, the picture was somewhat split during the fourth quarter, both regarding the goods-producing and services-producing sectors. For the services-producing industries, the rate of increase rose slightly during the fourth quarter to 6.8 percent. This was primarily due to large increases for postal and telecommunications companies, banks and insurance companies and, above all, for property management enterprises. For business services enterprises, on the other hand, the development was slightly negative.

The goods-producing sector also showed a two-sided development during the fourth quarter, with a sharp increase for the construction industry, energy industries and, in particular, for the mineral products industry. For energy industries, the high level and rate of increase of 17 percent were partly a result of tougher demands for delivery guarantees for the electricity supply and the ensuing extensive overhaul

of the electricity network.

### Gross fixed capital formation

SEK billions, current prices and percentage change, constant prices

	2005		2006			
	Year	Q 4	Q 1	Q 2	Q 3	Q 4
Total business sector	387	6.3	10.9	9.4	5.5	6.8
Manufacturing	78	8.5	8.0	-6.2	1.8	0.0
Services <sup>1</sup>	147	-1.8	6.6	10.7	0.3	1.3
Business services	37	-4.1	14.6	2.2	3.8	-3.0
General government	73	-0.9	6.4	3.5	5.4	16.5
Central government	37	-10.1	10.7	6.3	-0.7	15.1
Municipalities	36	9.5	1.6	0.2	11.8	17.8
<b>Total</b>	<b>460</b>	<b>4.8</b>	<b>10.3</b>	<b>8.5</b>	<b>5.5</b>	<b>8.6</b>
Machinery	160	11.9	13.1	-1.9	1.8	4.0
Transportation	40	5.9	-5.8	36.1	12.2	-7.4
Housing	76	13.0	15.7	18.4	17.6	16.5
Other buildings	117	-6.4	12.5	7.0	3.2	14.7
Software, etc.	67	3.6	7.2	8.8	4.7	7.6

Source: National accounts

The upward trend in the manufacturing industry was broken last year, at least temporarily. After continued strong growth during the first quarter, investments in the fourth quarter remained unchanged compared to the corresponding quarter in 2005. This slowing down during the fourth quarter occurred at the same time as the capacity utilisation of industry reached the highest level ever seen at 91.4 percent. This, in combination with the continued strong industrial economy, could indicate the need for the further expansion of production capacity in industry – a need that industrial enterprises have also expressed to an increasing extent in the Business Tendency Survey carried out by National Institute of Economic Research.

For the full year 2006, the upturn in investments was limited to around one percent. A couple of large industries lay behind this decline, the pulp and paper industry and the chemicals industry, which last year sharply reduced its investments from higher levels. If these two industries are excluded, investments in the manufacturing industry instead showed a strong increase last year of over 20 percent, measured in volume.

### Optimistic plans for investment in 2007

The upward trend in investments in the business sector during the fourth quarter of last year appears to be continuing this year, judging by the results from the latest business survey on investments, presented at the beginning of March this year. The latest survey results give a considerably more positive picture of business investment plans for 2007 than has previously been presented. In the same way, enterprises' investment plans for 2007 from the February survey this year exceed the plans reported in the October survey last year in the majority of areas.

For certain important industries, the upwards revision is very strong, including in the manufacturing industry, where plans indicate a sharp upturn in investments this year by slightly

over 10 percent. The positive investment plans for industry are furthermore widespread, with strong increases for the intermediate goods industry as well as for the investment and consumption goods industry. The volume increase for the energy sector is expected to be even greater, by slightly over 35 percent. In services-producing industries, strong increases in investments are expected during 2007 of trade in goods and business services, by around 15 and 10 percent respectively. Enterprises in the transportation sector and the property management sector were not surveyed in the February survey.

Based on experience, enterprises' actual investments differ from expected investments in a partially systematic way. This fact is taken into account in the survey on investments where, on the basis of the enterprises' data, an assessment is made of the volume of investments in 2007.

### Investments in housing continue to rise the fastest

When breaking down the gross fixed capital formation into different types of investments, an upturn could also be seen on a broad scale during the fourth quarter. The only exception was investment in the transportation equipment industry that, contrary to previously, decreased sharply during the period. For the full year 2006, however, an increase of the same size can be seen in this area, by around 8 percent. For the most heavily weighted item in the gross fixed capital formation, investments in machinery, some recovery was seen during the fourth quarter after the weak performance seen during the second and third quarters. The increase was the same as for the full year, at around 4 percent. The item "other investments", primarily in software, saw a steady rise during the year with strong increases in the fourth quarter as well as for the full year, by slightly over 7 percent.

The clearly largest contribution to the upturn in gross fixed capital formations during the fourth quarter, as during the third quarter, can be seen from housing construction which continued to increase strongly and steadily, by roughly 17 percent, i.e. the same rate of increase as for the full year. After the slightly declining trend that could be discerned in 2005, the rate of increase rose again last year by a few percentage points.

There was a strong increase in the construction of apartment buildings, consisting of both renovations and new construction, which was the main explanation for the upturn in investments in housing during the fourth quarter. New construction of apartment buildings, which has risen successively during the past year, increased during the period by a full 32 percent. However it is difficult to judge, in this case, the extent to which the discontinuation of housing subsidies from 1 January 2007 onwards has affected the rise, in terms of advancing the start of construction projects.

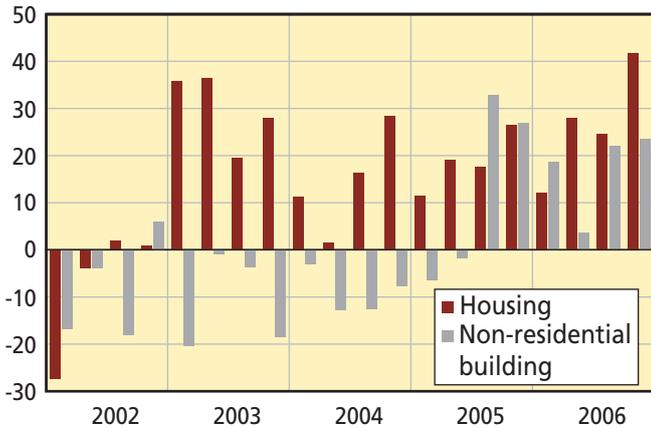
Investments in other buildings, which showed a more marked upturn for the first time during 2006, also increased sharply during the fourth quarter; this increase was however

<sup>1</sup> Excluding property management

a few percentage points weaker than for housing construction. In this area, the rate of increase has varied greatly from quarter to quarter over the year.

### Authorised building permits

Percentage change from corresponding quarter previous year



Source: Statistics on building permits. Data up to and including fourth quarter 2006

A marked increase in building permits – often an early indicator of construction activity – during the fourth quarter last year would indicate a continued high level of activity in the construction industry in the near future. Building permits, measured as building area, increased by 40 percent for housing and secondary/holiday homes, and half as much for other buildings/premises, compared to the corresponding quarter in 2005. In this case as well, the discontinuation of housing subsidies from the beginning of the year may have positively affected the development of building permits (for housing) by advancing applications for building permits.

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## Inventories

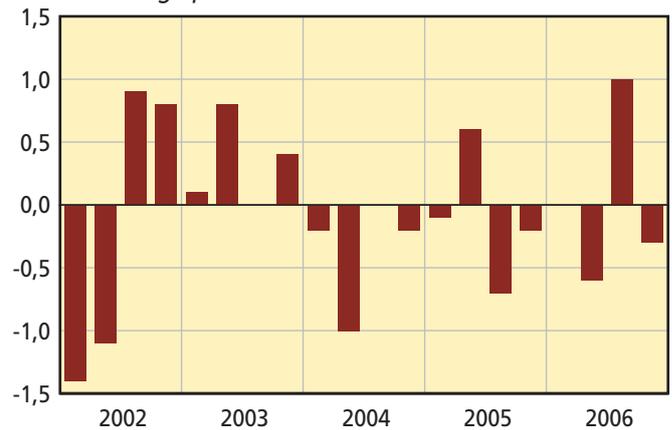
### Contribution from inventories reduced growth

The contribution from the change in inventories in the trade and industry sector during the fourth quarter reduced the real GDP growth by 0.3 percentage points. The negative contribution was primarily due to trade inventories and, to a somewhat lesser extent, to inventories of input goods. For the full year 2006, the change in inventories did not affect the growth rate, nor was there any effect on the growth rate in 2005.

Since the large positive contribution from trade and industry inventories during the third quarter, the inventory effect has turned around and become somewhat negative during the fourth quarter. The change in inventories thereby decreased the growth rate by 0.3 percentage points. However the negative contribution did not come from a reduction in inventories but was rather due to a lesser build-up of inventories compared to the fourth quarter 2005.

### Contribution to GDP growth from change in inventories

Compared to corresponding quarter previous year. Percentage points



Source: National accounts. Data up to and including fourth quarter 2006

### Trade inventories dampen GDP growth

When looking at the different kinds of inventories, it was primarily the inventory of trade goods and, to some extent, input goods, that caused a negative contribution to the growth rate during the fourth quarter, reducing GDP growth by 0.3 and 0.2 percentage points respectively. In these

cases, there was a reduction in inventories. The effect on the growth rate was reduced by positive contributions from inventories of products under production and of finished goods, and inventories in the forestry industry. Regarding the former, there was a lesser reduction in inventories and, for the latter, there was an increasing build-up in inventories. In both cases the contribution only amounted to 0.1 percentage points. There have been some revisions made for the first and the second quarter. For both quarters, the contributions were reduced by 0.1 percentage points. Thus after the revision, the contribution for the first and the second quarter amounted to 0.0 and -0.6 percentage points, respectively. The third quarter has not been revised, and the contribution remains at 1.0 percentage points. After these revisions the changes in inventories for the full year 2006 did not affect the annual growth rate of 2006. This is the second year in a row with no contribution to the growth rate from changes in inventories.

### Continuing bright outlook for inventories of finished goods

The manufacturing industry makes a relatively positive as-

essment of inventories of finished goods, even though the assessment is slightly less positive during the fourth quarter compared to the third quarter. Inventories are deemed to be slightly too big but, compared to the historical mean, the assessment is more positive than normal. This is according to seasonally adjusted data from the quarterly business tendency survey carried out by the Swedish Institute of Economic Research. The monthly survey also shows the same pattern with a positive assessment despite a slight deterioration during December. The monthly survey also shows an unchanged assessment during January, and an enhancement during February, back to the same level as the assessment during November. All assessments since August have been clearly more positive than the historical mean. However the developments during the last three months are difficult to interpret due to substantial variations in the assessment from the chemical industry.

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## Leading indicators

### Continued growth of industrial production in the fourth quarter 2006 and first quarter 2007

The growth rate in the industrial production has been relatively strong during all quarters of 2006: 5.8, 7.7, 5.3 and 6.5

percent in annual growth rates respectively. The forward-looking indicator hints at a growth rate of 6.1 for the first quarter of 2007. The leading indicators show no sign of a potential turning point.



### How the graph is made

The leading indicators, calculated partly based on results of enterprises in the current quarter, and partly based on their expectations in the coming quarter, according to the Business Tendency Survey from the National Institute of Economic Research. The starting point is thus qualitative information from enterprises on whether they predict production to rise, remain unchanged or decrease. Based on this qualitative information, quantitative information is also estimated, according to volume development of the National Accounts on the value added of the manufacturing industry, calendar-adjusted. This is done by using a Kalman filter.<sup>1</sup>

<sup>1</sup> For more information on the method for leading indicators, see Statistics Sweden's website [www.scb.se](http://www.scb.se).

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# Developments in the business sector

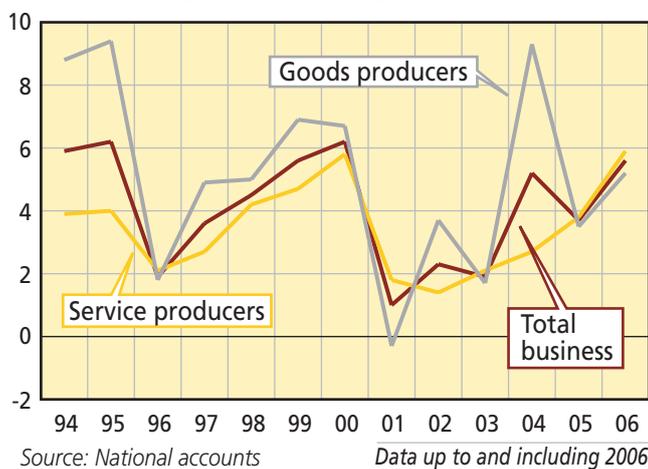
## 2006 was not such a good year for the business sector as it was for the economy as a whole

The very strong GDP growth was achieved in spite of the fact that the manufacturing industry did not grow at its normal speed. However, service industries had the best growth figures of the whole period 1993–2006. Still the relatively slow growth in manufacturing meant that the growth rate for the whole business sector was not higher than it has been many times in recent years. During the period 2001–2006, the Swedish business sector beat all the other old OECD countries in terms of labour productivity growth.

As already mentioned, the GDP growth rate in 2006 reached the highest level since 1970, with the exception of 1999 when the growth rate was one tenth of a percent higher due to calendar adjustments. As can be seen from the figures below, 2006 was a strong growth year but not a uniquely strong one. The growth rate was roughly the same during 5 earlier years in the period 1993–2004. In all these years, a growth rate of between 5 and 6 percent per year was reached. It was instead the strong growth in the public sector that made the difference, raising GDP growth to this high level.

### Value added of the business sector

Percent change from previous year. Constant prices



The service-producing industries reached the growth rate of 5.9 percent in 2006, which even exceeded that achieved in 1999 although only slightly. 2006 was also the fifth year in a row with increasing growth rates for the service industries. On the other hand, the growth rate of the goods-producing industries this year only reached the average for the period 1993–2006 and was far below the levels reached in the beginning of this period and during 2004, when the growth rate was twice as high. However, the growth rate for the whole business sector was the highest since 2000, with the exception of 2004 which was dominated by the strong recovery of electric and telecoms industry after its crisis in 2001.

## Service industries have run out of steam after a very strong growth during the first quarter

As shown in the data on annual development, the goods-producing industries and the service-producing industry had the same average growth rate in 2006. However, the quarterly pattern was distinctly different. Growth in the service industries was concentrated to the first quarter, while the goods-producing industries slumped during the second quarter but kept a steady growth rate during the rest of the year. The same applied to the manufacturing industry. The important service industry, real estate and business services, had the same pattern as the whole service industry but lost even more steam after the first quarter.

### Value added growth in the business sector 2006<sup>1</sup>

Percent change from previous quarter, seasonally adjusted, and actual value for the year compared to previous year. Constant prices

	Q 1 2006	Q 2 2006	Q 3 2006	Q 4 2006	Year 2006
Business sector	2.1	1.6	1.1	1.7	5.6
Goods producers	2.1	1.8	0.5	1.8	5.2
Manufacturing industry	2.0	1.9	1.0	1.9	5.7
Service producers	3.5	1.1	0.8	1.1	5.9
Rel estate and business services	4.4	1.2	1.0	0.7	6.0

Source: National accounts

The goods-producing industries and the service industries have contributed very unequally to the growth of the business sector in the 21<sup>st</sup> century. The considerable fluctuations and the quarters with the highest growth rates were all due to the goods producers while the service producers had a slower and smoother journey.

## The manufacturing industry did not reach their average growth rate 2006

The manufacturing industry grew with 5.7 percent in 2006 which was a historically low figure since the average growth rate for the period 1993–2005 was as high as 7.2 percent per year. The four quarters showed the same growth rate which was a distinct contrast to the large swings that have characterised earlier years. This also meant that, for the first time in many years, very high GDP growth was achieved when the manufacturing industry did not even reach its normal growth rate.

<sup>1</sup> The seasonally adjusted figures should be treated with some caution. The growth rates for different sectors are not always consistent, due to "direct seasonal adjustment".

**Value added of the manufacturing industry**  
*Percent change from previous quarter, seasonally adjusted. Constant prices*



Source: National accounts Data up to and including fourth quarter 2006

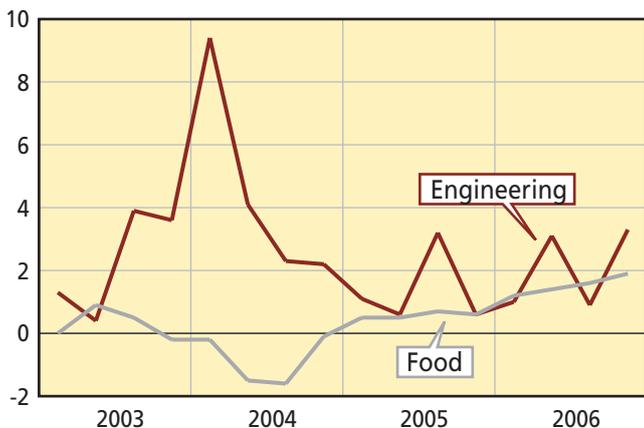
Of the other goods-producing industries, the construction industry has increased its value added by more than 10 percent and even the forestry and agricultural industries reached the same growth rate as the manufacturing industry. It was thus the energy industry that has dragged down the average growth rate for the goods producers, as this industry decreased its value added by almost 5 percent in 2006.

**Growth rate of many manufacturing industries was rather limited in 2006**

The engineering industry grew by between 1 and 3 percent during 2006 with the highest growth rate during the fourth quarter. These are growth rates were well below the extreme values seen in the last half of 2003 and the first half of 2004. The value added in 2006 was only 5 percent above that of 2005.

**Value added of the food industry and the engineering industry**

*Percent change from previous quarter, seasonally adjusted. Constant prices*



Source: National accounts Data up to and including fourth quarter 2006

The chemicals industry started the year very strongly but finished with decreasing production, still managed to grow by almost 7 percent from 2005. Even the forestry processing industries, which followed the same pattern over the year,

only grew for the whole year by 4.4 percent. The food industry, which has been stagnant for a 10 year period following Sweden's entry into the EU, seems to have experienced a new growth spurt. The last quarter of 2006 was the eighth quarter in a row with a higher production than the preceding quarter. The value added in 2006 was almost 5 percent greater than in 2005.

**Transport and communication industries have had a volatile growth pattern**

Although the service industries as a group have grown at a fairly stable rate, many of its industries had a bumpier journey. The financial industry has always had a very volatile value added and recent years have not been an exception. One explanation could be that a large part of its value added consists of its interest margins which fluctuate considerably.

**Value added of trade and real estate and business services**

*Percent change from previous quarter, seasonally adjusted. Constant prices*



Source: National accounts Data up to and including fourth quarter 2006

An even more dramatic development was seen in the transport and communication industries, where the growth rate for the individual quarters fluctuated between a 2 percent increase and decline in the last quarter. One possible explanation could be transport-generating foreign trade. However, this pattern seems to have changed during the last three quarters in 2006 when the growth rate has varied between 1.5 and 2 percent compared to the preceding quarter.

The positive developments in the distribution industries in recent years have resulted in a stable growth pattern with quarterly growth rates of between 1.5 and 2 percent for 2004–2006. This means that these industries grew by 5 percent in 2005 and 6 percent in 2006. The real estate and business service industries have, in contrast, had a volatile growth pattern. The very high growth during the first quarter did lift the growth for the whole year up to 6 percent but it is still a little surprising that these industries have not shown even higher growth rates since they produce many investment services as technical, architectural, programming and R&D services in which we have had an investment boom.

## Hours worked have only increased moderately

Hours worked in the business sector increased slightly more in 2006 than they did in 2005 and 2006 was the first year after the crisis year of 2001 when hours worked increased overall in the goods-producing industries. The period 2002-2005 led to a total loss of 7 percent in hours worked. The service-producing industries however had a positive net of hours worked for the whole period. A decrease of 3 percent was followed by an increase of 5 percent.

### Hours worked 2002-2006

Percent change compared to previous year

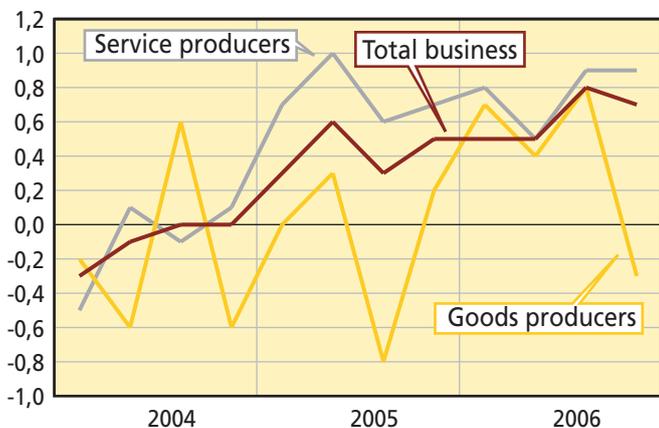
	2002	2003	2004	2005	2006
Business sector	-2.1	-2.3	0.4	1.1	1.6
Goods producer	-3.2	-3.6	-0.3	-0.4	0.6
Service producer	-1.4	-1.4	0.8	2.0	2.2

Source: National accounts

An analysis of the quarterly development in the last three years gives a more detailed picture of the time pattern. The service-producing industries have had a growth rate that has narrowly fluctuated between 0.5 and 1 percent for 9 successive quarters. The manufacturing industry has given the goods producers a much more volatile growth pattern. During the first three quarters in 2006, hours worked increased in the construction industry in line with the service industries. However in the last quarter this turned into a decrease.

### Hours worked in the business sector

Percent change from previous quarter, seasonally adjusted



Source: National accounts

Data up to and including fourth quarter 2006

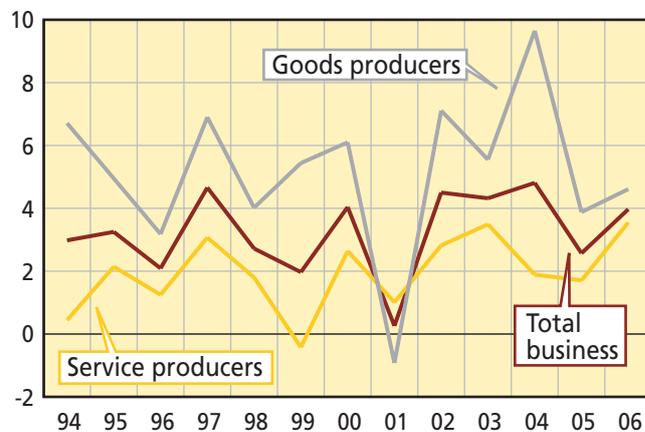
## Strong growth rate for labour productivity

Productivity growth in the business sector in the period 1993-2006 is impressive. The annual growth has varied between 2 and 4.5 percent, with one exception. This exception was in 2001, a year characterised by the burst of the IT bubble. There have also been a number of peak years that have lifted the average growth rate to 3 percent per year. The development in 2004 is very much a mirror image of 2001, when the electronics and telecoms industries finally recovered. This is very clear when looking at development for the goods producers. The productivity of this part of the business sector has generally grown faster than the rest.

However, service industries have markedly increased their growth rate in recent years and, as the goods producer have also increased their growth rate, this has led to an acceleration of overall productivity growth. It is perhaps more correct to say that the growth rate has reached a higher level after 2001.

### Labour productivity in the business sector

Percent change from previous year



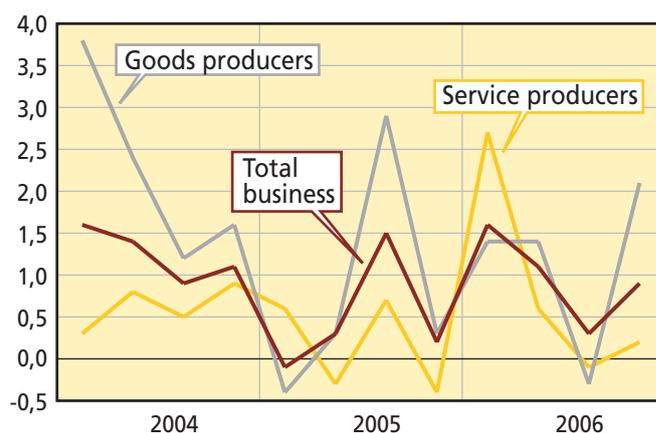
Source: National accounts

Data up to and including 2006

Dividing productivity growth for the service-producing industries into quarterly development reveals that the high rate in 2004 has slowed during the last two years, with the exception of a very high growth rate in the first quarter 2006. In these two years, the increase in hours worked has more or less followed the development of value added. This drop in the productivity growth rate is not particularly uncommon in this phase of the business cycle, after a year with a high productivity increase and when employment has not increased for some years.

### Labour productivity in the business sector

Percent change from previous quarter, seasonally adjusted. Constant prices



Source: National accounts

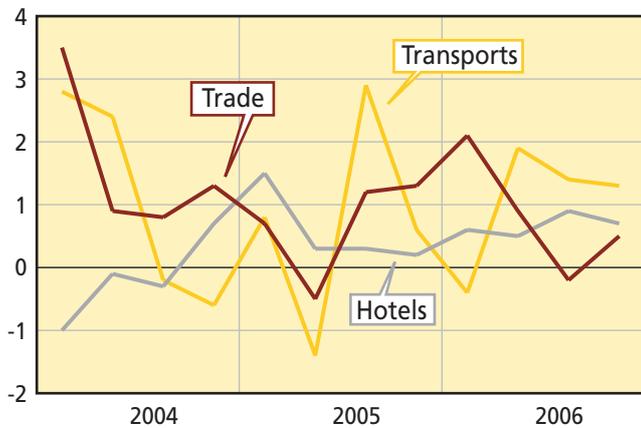
Data up to and including fourth quarter 2006

Goods producers saw lower productivity growth for the first three quarters of 2006 than service producers. This changed in the last quarter when there was a substantial drop in hours worked for these industries.

Taking into account the growth pattern followed by the transportation industry, it is not surprising that the produc-

tivity growth rate has varied as much as from +3 percent to less than -1 percent in quarterly changes during the period 2004–2006.

**Labour productivity in three service industries**  
*Percent change from previous quarter, seasonally adjusted. Constant prices*



Source: National accounts. Data up to and including fourth quarter 2006

It is perhaps more surprising that trade has seen a fluctuating productivity development despite its smooth production growth. Development in the last two quarters of 2006 was rather weak but, seen over a longer period, the productivity in both these industries has grown at a rather good speed. The hotel industry has been more mediocre in productivity growth terms.

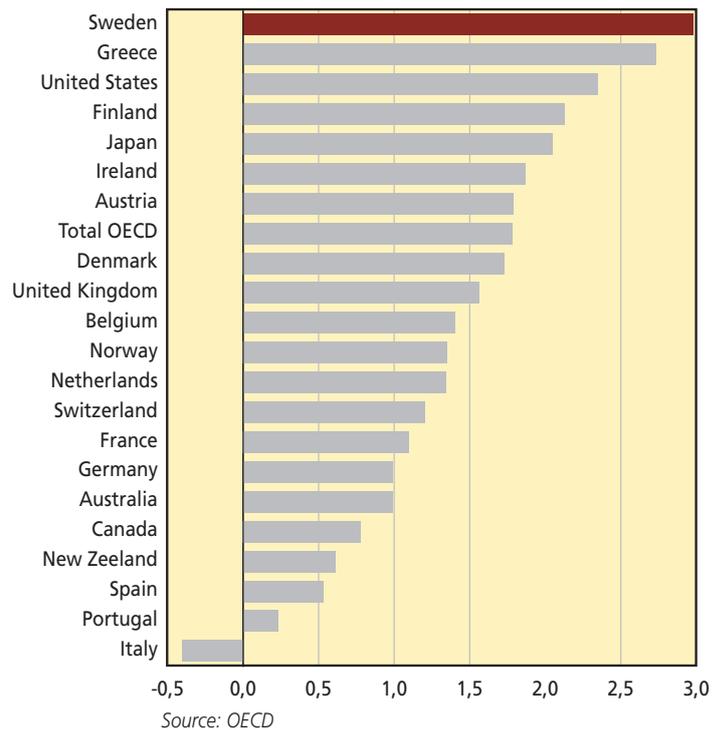
**Sweden stands out in an international comparison**

In order to get a good picture over the Swedish productivity growth, data from the OECD have been used, more precisely the appendix tables to the last Economic Outlook which was published 28 November 2006. The available productivity measurement was value added per worked hour.

The new OECD countries, which all consist of countries with a rather low GDP per capita, have not been included since their growth has been boosted by the catch-up effect. This means that they have had a rapid development due to a substantial adoption of technology and organisational praxis from the more developed countries. The process has often involved direct investment from the old OECD countries. The very small economies of Luxemburg and Iceland have also been excluded.

**Labour productivity development in the business sector for 21 OECD countries 2001–2006**

*2006 is partly a forecast except for Sweden. Annual change in percent*



According to OECD, labour productivity in the Swedish business sector has grown by 3 percent per year over the five year period 2001–2006 (2006 is partly a forecast except for Sweden where we have substituted with the actual figure). This was more than all the other 20 old OECD countries. Not even Ireland has beaten the Swedish growth rate for these years. The differences were substantial between the Swedish development and the larger EU economies of France and Germany, not to mention Italy.

There has been a clear acceleration of the Swedish growth performance in recent years, compared to the previous five-year period 1995–2001. The growth rate has increased by 60 percent. This change has few counterparts among the other countries, only Japan, Spain and the Netherlands have increased their growth rate more in relative terms. However, these countries were all rather unsuccessful in expanding their productivity levels during 1995–2001. Many countries have experienced only a modest increase in growth rate and some have even decreased as in Finland, Norway and the UK. The differences between the US and Sweden are particularly interesting. In 1995–2001, the growth rates were more or less the same but, after this, the US has been left behind. Since 2001 was such a bad year for the Swedish business sector, this could explain some part of this.

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# Labour market

## **Employment increased and unemployment decreased**

*During the fourth quarter 2006, employment continued upwards, compared to the corresponding quarter in 2005. Unemployment decreased for the third consecutive quarter, compared to the corresponding quarters the preceding year.*

## **Labour Force Survey shows a rise in employment in the private sector**

There were 4 365 000 people employed, which was 96 000 more than in the fourth quarter 2005 according to the Labour Force Survey (LFS). The number of both men and women increased in the private sector. People with temporary employment increased the most. Employment grew primarily in construction, financial services and business services but also in education and research.

## **Unemployment decreased**

The number of unemployed people was, on average, 207 000 people or 4.5 percent of the labour force. Unemployment decreased mainly for people aged 25–54 years. The decrease of 34 000 people affected both men and women. The unemployment rate for young persons aged 16–24 years is still high and, during the fourth quarter, it was 11 percent of the labour force.

There were, on average 182 000 people potentially looking for jobs (people that have wanted to and been able to work but that have not been actively looking for a job), compared to 189 000 one year earlier.

The number of hours worked was, on average, 141.2 million per week, compared to 138.4 million per week one year earlier. This corresponded to an increase of approximately 3 percent.

The number of vacancies increased to 49 600 compared to 31 300 for the same quarter the year before, according to the National Labour Market Board. The number of redundancy notices dropped to 3 500.

## **Enterprise-based statistics showed continuous strong labour market**

According to the quarterly employment statistics the number of employed people increased by 2.8 percent to 4 028 400 compared to corresponding quarter in 2005. Employers are not included in these statistics. The increase was primarily in the private sector, where the number of employed persons increased by 3.5 percent which corresponds to 89 000 people. At the same time the sum of total wages and salaries in the private sector increased by 6.6 percent. For the total economy, it increased by 5.5 percent. Within the government sector, the number of employed people grew by 1.6 percent and the total sum of wages and salaries by 2.9 percent.

## **Vacant jobs on the rise again**

According to the vacancy statistics, there were 45 400 vacant jobs in the Swedish economy in the fourth quarter 2006. 38 700 were in the private sector and 6 700 in the government sector. Compared to the corresponding period in 2005, this was an increase of 25 percent in the private sector.

The number of vacancies was 14 500 in the private sector. This was the third consecutive quarter that the number of vacancies rose in the Swedish economy. This corresponds to a rise of 13 percent compared to the fourth quarter 2005.

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## Key figures on the labour market

Year Quarter	Hours worked. Employment		Unemployment percent LFS	Employment regular labour market 20–64 years <sup>3</sup> LFS	Vacancy ratio <sup>4</sup> percent KVIKS	
	change compared to previous year <sup>1</sup> percent LFS	1 000s LFS <sup>2</sup> NA				
2004 1	-1.8	0.6	4 146	5.9	76.2	0.4
2	1.9	1.4	4 234	5.5	77.3	0.4
3	-0.9	-0.2	4 285	5.6	77.7	0.4
4	-0.6	1.3	4 189	5.1	76.5	0.4
2005 1	0.8	-2.7	4 146	5.6	75.8	0.5
2	3.2	3.0	4 269 <sup>3</sup>	6.1 <sup>3</sup>	77.7 <sup>3</sup>	0.5
3	2.1	0.7	4 335	6.2	78.1	0.5
4	2.0	1.5	4 268	5.4	77.4	0.5
2006 1	5.0	5.0	4 234	5.8	76.7	0.4
2	-3.1	-2.1	4 331	5.6	78.0	0.5
3	3.1	1.7	4 434	5.5	78.7	0.5
4	2.0	1.4	4 365	4.5	77.9	0.5

1 Data are not seasonally adjusted for difference in holidays. LFS data refer to hours worked on average per week during the quarter and NA data refers to volume of hours worked per quarter. The LFS comparison is from the second quarter of 2005 to the first quarter of 2006 based on the linked values compared to the same quarter in the previous year.

2 In April 2005 a new Eu harmonized LFS was implemented which led to a break in the time series. From the second quarter 2006 there are no problems with the comparison over four quarters.

3 According to LFS, employed on the regular labour market includes all employment excluding those on "free year" leave, those in special work and training programmes, those on general, extra and special employment support, those with temporary public sector work (OTA), resource work in public sector and support to new entrepreneurs (according to statistics from Labour Market Board).

4 The vacancy ratio is defined as the total number of vacancies (unmanned vacant jobs that can be appointed immediately) divided by the total number of employed persons. This time series refers to the private sector.

# Purchasing power parities

## Purchasing Power Parities – calculation methods and usage

When carrying out international comparisons of GDP per capita, calculations expressed in terms of Purchasing Power Standard (PPS), taking into account differences in price levels between the countries should be used. This article presents the methods for the calculation of Purchasing Power Parities (PPP) as well as providing a guide to how PPP can be used, and should not be used. PPP-converted Gross Domestic Product as a measure of growth over time should be used with care.

There is great interest among politicians and economists to be able to compare their own country's general economic situation, both over time and with other countries. Growth in the economy is usually reported using national time series data for gross domestic product (GDP), calculated in constant prices using an appropriate price index. International volume comparisons in terms of GDP per inhabitant have other requirements for growth analysis. The fundamen-

tal approach behind the production of comparable volume measurements involves using comparable expenditures and prices. This means that definitions and measurements of GDP are the same in the different countries and this requires a conversion rate that converts to a common currency as well as equalising the purchasing power<sup>1</sup> of different currencies. The first condition is met by defining GDP in accordance with ESA 95<sup>2</sup> while the latter is met by the production of a conversion rate such as the "Purchasing Power Parities" or "PPPs".

Purchasing power parities have several areas of usage – for instance, to compare GDP level per inhabitant, the size of the economies or the productivity per employed person. PPPs can also be used when comparing the relative price

1 The conversion currency used is Purchasing Power Parities Standard, PPS.

2 System for National Accounts 1993 and its European equivalent, the European National Accounts System 1995, ENS1995.

levels between countries.

One important user of these types of calculations is Eurostat (the statistical office of the EU). The European Commission allocates 25 percent of its budget to structural funds which aim to even out the differences between regions in the EU. Purchasing power converted GDPs per inhabitant provide is employed as a measure for how the money should be divided within the different underdeveloped EU regions.

### Purchasing Power Parities and exchange rates as comparative currency

Before Purchasing Power Parities came into use, an exchange rate was applied to exchange the national currency into a common currency, creating a comparative currency (nominal exchange rate). The exchange rate fulfilled the conditions for a common currency but did not reflect the actual differences between the price levels in different countries.

Purchasing Power Parities (real exchange rate) is, in its simplest form, a compilation of relative prices<sup>1</sup> for a standardised basket of goods and services from different regions or countries, i.e. the ratio between the amounts of each country's currency needed to buy identical goods and services in each country. In order to calculate the PPP for, for example, a can of Coca-Cola between Sweden and Norway, the price in Sweden is set against the price in Norway: SEK 15 in Sweden and NOK 10 in Norway. The parity then is  $15/10 = 1.5$ . The real exchange rate is established by what is actually paid for a product or service.

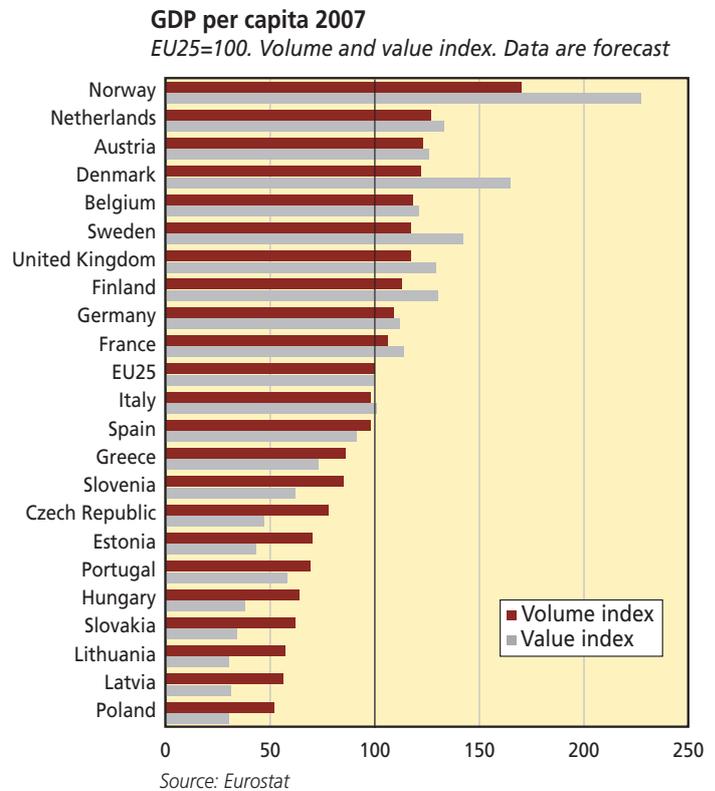
The calculation of the PPPs however is carried out in three steps. First, the price relationships are determined at product level of goods and services using the collected price information. Thereafter, a mean figure is calculated for these price relationships, giving unweighted PPPs at product group level. Finally, the PPP for the product groups are weighted together in accordance with the distribution of different goods and services as reflected by the GDP's expenditure side. This gives weighted parity figures for every category of goods and services on all aggregated levels up to the full GDP.

The purchasing power parity standard (PPS) is a real exchange rate used to convert economic indicators that are expressed in national currency into an artificial common currency. This currency equalises purchasing power in the different national currencies with each other. The values for the use of resources converted using the exchange rates remain essentially *nominal values*, while conversion using parity figures or price indexes result in *real values*.

### Two measures of GDP per capita: value index and volume index

PPP converted GDP per capita is calculated from the GDP's expenditure side and gives value added data for a country's total production (GDP) expressed in current prices in national currencies. When this is converted to volume indi-

ces per capita using PPP, the comparison will reflect only volume changes between the countries at a given point in time. However, GDP converted using the prevailing exchange rate, reflects not only differences in quantities but also differences in price levels (value indices per capita). This is equivalent to the reported GDP for the individual country in national currency.



The diagram clearly shows that countries with low income per capita, such as Greece, Poland and the Baltic countries as well as Hungary and Poland, show greater differences in GDP per capita according to both measures compared to richer countries or countries with high income per capita such as Norway, the Netherlands, Austria and others. However, it is also evident that the difference between GDPs, expressed as a nominal exchange rate figure, decreases if GDP is converted using Purchasing Power Parities.

While an undervalued national currency results in an underestimation of the actual size of the production volume, a strong or overvalued currency can result in the "inflation" of GDP volume in relation to other countries.

Take for instance Norway. Being largely dependent on one export product, oil, it is susceptible to oil price fluctuations. Consider then if oil prices were to increase dramatically, everything else remaining equal, it would affect the income from exports in the country which, in turn, would result in an increase in GDP in current prices, and vice versa.

The table below shows an example of how different results are reached for 2005 for a PPP-converted GDP as a volume

<sup>1</sup> This can be written as  $P_{SE} = e * P_e$ .  $P_{SE}$  is Sweden's price level,  $P_e$  is the price level in the Euro area and  $e$  is the nominal exchange rate that would be needed to purchase the same goods and services on the home market as in the Euro area in Euro.

index – and an exchange rate converted GDP per inhabitant as a value index.

### Hypothetical calculation for volume and value index

	EU25	Sweden
1. PPP (1PPS=SEK)	1	10.98
2. Exchange rate (1 EURO=SEK)	1	9.28
3. Population (thousands)	461 821	9 047
4. Nominal Expenditure in SEK (millions)	–	2 670 547
5. Nominal Expenditure in EURO (millions) (4./2)	10 852 803	287 706
6. Real Expenditure volumes (millions) (4./1)	10 852 803	243 235
7. Nominal Expenditure per capita in Euro (millions) (5./3)	23 500	31 900
8. Real Expenditure volumes per capita in PPS (millions) (6./3)	23 500	26 900
9. Value index per capita EURO	100	136
10. Volume index per capita	100	114

NB: Value index per capita =  $(31\ 900/23\ 500) \times 100 = 136$ . Volume index per capita =  $(26\ 900/23\ 500) \times 100 = 114$ . The results refer to 2005 published by Eurostat in December 2006. There may be errors caused by rounding off figures.

A ranking of countries by GDP per capita can give a misleading picture of the economic situation. The difference in amounts between two subsequent levels is in general very small which means that uncertainty in the estimations is of significance for the ranking. Both Eurostat and the OECD recommend instead that countries be divided into groups.

Eurostat, and the OECD, group countries according to high, medium and low income countries<sup>1</sup>. Sweden is placed in the group high middle- income group, corresponding to a GDP per inhabitant of between 100 and 119.

### The relationship between PPPs and exchange rate gives comparative price levels

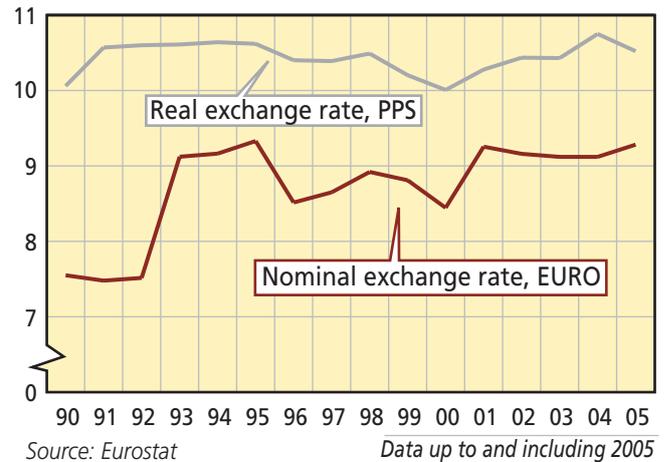
Another way of using purchasing power parities is in the comparison of the relative price levels between countries (price level index). This is defined as the ratio between the PPP rate and the exchange rate and explains how many units of the chosen comparative currency are needed for purchase of the same quantity of goods and services in each country. However it does not show how much an income can purchase for the country's own inhabitants.

In the example used above, with the Swedish-Norwegian Coca-Cola can, where the purchasing price parity was 1.5, the figure was derived by dividing what one Norwegian crown costs at a money exchange office: we assumed that we can purchase SEK 123 for NOK 100. The nominal exchange rate is thus  $123/100 = 1.23$ . We then get the price level index by dividing these figures by each other:  $1.5/1.23 = 1.22$  (\*100). This means that Sweden is 22 percent more expensive than Norway, in relation to the specific 33ml can of Coca-Cola.

The following two diagrams present the development of Sweden's nominal exchange rate against the Euro, the real exchange rate according to PPP and the price level index

for Sweden during the period 1990-2005. The nominal exchange rate shows great variations over time while the real exchange rate is relatively constant.

### Nominal and real exchange rates for Sweden's total GDP



When interpreting the price level index, we should take into consideration how much the nominal exchange rate affects the price level index.

### Price level index for Sweden Total GDP. EU15=100



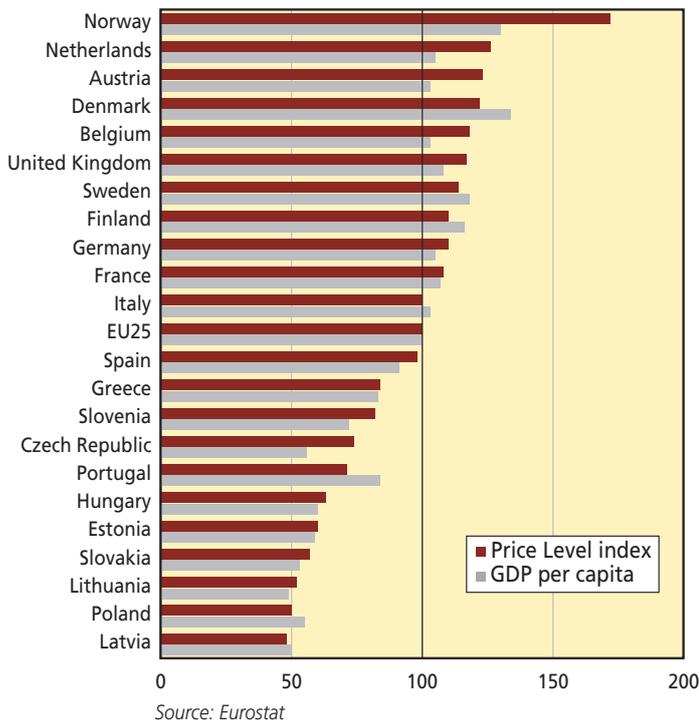
When comparing the two diagrams, we should again, when interpreting the price level index, take into consideration how much the nominal exchange rate affects the price level index. If, for example, the Swedish crown has weakened against the Euro, the price level index will be lower and vice versa.

The price level effect is particularly visible in countries with low income per inhabitant. In these cases the exchange rate exceeds the country's PPP which gives rise to a relatively low price level and vice versa. There are several reasons why countries show difference price levels – one important reason is productivity. The level of productivity, and the rate of increase, differ significantly between countries. There are also industry-related differences between different products and services (traded goods and non-traded goods). Subse-

<sup>1</sup> "Purchasing power parities – measurement and uses", Statistics Brief OECD March 2002 No.3. Eurostat – OECD Methodological manual on purchasing power parities 2005 Edition.

quently, countries with high productivity for traded goods tend to have a higher price level and a higher GDP per inhabitant than countries with low productivity.

**GDP per capita and Price Level indices 2005**  
EU25=100



Prices of non-traded goods are set on the domestic market and prices of traded goods on the international market. The prices for traded goods are sensitive to exchange rate fluctuations while non-traded goods (for example healthcare services and hairdressing services) are more labour-intensive – prices are set in the country and labour is cheaper in countries with low income per capita. This results in cheaper goods and services, and thus a lower price level and lower GDP per capita as compared to countries with high income per capita.

### Comparison of GDP over time: in current and constant PPP

The presentation of economic growth in a country is usually shown by GDP in constant prices or GDP in constant PPP. Purchasing power converted GDP per capita is reported both in current PPP and constant PPP for international volume comparisons. Current PPP implies annual updating of both the PPP and GDP expenditure components data and these results should be interpreted as differences in GDP volume between countries for a specific year since PPPs are not comparable between periods.

One way of getting around the problem is to use PPP convert GDP for comparison both over time and between countries. This can be done by using one year's price and expenditure structures to then extrapolate PPP for other years. This implies that the relative volume development between countries is maintained however. The calculation of volume development at GDP level is carried out using the relative inflation rate for every country, the "implicit de-

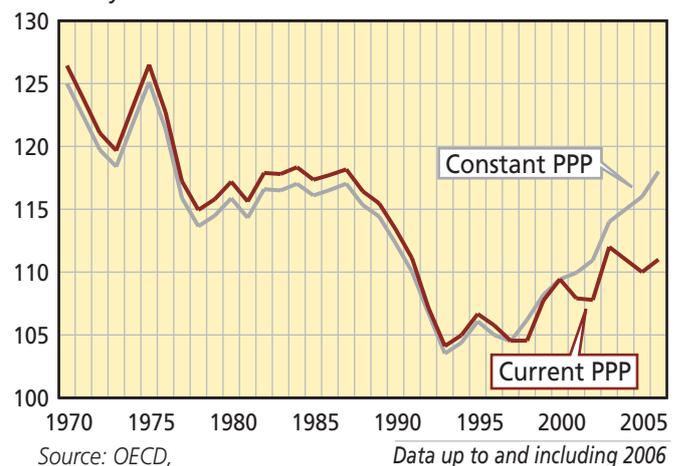
flator"<sup>1</sup>. A time series with the constant PPP is a Purchasing Power Parities converted GDP and is analogous to GDP at constant prices. The diagram below shows Sweden's GDP per capita in both constant and current PPP with 2000 as the reference year.

The PPP is calculated to be able to carry out comparisons between countries and regions at a given point in time. The price index, for example consumer price index, on the other hand, is used for constant price calculations of GDP and is intended for comparing domestic price development over time in one country. Note that the sample of goods and services in both cases is different as the first requires maximizing comparability of goods and services between countries in a chosen year, while the other requires maximizing comparability and representation between different periods in one country.

Both methods give a measure of value added of a country's total production over time and are used for reporting *the economic growth*. There are, however, some limitations in the interpretation of these measures. In general, it should be noted that they can be applied on the condition that nothing extraordinary occurs in the economies. For instance, the methods are arguably not applicable in instances where prices for exports or imports have changed significantly or considerable changes in the GDP structure can be expected. PPP calculations over time using these methods cannot capture these changes and thus can give a misleading picture of the development of the economies in question. The OECD for instance recommends using constant PPP for a comparable time series analysis of economic growth.

### GDP per capita for Sweden 1970–2006

Current and constant PPP. OECD30=100. 2000 is the base year. 2006 is a forecast



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<sup>1</sup> The implicit deflator is GDP in current prices divided by GDP in constant prices.

# Regional Gross Domestic Product

## Improved measure on regional growth

Regional Gross Domestic Product (GDPR) is the regional equivalent of Gross Domestic Product (GDP). In December 2006 Statistics Sweden, for the first time, published a measure on change in volume of GDPR. Change in volume is a traditional measure of economic growth and the publishing of statistics on regional change in volume is a major improvement with regards to measuring regional growth. Before December 2006 Statistics Sweden measured GDPR only in current prices. Comparisons in current prices over time mean that both price changes and volume changes affect the figures. By removing the change in price, the change in volume is obtained.

The published measure on change in volume of GDPR consists of yearly figures at county level. So far only the period 2000–2004 is available. Calculations of deflation were made by county and on a level of detail of approximately 45 different economic activities. National price indices have been used since no regional price indices exist. Consequently, the calculations are based on the assumption that the price development for a specific economic activity is the same in all the regions of the country. For a given year, differences between regions in change in volume of GDPR therefore reflect differences in economic structure and economic performance between regions.

## Largest growth in Örebro county

The largest change in volume of GDPR 2000–2004 was seen in Örebro county (+15.1 % for the whole period), Halland county (+14.6 %) and Blekinge county (+13.9 %). At the other end of the table Västmanland county (+0.6 % for the whole period) had the weakest change in volume, followed by Kalmar county (+2.4 %), Jämtland county (+4.4 %) and Jönköping county (+4.7 %).

Looking at the three largest counties, both economically and in terms of population, Stockholm county (+11.2 %) showed the largest change in volume 2000–2004, followed by Västra Götaland county (+9.9 %), Skåne county (+7.4 %) had a more modest change in volume, placing them below the national average.

The large change in volume 2000–2004 in Örebro county is primarily explained by very strong growth in 2004.

Statistics Sweden is planning to publish a longer time series on regional change in volume in December 2007, hopefully covering the period 1993–2005. Lengthening the time series would be a significant improvement. Looking at an individual county, these statistics on change in volume are best suited for analyzing longer time periods. The figures for a single year must be regarded as more uncertain.

A detailed presentation of the results of the latest GDPR calculations can be found in *Statistiskt meddelande*

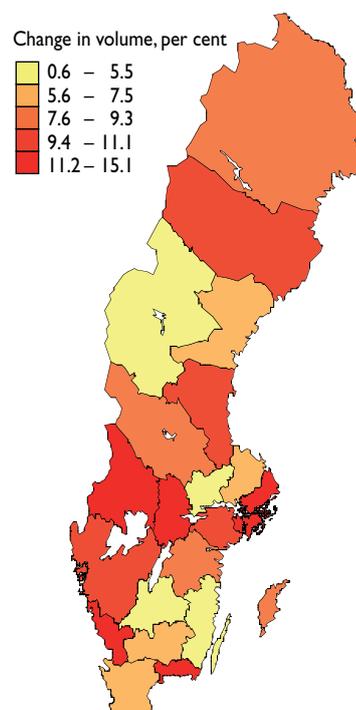
NR13SM0701, Regionala räkenskaper 1993–2004.

## Regional Gross Domestic Product (GDPR) by county, change in volume (percent) 2000–2004

County code	County	2001	2002	2003	2004	2000–2004
01	Stockholm	1.6	3.9	0.7	4.5	11.2
03	Uppsala	4.0	1.7	1.0	-1.1	5.7
04	Södermanland	1.1	0.0	1.7	6.3	9.4
05	Östergötland	1.0	3.2	-1.0	4.2	7.6
06	Jönköping	-1.0	0.0	0.4	5.3	4.7
07	Kronoberg	-0.2	0.3	0.5	6.6	7.3
08	Kalmar	-1.3	1.4	2.4	-0.1	2.4
09	Gotland	3.0	2.9	1.6	1.4	9.2
10	Blekinge	-4.3	5.3	5.2	7.4	13.9
12	Skåne	1.4	1.2	1.5	3.1	7.4
13	Halland	3.3	4.1	2.9	3.6	14.6
14	V. Götaland	2.3	0.2	3.8	3.3	9.9
17	Värmland	0.7	4.2	2.4	3.5	11.2
18	Örebro	1.2	3.3	0.1	10.0	15.1
19	Västmanland	-3.7	2.1	-1.3	3.7	0.6
20	Dalarna	0.1	1.1	2.1	4.7	8.2
21	Gävleborg	-3.8	3.4	2.0	7.8	9.4
22	Västernorrland	2.2	-1.5	1.7	3.2	5.6
23	Jämtland	1.0	-2.4	1.1	4.7	4.4
24	Västerbotten	0.4	-0.3	4.3	5.5	10.2
25	Norrbottnen	0.1	-0.2	4.1	4.6	8.7
99	Extra-region <sup>1</sup>	-5.0	-5.9	17.8	-2.2	3.0
Total		1.1	2.0	1.7	4.1	9.2

Source: National accounts

## GDPR by county, change in volume. 2000–2004



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<sup>1</sup> Extra territorial organisations and bodies, e.g. embassies and consulates.

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