QUALITY DECLARATION Foreign trade in services (FTS)

Subject area Trade in goods and services

Statistical area Foreign trade

Product code HA0202

Reference period 2021 quarter, year

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Quality of the statistics

1 Relevance

1.1 Purpose and information needs

1.1.1 Purpose of the statistics

The reported statistics provide the estimated values of Swedish exports and imports of services¹, by quarter. The classification of services follows international standards. The statistics also form a basis for the *balance of payments*, and for the *national accounts*.

1.1.2 User information needs

Users of the statistics on Swedish foreign trade in services are found both in Sweden and abroad, implying a substantial information need for the statistics. One of the important users is the Riksbank (Swedish central bank). Statistics Sweden compiles and produces the survey Foreign Trade in Services on behalf of the Riksbank. Other important users and areas of use are:

- The Ministry of Finance and the Ministry of Enterprise and Innovation for assessments, forecasts and decisions in economic policy and business policy;
- The National Board of Trade for negotiations and inquiries within the trade policy sphere;
- The National Institute of Economic Research, the Confederation of Swedish Enterprise, the research departments of banks and financial institutions, and industry organisations for assessing and forecasting economic progression in society;
- Business Sweden, Swedish and foreign businesses, and the trade representation of foreign embassies for market analysis and assessment of market research;
- mass media for news monitoring and as a basis for articles on developments in Swedish foreign trade;
- academia (universities, institutes of higher education, etc.) for various research projects;
- Eurostat, ECB (European Central Bank), OECD (Organization for Economic Co-operation and Development), UN (United Nations) and other international bodies for analysis and the further dissemination of international statistics.

¹ Foreign trade in services does not normally cover goods. There are, however, exceptions in which flows of goods give rise to services. Construction services also contain the goods bought by the project abroad. Travel also includes goods that are consumed abroad.

1.2 Content of the statistics

The statistical target characteristics are imports and exports of services by quarter. Services are described by service types.

1.2.1 Unit and population

The population of interest includes all (individual) transactions in one quarter between entities in Sweden and entities abroad with respect to services for exports and imports, respectively.

The target population includes the transactions defined in the Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6). All individual transactions are grouped according to the Extended Balance of Payments Services Classification (EBOPS), first into services, which are then summarised into service types. Appendix 1 provides a list of all service types, while the included services are listed in Appendix 2. Note that in Statistics Sweden's Statistical Database (SSD), the service type is designated as *Item*.

The relationship between service type and services can be one-to-one, but not always. In many cases, a service type is a summary of services, either in their entirety or as constituent parts.

The *target units* are groups of transactions grouped into service types according to Appendix 1. The *observation units* are groups of transactions grouped into services according to Appendix 2.

Data sources are primarily enterprises and authorities. Administrative data is also used.

1.2.2 Variables

The observation variables are different characteristics of observations units, namely *Service* defined in Appendix 2, *Direction* (Export/Import), *Country* according to Appendix 3, and *Service Value*, which represents the total value of all individual transactions in the observation unit under consideration. The list of countries in Appendix 3 follows Eurostat's nomenclature of countries and territories. The variable *Service Value* is also defined for all countries (*Country='whole world'*).

The observation variables are defined by quarter.

The target variables, which are also defined by quarter, are:

- 1. *Trade in services* the total service value by *Service Type, Direction* (Export/Import), and *Country*. The target variable *Trade in Services* is thus derived from the observation variable *Service Value* by summing observed service values by *Service Type, Direction*, and *Country*;
- 2. *Net Trade in Services* the difference between *Trade in Services* for Exports and *Trade in Services* for Imports by *Service Type* and by *Country* (for the details see section 1.2.4). Positive values for *Trade in Services* indicate that Sweden's income from the sale of services is greater than purchasing expense, while negative values indicate the opposite.

In SSD, the estimated value of *Net Trade in Services* is presented for *Direction=Net*.

The variables of interest are the same as the target variables.

The value of trade is presented in SEK million.

1.2.3 Statistical measures

The statistical measure that is used is the sum.

1.2.4 Study domains

The statistics on trade in services are presented either at service type level or at country level. Statistics for combinations of service type and country are not presented.

At the service type level, the estimates of trade in services are presented for 27 service types per direction (Export, Import and Net) for the whole world.

Concerning trade in services by country, the focus is on the 24 countries (instead of all countries given in Appendix 3) for which estimated trade in services is greatest. Trade in services by country is also estimated and presented for the whole world, all EU countries together and all non-EU countries together. In each case, the estimates are presented per direction (Export, Import and Net).

1.2.5 Reference times

The presentation refers to one quarter (three months) and one year.

2 Accuracy

2.1 Overall accuracy

On the whole, the level of accuracy of estimates at service type level (also called *estimates by service type*) is judged to be high. In addition, it is judged higher than for estimates at country level (also called *estimates by country*).

During the first quarter of 2020, covid-19 began to spread in Sweden and around the world. Some restrictions caused by the pandemic are still in place during the second quarter of 2021, which can potentially cause high proportions of over-coverage and non-response. But it turned out that the observed levels of over-coverage and non-response during 2021 were not higher than the corresponding levels for 2020. As a result, the reliability of estimates is not affected. The same target variables, methods, and assumptions, which were used before the pandemic broke out, were also used during the fourth quarter of 2021.

2.2 Sources of uncertainty

For estimates by service type, various model assumptions – and to a lesser extent measurement errors – are considered to be the sources of uncertainty that contribute most to overall uncertainty. As for estimates by country, measurement of the sample rather than the entire population is considered to be the greatest source of uncertainty, followed by various model assumptions and measurement errors. Besides the sample uncertainty, it is not possible to quantify the uncertainty linked to the other sources of uncertainty.

2.2.1 Sampling

If there were a register of all transactions with other countries, the data on the target variables would be sampled from that. However, because such a register does not exist, direct data collection is used in practice from a sample of Swedish companies and authorities. Administrative data is also used (for details on service types that involve administrative data, see section 5.1.2).

In order to draw the sample, a frame is constructed. Initially, the frame consists of all active legal entities in Statistics Sweden's business register. Further, the frame is supplemented with data from other sources, which in different ways indicate that the company conducts foreign trade in services in the year concerned, and the extent thereof.

Great importance is attached to identifying particularly important companies that can have sizeable foreign trade in services. These companies come into the sample with the probability 1, that is, they are totally surveyed. Around one fifth of the total sample consists of totally surveyed companies.

The companies in the basic frame are stratified according to three dimensions: industry, participant status and size. The type of industry is determined by the company's main SNI code. Participant status is an indicator variable that indicates the scope of foreign trade in services. Participant status is determined based on the above-mentioned indication sources, knowledge of industry and information from previous sample rounds. The size is based on the company's annual turnover.

The stratified basic frame is limited to companies with an annual turnover exceeding SEK 1 million (this requirement applies to all industries, apart from financial and VAT-exempt ones, which are allowed to have an annual turnover of below SEK 1 million). The frame is further stripped down according to various indicators of foreign trade in services. The final delimited frame consists of around 50 000–65 000 companies, identified as companies that have the conditions to execute large foreign transactions at some timepoint during the year irrespective of direction and service.

Each year, an independent random stratified sample is drawn of around 6 100 companies from the delimited frame. When it comes to allocating sample sizes in defined strata, collected data from previous survey rounds are used. The aspects considered in connection with allocation are:

- 1. meeting precision requirements in terms of *relative standard deviation*, i.e., standard deviation/point estimate, which is placed on estimates of trade in services by service type for both directions together, and
- 2. reducing the burden on respondents for companies in the smaller size classes.

It should be pointed out that estimates by country are not subject to any precision requirements. For this reason, the sample uncertainty in estimates by country is judged to constitute the largest part of their overall uncertainty (more about the uncertainty in the estimates by country is provided in section 2.2.4).

No sample is drawn for companies outside of the delimited frame, which requires making model assumptions regarding their foreign trade in services (see section 2.2.6). Although excluding companies from the frame entails the

deviation from probability sampling, it does, however, reduce the risk of drawing a sample of companies either that do not have any foreign trade in services or that do so only to a very narrow extent. Other positive consequences of the exclusion are that it reduces both the burden on respondents and costs.

The effect of surveying a sample instead of the whole population has been measured with the relative standard deviation of the estimates, defined earlier in this section. This measure enables comparisons between estimates of different magnitude, for example the estimates for the service type Transport and its subcomponents associated with different types of transport.

Note that the sample uncertainty is not calculated for estimates by country, which makes it possible to reduce calculation time (and calculation costs) considerably.

Appendices 5 - 8 give the relative standard deviations (RSA) for the estimates by service type, obtained for the first, second, third and fourth quarter of 2021. For the current quarter, i.e., quarter 4, the RSA values by service type are of the same order of magnitude as the corresponding RSA values for the three previous quarters, which indicates a stability in the precision of the estimates over time. Another similarity to note is that the quarter's Import estimates have smaller RSA values for more service types than the corresponding Export estimates. This means that the Import-estimates are associated with better precision than the corresponding Export-estimates. The large differences in the precision are usually observed every quarter for two service types, namely for the *Services Information Services* (for Q4 RSA for Export is 0,21, while for Import RSA is 0.07) and for *Maintenance and repair services* (for Q4 RSA is 0.18 and 0,07 for Export and Import, respectively). However, the precision in their annual estimates is much higher, especially for *Information Services* whose RSA values have been reduced to 0.10 for Export and to 0.04 for Import.

It should also be noted that the precision of annual estimates is better than the precision of quarterly estimates not only for the latter two types of services but for all types of services. Even better precision is expected due to future revisions of the whole of 2021, especially in connection with the revisions of estimates for quarter 4 2021 which will be revised for the first time when publishing estimates for quarter 1 of 2022 (for the revision schedule, see section 2.3). Then more companies are expected to submit values of their UHT transactions (see the discussion on forfeiture in section 2.2.4).

Appendices 5 - 7 also present the RSA values for the revised estimates for the first three quarters of 2021. For most service types, the effect of revisions on the precision of the estimates seems unsubstantial, which is indicated by relatively stable RSA values (per service type) at different revision times. However, we can note in Appendix 7 that the revision for the third quarter 2021 has had a clear positive effect on the Export-estimate of *Maintenance and repair services*, whose RSA value has decreased from 0.36 to 0.20. However, the precision in the corresponding Import estimate has deteriorated somewhat, which is indicated by the RSA value increased from 0.06 to 0.10.

Appendix 9 compares the RSA values for the annual estimates for 2020 obtained now and one year ago, i.e., at their first publication. As can be seen, the revision did not affect the precision of estimates, which remained as high as before the revision. This applies to all service types except the service type *Agriculture, Mining, and Environmental Services*. The effect of the revision on its Import estimate was very positive, which is reflected in the RSA value reduced due to the revision from 0.14 to 0.08.

In summary, sample uncertainty is judged relatively low for estimates by service type, both for Export and Import, while estimation uncertainty for estimates by country is expected to be greater.

2.2.2 Frame coverage

Because the target units are transactions, both over- and undercoverage are defined in terms of transactions. In addition, they are defined on an annual basis because that the sample is drawn once a year.

Over-coverage of transactions arises when, for some reason, a company has not had foreign trade in services throughout the entire reference year. From an estimation perspective, the over-coverage does not distort the estimates, but it may deteriorate their precision.

On the other hand, estimates may be underestimated due to undercoverage of transactions, which arises when new companies are formed after the sample has been drawn. Importantly, if sizeable foreign transactions are discovered after the sample has been drawn, the companies in question are added to the sample retroactively, in separate strata. However, no adjustment for undetected undercoverage is performed (see section 2.2.6). This may lead to an underestimation of trade, which is, however, considered negligible. This is because the absence of companies in the delimited frame does not necessarily mean undercoverage of the transactions in the target population.

To sum up, it is considered that the companies in the final delimited frame provide good coverage value-wise of the Swedish companies' foreign trade in services for the entire year.

2.2.3 Measurement

Collection is done electronically using an online form or file reading. Automated validation controls render a certain type of erroneous reporting impossible. The companies that report substantial changes in exports or imports of services are studied in more detail by means of comparisons with VAT returns and other statistical sources, and direct contacts with the companies.

Reporting is done by service. It can sometimes be difficult for the respondents to choose the right service, particularly when the boundary between good and service is ambiguous. An example of this is the definition of software, which can contain both a good and a service component. Another problem is that many companies do not have accounting systems that support submitting data on the requested services.

All of this may lead to substantial measurement uncertainty in submitted data. However, measurement uncertainty is considered to be much lower at service type level due to summing. As for reported service values by country, the measurement uncertainty can be greater. This is because the respondents themselves sometimes need to make approximations to distribute the total value for a given service type across countries. To reduce the effect of measurement uncertainty on estimates, various controls are performed that aim to detect deviant values. The controls primarily consist of comparisons with previously submitted values, comparisons with VAT information for the same period and various screening of data associated with a specified industry. Suspected erroneous values are investigated, which can sometimes be a protracted process. For this reason, measurement uncertainty can have a greater effect on preliminary statistics than the final version (see section 2.3).

Knowledge about measurement uncertainty is largely empirical and unquantifiable. Neither is it possible to determine whether measurement uncertainty is largely systematic or random (systematic measurement errors are generally more difficult to detect and adjusting them tends to be more problematic).

To sum up, it is considered that both systematic and random measurement errors may contribute to the overall estimation uncertainty in both estimates by service type and in estimates by country. However, it is judged to be relatively low, especially for estimates by service type.

2.2.4 Non-response

The (unweighted) response rate is considered to be relatively high, usually between 80 and 85 percent in the initial publication of the survey. Because data continues to come in after initial publication, the response rate commonly increases by the time of the revisions. For example, when publishing the estimates for quarter 1, the non-response rate among the companies in the sample was approx. 22%, while now with the publication of the estimates for the fourth quarter, this non-response rate has fallen to 13%. The non-response rate during quarter 4 turned out to be approx. 25% of the companies in the sample. The proportion of companies that did not provide an answer throughout the whole 2021 is approx. 10%.

The non-response is more typical for companies within smaller size classes, while for large companies the non-response is much lower. For example, during the fourth quarter, the non-response rate within the largest size class was approx. 6%, and its annual non-response rate was even lower, namely 2.5%.

Compensation for unit non-response depends on the size of companies. Missing data for the larger, totally surveyed companies (although not authorities) are imputed with data from the prior quarter (if available). In the case with totally surveyed authorities, missing data for are instead replaced by data from the same quarter of the *prior* year (if available). This is because many transactions performed by authorities have clear seasonal patterns. These imputation methods are considered to have relatively little effect on the statistics.

Unit non-response of sample-surveyed companies is compensated using mean compensation, which entails imputation of the mean of submitted values by service within the stratum concerned (for details on the assumption, see section 2.2.6).

Mean compensation can lead to overestimation if there are sharply diverging values within the stratum. In order to avoid such overestimation, the companies reported these values, known as outliers, are moved to a separate stratum in

which they only represent themselves. In the original strata, the weight is corrected for the number of outliers that have been moved elsewhere.

Another type of non-response, item non-response, arises when there is no counterpart country for services. To derive service values by country for a certain service from the corresponding service value for *Country='whole world'*, either predetermined quota or various distribution keys based on submitted data are applied (for details on assumptions, see section 2.2.6). In general, the higher the proportion of the collected service values by country the better the estimation of the statistics by country will be.

The overall effect of non-response on the statistics is considered to be relatively small because (1) the response rate among the most significant companies is high, and (2) because the non-response is compensated via imputations.

It should be mentioned that the non-response during the second quarter of 2021 was not compensated in any special way in addition to the methods described above. The main reason for this is that values that have been imputed are already adjusted during 2020 (for the adjustment method see Quality Declarations for 2020).

2.2.5 Data processing

The data is collected using two different sub-surveys. The first covers general foreign trade in services and has eight different forms that have been adapted to the sector of the companies. The second sub-survey is in order to collect information on travel and is directed at banks, foreign exchange bureaux and charge card companies.

All companies submit information on their foreign trade in services broken down by services and counterpart country. Some review is performed already upon initial measurement (see section 2.2.3). In the next step, microdata is reviewed using the tool SELEKT. Through the tool, a prioritisation list is created based on the probability of a value being erroneous in combination with the impact the erroneous value would have on the estimated result. The values are then carefully inspected according to the prioritisation list.

Automatically imputed values are also checked manually at the company level, regardless of whether their adjustment has been carried out or not.

After the review at company level has taken place, review is also performed at macro level in the VERITAS program. In this review, aggregate values are studied for the various service types in which substantial changes in percentage and values are further checked by means of reverting to the micro level and seeing which companies have contributed to the changes and whether they appear reasonable. Great importance is attached to the review of companies that represent substantial proportions in various service types.

The overall view is that processing uncertainty constitutes a negligible part of total uncertainty in both non-allocated estimations and estimations by country.

2.2.6 Model assumptions

As emphasised earlier, model assumptions probably account for a largest part of the overall uncertainty in estimates by service type, and may contribute substantially to the overall uncertainty in estimates by country. An important model assumption is that companies below the so-called cut-off limit contribute with the value zero. The cut-off limit varies depending on the industry that companies belong to and their participant status. Although some companies under the cut-off limit may have foreign trade in services, the assumption is that their overall contribution to total trade ought to be small.

Another model assumption is applied when it comes to derive service values by country from the data submitted in an undistributed form, that is, only for *Country='whole world'*. The assumption is that all companies, irrespective of the stratum to which they belong, have the same net of partner countries. The assumption is supported by empirical studies on trade in both goods and services, which did not reveal clear patterns between the companies' properties, e.g. the size, and their trade relationships to other countries.

Given a certain service, the share for each country is calculated based on all reported values associated with the service in question. Further, these shares are applied to the corresponding undistributed service values.

Finally, different assumptions are made to generate data when it is not possible, wholly or partially, to collect reliable data, for example, to make CIF/FOB adjustments for transport services. Another types of services associated with such model assumptions are: insurance services, diplomat services, municipalities and county councils, and households. The resulting model estimates are regularly reviewed and replaced by collected data where possible.

2.3 Preliminary statistics compared with final statistics

On each publishing occasion (quarter) published values from the prior quarter are revised. Similarly, the seven prior quarters are revised each time the fourth quarter is published. Sometimes, revisions occur outside of the ordinary revision schedule, often prompted by it having transpired that significant data has been inaccurate, or new information having emerged. This type of revision often covers a longer period.

The revisions that are made outside of the ordinary revision schedule are often much greater and are more commonly in either direction, up or down. The quality of the statistics is however considered to improve as this type of revision gives better accuracy.

Section 3.1 provides more information on when statistics are published and when they count as final.

3 Timeliness and punctuality

3.1 **Production time**

The preliminary statistics on foreign trade in services are published approximately two months after the end of the quarter.

3.2 Frequency

Foreign trade in services is collected and published quarterly.

In connection with the publication of quarters 1–3, the immediately preceding quarter is revised. When publishing the fourth quarter, the seven preceding quarters are revised and this counts as final statistics. This means that the

statistics for 2021 is viewed as final when the fourth quarter of 2022 is published. If needed, revisions are also performed of another and often longer period of time. These revisions can ensue from new information from respondents having become available, or a manual change having been made. Revisions can also be due to altered interpretations of data or definitions. The ambition is to make these extraordinary revisions in coordination with other economic statistics. This can for example occur in connection with general revisions of the national accounts.

3.3 Punctuality

Publication punctually follows the publishing schedule for the Official Statistics of Sweden. Historically, delays have very seldom occurred.

4 Accessibility and clarity

4.1 Access to the statistics

Statistics Sweden's website is primarily used as the channel for mediating the statistics. There, the statistics are found via the Statistical Database and in statistical news items and reports. Statistics on foreign trade in services are accessed via <u>www.scb.se/HA0202</u>.

When retrieving statistics, the user should note that the values are stated in millions of Swedish kronor and that the figures may be revised. Note also that the statistics for four quarters in one and the same year are aggregated into annual statistics.

The statistics are also available via Eurostat's statistical database together with the published statistics of other countries.

4.2 Possibility of additional statistics

Besides the statistics that are freely available on scb.se and through Eurostat, it is also possible to commission further orders of the statistics in return for a fee. Detailed statistics however pose a risk of disclosing respondents and also of accuracy that is considered to be low. There are therefore limitations on what can be issued.

4.3 Presentation

As already mentioned in section 4.1, the statistical information is presented both quarterly and annually on scb.se. In connection with publishing, the tables in the statistical database are updated. Four different tables for trade in services are found there. These include trade by account item and country, annually and quarterly. Trade by account item is available as of 1982 while the tables by country contain data as of 2004.

4.4 Documentation

Documentation prepared by Statistics Sweden is available on the web page for the survey on Statistics Sweden's website, <u>www.scb.se/HA0202</u>.

Other documentation that may be of interest is Balance of *Payments and International Investment Position Manual (BPM6).*

Detailed documentation in the form of Production of the Statistics (StaF) and *The detailed content of the statistics (MetaPlus)* are currently absent but planned for next year.

5 Comparability and coherence

As explained in section 2.1, the pandemic of covid-19 in 2020-2021 had not affected the survey FTS in the sense that the same target variables, methods and assumptions, which were used before the outbreak of the pandemic, were also used in 2021. The pandemic did not affect the coherence either.

From the first quarter of 2021 due to the reduction in the number of questionnaires, the services listed in Table 1 are collected in another way compared to that used before 2021. Instead of being collected as separate services, they are now collected as a part of other services. However, this has not affected the comparability of the statistics presented either over time or between groups because the estimation procedure still takes into account the industry groups to which the companies belong.

Table 1. Services that are conected as a part of other services from Q1 2021.
Airport charges
Road, bridge and ferry tolls
Repair of transport equipment
Gross income/expense from pools, passenger transport
Received/paid time charters for vessels, offshore platforms
Operating leasing (ex. chartering of vessels, offshore platforms)
Operating leasing and rental
Postal and courier services
Telecommunication, transmission via telephony and data networks, satellite, etc.
Operating leasing (ex. chartering of aircraft)
Operating leasing (ex. chartering of trains)
Operating leasing (ex. chartering of vehicles)
Chartering of vehicles (without driver)
Chartering of aircraft (without crew)
Chartering of trains (without driver)
Cargo handling

Table 1. Services that are collected as a part of other services from Q1 2021.

5.1 Comparability over time

Statistics Sweden started to produce statistics on foreign trade in services in 2003. Before then, they were published by the Riksbank. The transfer to Statistics Sweden also affected the production methods, which caused a break in the time series. In 2012, the sample was enlarged from 5,200 to 6,100 and somewhat later reporting by country was extended from only the 1,500 largest companies to all companies. That same year, use of the new manual, BPM6, was also implemented, which increased the number of service types from 11 to 26 (presented in Appendix 1). All changes over this period caused a break in the time series, but this has been addressed by performing retroactive revisions to the extent considered feasible. Reviews of services in Appendix 2 take place in line with altered trading patterns and can make it harder to have long time series.

5.2 Comparability among groups

All reported estimates are obtained according to one and the same estimation method for estimating totals known as the Horvitz-Thompson estimator. Together with the fact that the definitions of all service types follow one and the same manual – BPM6 – this means that all estimates are comparable with each other.

It is worth emphasising that the estimates for the service type FISIM, Financial Intermediation Services Indirectly Measured, are not calculated in the survey Foreign trade in services. It is the National Accounts that obtain undistributed over countries estimates of trade in services. Distributed service values by country are obtained by the Balance of Payments. The calculations are performed according to a special model, based on data collected by the Balance of Payments and the National Accounts within a total population survey (more information on FISIM is available on Statistics Sweden's website https://www.scb.se/contentassets/c89bb85e14184e92a4d5e4eec5ce4b98/sweden-gni-inventory-2016 public rev oct2016.pdf). Because the definition of FISIM follows the guidelines in the BPM6 and SNA manuals, where SNA stands for System of National Accounts, the estimates of FISIM are comparable with the estimates for the other service types.

When comparing the reported estimates with corresponding estimates from other surveys, it is important that the same definitions of service types are applied, and that the estimation is based on the same data sources and under the same model assumptions. Some of the service types in Appendix 1 differ from the others in this respect. These are:

- *Transport* with all subcomponents, particularly sea transport and road transport services for which CIF/FOB adjustment of submitted values is performed;
- *Travel*, which is calculated both on the basis of collected data and administrative data, and also specially computed quotas are used to distribute data;
- *Insurance,* which is based on collected data allocated using specially computed quotas;
- Financial services
 - Financial services excl. FISIM, which is calculated based on collected data and various model assumptions;
 - FISIM (see discussion above);
- *Other services,* which are based on both administrative data and collected data.

As regards the estimates by country, it could be said that they are comparable with those obtained in other countries that adhere to Eurostat's nomenclature of countries and territories that are followed by the Foreign trade in services survey. However, comparability is complicated by the fact that all countries draw their own samples based on their national business registers and stratify them in other ways than that described here in section 2.2.1. At transaction level, each import of services should be matched by another country's export of services (and vice versa). However, data by country reported by companies in different countries can differ even if these companies are linked to the same transactions (for possible reasons, see section 2). Naturally, this may cause asymmetries of varying degrees with other countries' statistics on foreign trade in services.

Yet another comparison group of interest is microdata, i.e., collected data. Interlinking and comparing microdata from other surveys may be complicated or in some cases impossible because

- the properties of the companies in the sample drawn for the Foreign trade in services survey do not necessarily coincide with the properties of the companies of interest within other surveys, and that
- other surveys draw their own samples, or they may be total population surveys.

5.3 Other coherence

Foreign trade in services is included as a basis in the National Accounts' calculation of GDP, and in the current account of the Balance of Payments. Because of adjustments made in the National Accounts, and which are also used by the Balance of Payments, the data in Foreign trade in services differs from the data in the National Accounts and in the Balance of Payments.

Non-border-crossing goods are collected through trade in services but are subsequently counted as trade in goods in the trade balance.

5.4 Numerical consistency

Substantial elements within financial services are corrected with data produced by the Balance of Payments. This concerns data on FISIM, commissions in equity trading, and the service margin (spread) in trade in debt securities. Also, the National Accounts Department performs reclassifications of codes according to SPIN and certain adjustments based on their own judgements. These adjustments are also used in the Balance of Payments.

General information

A The classification Official Statistics of Sweden

The statistics are not official.

B Confidentiality and the handling of personal data

In the special task of agencies for producing statistics, confidentiality applies according to Chapter 24, Section 8 of the <u>Public Access to Information and Secrecy</u> <u>Act (2009:400)</u>.

To protect the data on natural persons or enterprises that is subject to confidentiality, it is ensured that such data cannot be disclosed directly or indirectly in the published statistics.

Processing personal data is subject to the Official Statistics Act (2001:99), the Official Statistics Ordinance (2001:100) and the EU General Data Protection Regulation (2016/679).

C Storage and elimination

A copy of all statistical reporting in the form of reports, books and Statistical Reports that have been published as printed matter or reported as a pdf document is archived at the Royal Library of Sweden and delivered to the National Archives.

The need to archive material is being investigated.

D Obligation to provide information

There is an obligation to supply information in accordance with the Riksbank Act (1988:1385) and regulations (RBFS 2002:4) 2. This means that there is a legal obligation to provide data to Statistics Sweden. The Riksbank has the right to impose a fine on companies/organisations/authorities that fail to report.

E EU regulation and international reporting

The obligation to supply information is also regulated at EU level through the following regulations:

REGULATION (EC) OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL No 184/2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment.

COMMISSION REGULATION (EU) No 555/2012 amending Regulation (EC) No 184/2005 of the European Parliament and of the Council on Community statistics concerning balance of payments, international trade in services and foreign direct investment, as regards the update of data requirements and definitions

The statistics are included in the international reporting to Eurostat, ECB, IMF, OECD and UN.

F History

Foreign trade in services has existed at Statistics Sweden since 2003, but statistics have been kept since long before then. Before responsibility for the statistics was transferred to Statistics Sweden, the Riksbank was responsible for producing the statistics.

The present manual from the International Monetary Fund (IMF), BPM6, was provided in 2013 and changes according thereto were made at the end of 2013.

In 2015, work commenced on a new IT system, which was launched at the beginning of 2017.

Statistical agency	The Riksbank (Swedish central bank)			
Contact	Statistics Sweden,			
information	Foreign trade in services			
E-mail	uht@scb.se			
Telephone	010-479 40 10			

G Contact details

Appendices

Appendix 1. Service type

- 1. Goods for processing
- 2. Maintenance and repair services
- 3. Transport
 - 3.1 Sea transport services
 - 3.2 Air transport services
 - 3.3 Rail transport services
 - 3.4 Road transport services
 - 3.5 Postal and courier services
 - 3.6 Other transport services
- 4. Travel
- 5. Construction services
- 6. Insurance
- 7. Financial services
 - 7.1 Financial services excl. FISIM
 - 7.2 FISIM (Financial intermediation services indirectly measured)
- 8. Charges for the use of intellectual property
- 9. Telecommunications, computer, and information services
 - 9.1 Telecommunications services
 - 9.2 Computer services
 - 9.3 Information services
- 10. Other business services
 - 10.1 Research and development services
 - 10.2 Professional and management consulting services
 - 10.2.1 Legal services
 - 10.2.2 Accounting and administrative services
 - 10.2.3 Management and PR
 - 10.3 Marketing services
 - 10.4 Technical, trade-related and other business services
 - 10.4.1 Architectural, engineering and scientific services
 - 10.4.2 Agricultural, mining and waste treatment/de-pollution services
 - 10.4.3 Other services
- 11. Personal, cultural/recreational services, etc.
- 12. Government goods and services

Appendix 2. Services

rocessing of goods owned by other parties Iaintenance and repair services of goods (ex. computers and buildings) IF-adjusted exported resp. imported goods, air
IF-adjusted exported resp. imported goods, air
IF-adjusted exported resp. imported goods, sea
djustment for CIF transport
IF-adjusted exported resp. imported goods, rail
IF-adjusted exported resp. imported goods, road
oods freight by sea
oods freight by air
oods freight by rail
oods freight by road
oad freight with own vehicles/own personnel
oad freight with hired vehicles/hired personnel
oods freight by vessel
oods freight by air
oods freight by rail
oods freight by road
ross income/expense from pools, goods traffic
urchase of fuels
urchase of spare parts, accessories, etc.
urchase of goods for restaurants and sale of goods on board
ort and waterway services
uxiliary transport services
ther transport services (incl. storage, forwarding and transit services)
pace transport
ipeline transport
lectricity transmission
assenger transport (inland waterways)
reight transport (inland waterways)
upporting and auxiliary transport services
assenger transport, sea
assenger transport, air
assenger transport, rail
assenger transport, road
assenger transport, vessel
assenger transport, air
assenger transport, rail
assenger transport, road
ther travel-related services (accommodation, conferences, etc.)
ducation services conducted in Sweden
ducation services conducted abroad
lealthcare services conducted in Sweden
lealthcare services conducted abroad
wedish banknotes
ife and pension insurance
ther non-life insurance

Other direct insurance
Freight insurance
Reinsurance
Reinsurance
Auxiliary insurance services
Financial services
Pension services
Pension and standardised guarantee services
CIF-adjusted imported goods, freight insurance
CIF-adjusted exported goods, freight insurance
Computer services
Information services
Construction services performed abroad
Construction services performed in Sweden
Franchising and similar rights
Charges for the use of intellectual property ex. right of use of software and audio-visual products)
Provision of customised and non-customised research and development services
Sale and purchase of proprietary rights arising from research and development (ex. rights for software and audio-visual products)
Other research and development
Legal services
Legal services
Legal services Collection contribution EU (customs and agricultural charge)
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services Engineering services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services Engineering services Scientific and other technical services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services Engineering services Scientific and other technical services Agricultural and forestry services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Advertising and marketing services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Advertising and marketing services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution Audio-visual and artistic related services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Architectural services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution Audio-visual and artistic related services Cultural and recreational services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Advertising and marketing services Architectural services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution Audio-visual and artistic related services Cultural and recreational services Other business services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Advertising and marketing services Architectural services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution Audio-visual and artistic related services Cultural and recreational services Other business services Other personal services
Legal services Collection contribution EU (customs and agricultural charge) Accounting, book-keeping and auditing services Business and management consulting and public relations services Advertising and marketing services Advertising and marketing services Engineering services Scientific and other technical services Agricultural and forestry services Services incidental to mining and oil extraction Waste treatment and de-pollution Audio-visual and artistic related services Cultural and recreational services Other business services Other personal services Military expenses

Appendix 3. Countries Andorra	Laos				
United Arab Emirates	Lebanon				
Afghanistan	Saint Lucia				
Antigua and Barbuda	Liechtenstein				
Anguilla	Sri Lanka				
Albania	Liberia				
Armenia	Lesotho				
Angola	Lithuania				
Antarctica	Luxembourg				
Argentina	Latvia				
American Samoa	Libya				
Austria	Morocco				
Australia	Monaco				
Aruba	Moldavia				
Åland	Montenegro				
Azerbaijan	Saint Martin				
Bosnia-Herzegovina	Madagascar				
Barbados	the Marshall Islands				
Bangladesh	North Macedonia				
Belgium	Mali				
Burkina Faso	Myanmar				
Bulgaria	Mongolia				
Bahrain	Macau				
Burundi	North Mariana Islands				
Benin	Martinique				
Saint Barthélemy	Mauritania				
Bermuda	Montserrat				
Brunei Darussalam	Malta				
Bolivia	Mauritius				
Bonaire, Sint Eustatius and Saba	the Maldives				
Brazil	Malawi				
Bahamas	Mexico				
Bhutan	Malaysia				
Bouvet Island	Mozambique				
Botswana	Namibia				
Belarus	New Caledonia				
Belize	Niger				
Canada	Norfolk Island				
Coconut Island	Nigeria				
Congo, Democratic Republic	Nicaragua				
Central African Republic	The Netherlands				
Congo	Norway				
Switzerland	Nepal				
Côte d'Ivoire	Nauru				
Cook Islands	Niue				
Chile	New Zealand				
Cameroon	Oman				

China	Panama				
Colombia	Peru				
Costa Rica	French Polynesia				
Cuba	Papua New Guinea				
Cape Verde	the Philippines				
Curaçao	Pakistan				
Christmas Island	Poland				
	Saint Pierre and Miquelon				
Cyprus Czech Republic	Pitcairn Islands				
Germany	Puerto Rico				
Djibouti	Palestinian National Authority				
Denmark	Portugal				
Dominica	Palau				
Dominican Republic	Paraguay				
Algeria Ecuador	Qatar Réunion				
Estonia	Romania				
	Serbia				
Egypt Western Sahara	Russia				
Eritrea	Russia				
	Saudi Arabia				
Spain Ethiopia	Solomon Islands				
Ethiopia Finland					
	Seychelles				
Fiji Falkland Islands	Sudan				
Federated States of Micronesia	Singapore				
rederated states of Micronesia	Saint Helena, Ascension and Tristan da Cunha				
Faroe Islands	Slovenia				
France	Svalbard and Jan Mayen				
Gabon	Slovakia				
United Kingdom	Sierra Leone				
Grenada	San Marino				
Georgia	Senegal				
French Guyana	Somalia				
Guernsey	Surinam				
Ghana	Sao Tomé and Principe				
Gibraltar	El Salvador				
Greenland	Sint Maarten				
Gambia	Syria				
Guinea	Swaziland				
Guadeloupe	Turks and Caicos Islands				
Equatorial Guinea	Chad				
Greece	French Southern Territories				
South Georgia and the South	Тодо				
Guatemala	Thailand				
Guam	Tajikistan				
Guinea-Bissau	Tokelau				

Heard Island and McDonald Islands Transformed Transfor	iurkmenistan iunisia ionga iurkey irinidad and Tobago				
Croatia Ti Haiti Ti	urkey				
Croatia Ti Haiti Ti	urkey				
Haiti Ti	-				
	Trinidad and Tobago				
	uvalu				
	aiwan				
Ireland Ta	anzania				
Israel U	Ikraine				
Isle of Man U	Iganda				
India Si	mall Oceania and West Indies islands of the United States				
British Indian Ocean Territory U	ISA				
Iraq U	Iruguay				
Iran U	Izbekistan				
Iceland V	/atican City				
Italy Sa	Saint Vincent and the Grenadines				
Jersey V	Venezuela				
Jamaica W	Wallis and Futuna				
Jordan B	British Virgin Islands				
Japan Ti	The US Virgin Islands				
Kenya V	Vietnam				
Kyrgyzstan Sa	Samoa				
Cambodia V	Vanuatu				
Kiribati Cu	Ceuta				
	Kosovo (according to the definition in UN Security Counc Resolution 1244/1999)				
Saint Kitts and Nevis Ye	Yemen				
North Korea N	Mayotte				
South Korea So	South Africa				
Kuwait Za	Zambia				
Cayman Islands Zi	Zimbabwe				
Kazakhstan					

Appendix 4. Reported countries	s and groups of countries				
Austria (EU 27)	Switzerland (Rest of Europe)				
Belgium (EU 27)	Norway (Rest of Europe)				
Germany (EU 27)	Russia (Rest of Europe)				
Denmark (EU 27)	Canada (North and Central America)				
Spain (EU 27)	USA (North and Central America)				
Finland (EU 27)	China (Asia)				
France (EU 27)	Hong Kong (Asia)				
Ireland (EU 27)	India (Asia)				
Italy (EU 27)	Japan (Asia)				
Luxembourg (EU 27)	South Korea (Asia)				
The Netherlands (EU 27)	Thailand (Asia)				
Poland (EU 27)	EU27				
United Kingdom (Rest of Europe)	Extra (EU 27)				

Appendix 4.	Reported	countries a	and	aroups	of countr	ies
	<i>i</i> cponcu	countries	unu	groups	or countr	100

Appendix 5. Description of sample uncertainty in the estimates by service type in terms of the relative standard deviation (RSD) at different publication occasions. RSD is defined as Standard deviation/Point estimate. Reference period: Q1 2021.

	Publication 1	04/06/2021	Revision 1	03/09/2021	Revision 2	03/03/2022
Service type	RSD, Export	RSD, Import	RS, Export	RSD, Import	RSD, Export	RSD, Import
1. Manufacturing services	0,08	0,07	0,07	0,07	0,07	0,07
2. Maintenance and repair services	0,36	0,06	0,32	0,05	0,37	0,10
3. Transport	0,02	0,02	0,02	0,01	0,02	0,01
3.1 Sea transport services	0,05	0,03	0,04	0,03	0,03	0,03
3.2 Air transport services	0,06	0,04	0,05	0,03	0,05	0,03
3.3 Rail transport services	0,05	0,05	0,03	0,05	0,03	0,04
3.4 Road transport services	0,03	0,02	0,03	0,02	0,03	0,02
3.5 Postal and courier services	0,01	0,01	0,01	0,01	0,01	0,01
3.6 Other modes of transport services	0,06	0,06	0,06	0,06	0,05	0,05
4. Travel	0,01	0,00	0,01	0,00	0,01	0,00
5. Construction services	0,14	0,07	0,13	0,07	0,12	0,11
6. Insurance and pension services	0,06	0,06	0,06	0,06	0,06	0,06
7.1 Financial services excl. FISIM	0,03	0,15	0,03	0,15	0,03	0,15
8. Charges for the use of intellectual property	0,05	0,03	0,05	0,03	0,05	0,03
9. Telecommunications, computer, and information services	0,02	0,02	0,02	0,02	0,02	0,03
9.1 Telecommunication services	0,04	0,03	0,04	0,03	0,04	0,03
9.2 Computer services	0,02	0,03	0,03	0,03	0,03	0,03
9.3 Information services	0,15	0,08	0,13	0,07	0,15	0,06

10. Other business services	0,02	0,02	0,02	0,02	0,02	0,02
10.1 Research and development services	0,06	0,05	0,06	0,05	0,06	0,05
10.2 Professional and management consulting services	0,04	0,03	0,03	0,03	0,03	0,03
10.2.1 Legal services	0,12	0,05	0,12	0,04	0,11	0,05
10.2.2 Accounting, book-keeping and auditing services	0,05	0,05	0,04	0,05	0,04	0,05
10.2.3 Management and PR	0,04	0,03	0,04	0,03	0,04	0,03
10.3 Marketing services	0,07	0,04	0,06	0,03	0,07	0,03
10.4 Technical, trade-related and other business services	0,04	0,03	0,05	0,03	0,04	0,03
10.4. 1 Architectural, engineering and scientific services	0,07	0,06	0,07	0,05	0,07	0,05
10.4.2 Agricultural, mining and waste treatment/de-pollution services	0,09	0,10	0,08	0,10	0,08	0,19
10.4.3 Other services	0,05	0,03	0,06	0,03	0,06	0,03
11. Personal cultural and recreational services	0,03	0,07	0,01	0,06	0,01	0,05
12. Government goods and services	0,00	0,00	0,00	0,00	0,00	0,00

Appendix 6. Description of sample uncertainty in the estimates by service type in terms of the relative standard deviation (RSD) at different publication occasions. RSD is defined as Standard deviation/Point estimate. Reference period: Q2 2021.

	Publication 1	03/09/2021	Revision 1	16/11/2021	Revision 2	03/03/2022
Service type	RSD, Export	RSD, Import	RS, Export	RSD, Import	RSD, Export	RSD, Import
1. Manufacturing services	0,07	0,08	0,07	0,08	0,06	0,08
2. Maintenance and repair services	0,27	0,06	0,28	0,06	0,26	0,09
3. Transport	0,02	0,01	0,01	0,01	0,01	0,01
3.1 Sea transport services	0,04	0,02	0,03	0,02	0,03	0,02
3.2 Air transport services	0,06	0,02	0,05	0,02	0,05	0,02
3.3 Rail transport services	0,01	0,02	0,03	0,03	0,03	0,03
3.4 Road transport services	0,03	0,02	0,03	0,02	0,03	0,02
3.5 Postal and courier services	0,01	0,02	0,01	0,02	0,01	0,02
3.6 Other modes of transport services	0,06	0,05	0,06	0,05	0,05	0,05
4. Travel	0,00	0,00	0,00	0,00	0,00	0,00
5. Construction services	0,09	0,08	0,11	0,07	0,11	0,15

6. Insurance and pension services	0,05	0,06	0,04	0,06	0,03	0,06
7.1 Financial services excl. FISIM	0,04	0,06	0,03	0,06	0,03	0,06
8. Charges for the use of intellectual property	0,05	0,03	0,05	0,03	0,04	0,03
9. Telecommunications, computer, and information services	0,02	0,02	0,02	0,02	0,02	0,03
9.1 Telecommunication services	0,05	0,03	0,05	0,04	0,04	0,03
9.2 Computer services	0,02	0,03	0,02	0,02	0,02	0,04
9.3 Information services	0,15	0,08	0,19	0,08	0,19	0,09
10. Other business services	0,02	0,02	0,02	0,02	0,02	0,02
10.1 Research and development services	0,06	0,07	0,06	0,07	0,06	0,07
10.2 Professional and management consulting services	0,03	0,03	0,03	0,03	0,03	0,03
10.2.1 Legal services	0,11	0,07	0,10	0,06	0,10	0,06
10.2.2 Accounting, book-keeping and auditing services	0,04	0,05	0,04	0,05	0,03	0,05
10.2.3 Management and PR	0,04	0,03	0,04	0,03	0,04	0,03
10.3 Marketing services	0,08	0,05	0,07	0,05	0,07	0,05
10.4 Technical, trade-related and other business services	0,05	0,03	0,05	0,03	0,05	0,03
10.4. 1 Architectural, engineering and scientific services	0,07	0,05	0,06	0,05	0,06	0,05
10.4.2 Agricultural, mining and waste treatment/de-pollution services	0,09	0,08	0,07	0,17	0,07	0,17
10.4.3 Other services	0,07	0,04	0,06	0,04	0,06	0,04
11. Personal cultural and recreational services	0,01	0,05	0,01	0,05	0,01	0,05
12. Government goods and services	0,00	0,00	0,00	0,00	0,00	0,00

Appendix 7. Description of sample uncertainty in the estimates by service type in terms of the relative standard deviation (RSD) at different publication occasions. RSD is defined as Standard deviation/Point estimate. Reference period: Q3 2021.

	Publication 1	16/11/2021	Revision 1	03/03/2022
Service type	RSA, Export	RSA, Import	RSA, Export	RSA, Import
1. Manufacturing services	0,08	0,07	0,07	0,07
2. Maintenance and repair services	0,36	0,06	0,20	0,10
3. Transport	0,02	0,02	0,02	0,01
3.1 Sea transport services	0,05	0,03	0,03	0,03

3.2 Air transport services	0,06	0,04	0,04	0,02
3.3 Rail transport services	0,05	0,05	0,03	0,03
3.4 Road transport services	0,03	0,02	0,03	0,02
3.5 Postal and courier services	0,01	0,01	0,01	0,02
3.6 Other modes of transport services	0,06	0,06	0,06	0,05
4. Travel	0,01	0,00	0,00	0,00
5. Construction services	0,14	0,07	0,17	0,14
6. Insurance and pension services	0,06	0,06	0,05	0,07
7.1 Financial services excl. FISIM	0,03	0,15	0,05	0,10
8. Charges for the use of intellectual property	0,05	0,03	0,04	0,04
9. Telecommunications, computer, and information services	0,02	0,02	0,02	0,02
9.1 Telecommunication services	0,04	0,03	0,04	0,03
9.2 Computer services	0,02	0,03	0,02	0,03
9.3 Information services	0,15	0,08	0,19	0,07
10. Other business services	0,02	0,02	0,03	0,02
10.1 Research and development services	0,06	0,05	0,07	0,06
10.2 Professional and management consulting services	0,04	0,03	0,03	0,03
10.2.1 Legal services	0,12	0,05	0,11	0,05
10.2.2 Accounting, book-keeping and auditing services	0,05	0,05	0,03	0,07
10.2.3 Management and PR	0,04	0,03	0,04	0,03
10.3 Marketing services	0,07	0,04	0,10	0,06
10.4 Technical, trade-related, and other business services	0,04	0,03	0,05	0,03
10.4. 1 Architectural, engineering, and scientific services	0,07	0,06	0,08	0,04
10.4.2 Agricultural, mining and waste treatment/depollution services	0,09	0,10	0,06	0,18
10.4.3 Other services	0,05	0,03	0,06	0,04
11. Personal cultural and recreational services	0,03	0,07	0,01	0,04
12. Government goods and services	0,00	0,00	0,00	0,00

Appendix 8. Description of sample uncertainty in the estimates by service type in terms of the relative standard deviation (RSD), defined as Standard deviation/Point estimate. Reference period: Q4 2021 (the first publication, 03/03/2022).

Service type	RSA, Export	RSA, Import
1. Manufacturing services	0,08	0,07
2. Maintenance and repair services	0,18	0,07

3. Transport	0,02	0,01
		,
3.1 Sea transport services	0,03	0,03
3.2 Air transport services	0,04	0,03
3.3 Rail transport services	0,04	0,03
3.4 Road transport services	0,03	0,02
3.5 Postal and courier services	0,02	0,02
3.6 Other modes of transport services	0,08	0,09
4. Travel	0,00	0,00
5. Construction services	0,17	0,11
6. Insurance and pension services	0,06	0,07
7.1 Financial services excl. FISIM	0,02	0,06
8. Charges for the use of intellectual property	0,04	0,03
9. Telecommunications, computer, and information services	0,02	0,02
9.1 Telecommunication services	0,04	0,03
9.2 Computer services	0,02	0,03
9.3 Information services	0,21	0,07
10. Other business services	0,03	0,02
10.1 Research and development services	0,06	0,07
10.2 Professional and management consulting services	0,04	0,03
10.2.1 Legal services	0,10	0,05
10.2.2 Accounting, book-keeping and auditing services	0,03	0,06
10.2.3 Management and PR	0,05	0,03
10.3 Marketing services	0,11	0,06
10.4 Technical, trade-related, and other business services	0,05	0,03
10.4. 1 Architectural, engineering, and scientific services	0,08	0,04
10.4.2 Agricultural, mining and waste treatment/de-pollution services	0,11	0,18
10.4.3 Other services	0,07	0,04
11. Personal cultural and recreational services	0,02	0,05
12. Government goods and services	0,00	0,00

Service type	RSD, Export	RSD, Import
1. Manufacturing services	0,04	0,04
2. Maintenance and repair services	0,14	0,05
3. Transport	0,01	0,01
3.1 Sea transport services	0,02	0,01
3.2 Air transport services	0,02	0,02
3.3 Rail transport services	0,02	0,02
3.4 Road transport services	0,02	0,01
3.5 Postal and courier services	0,01	0,01
3.6 Other modes of transport services	0,04	0,04
4. Travel	0,00	0,00
5. Construction services	0,07	0,07
6. Insurance and pension services	0,03	0,03
7.1 Financial services excl. FISIM	0,02	0,05
8. Charges for the use of intellectual property	0,02	0,02
9. Telecommunications, computer, and information services	0,01	0,01
9.1 Telecommunication services	0,02	0,02
9.2 Computer services	0,01	0,02
9.3 Information services	0,10	0,04
10. Other business services	0,01	0,01
10.1 Research and development services	0,03	0,03
10.2 Professional and management consulting services	0,02	0,01
10.2.1 Legal services	0,05	0,03
10.2.2 Accounting, book-keeping and auditing services	0,02	0,03
10.2.3 Management and PR	0,02	0,02
10.3 Marketing services	0,05	0,03
10.4 Technical, trade-related and other business services	0,03	0,02
10.4. 1 Architectural, engineering and scientific services	0,04	0,02
10.4.2 Agricultural, mining and waste treatment/de-pollution services	0,04	0,09
10.4.3 Other services	0,03	0,02
11. Personal cultural and recreational services	0,01	0,02
12. Government goods and services	0,00	0,00

Appendix 9. Description of sample uncertainty in the annual estimates by service type in terms of the relative standard deviation (RSD), defined as Standard deviation/Point estimate. Reference period: the whole reference year 2021 (the first publication. 03/03/2022).

Appendix 10. Description of sample uncertainty in the annual estimates by service type in
terms of the relative standard deviation (RSD) at different publication occasions. RSD is defined
as Standard deviation/Point estimate. Reference period: the whole reference year 2020.

as Standard deviation/Point estimate. Reference	Publication 1			03/03/2022
Service type	RSD, Export	RSD, Import	RSD, Export	RSD, Import
1. Manufacturing services	0,04	0,02	0,04	0,02
2. Maintenance and repair services	0,04	0,03	0,04	0,03
3. Transport	0,02	0,01	0,02	0,01
3.1 Sea transport services	0,04	0,02	0,04	0,02
3.2 Air transport services	0,02	0,02	0,02	0,02
3.3 Rail transport services	0,04	0,03	0,04	0,03
3.4 Road transport services	0,03	0,02	0,03	0,02
3.5 Postal and courier services	0,00	0,00	0,00	0,00
3.6 Other modes of transport services	0,02	0,00	0,01	0,00
4. Travel	0,01	0,01	0,01	0,01
5. Construction services	0,11	0,05	0,11	0,05
6. Insurance and pension services	0,01	0,01	0,01	0,01
7.1 Financial services excl. FISIM	0,04	0,05	0,04	0,05
8. Charges for the use of intellectual property	0,01	0,01	0,01	0,01
9. Telecommunications, computer, and information services	0,02	0,02	0,02	0,02
9.1 Telecommunication services	0,05	0,03	0,05	0,03
9.2 Computer services	0,02	0,03	0,02	0,02
9.3 Information services	0,17	0,06	0,16	0,06
10. Other business services	0,02	0,01	0,02	0,01
10.1 Research and development services	0,03	0,02	0,03	0,02
10.2 Professional and management consulting services	0,03	0,02	0,03	0,02
10.2.1 Legal services	0,08	0,06	0,08	0,06
10.2.2 Accounting, book-keeping, and auditing services	0,05	0,03	0,05	0,03
10.2.3 Management and PR	0,03	0,02	0,03	0,02
10.3 Marketing services	0,05	0,03	0,05	0,04
10.4 Technical, trade-related and other business services	0,04	0,03	0,04	0,03
10.4. 1 Architectural, engineering and scientific services	0,03	0,03	0,03	0,04
10.4.2 Agricultural, mining and waste treatment/de-pollution services	0,10	0,14	0,10	0,08
10.4.3 Other services	0,06	0,03	0,06	0,03
11. Personal cultural and recreational services	0,02	0,06	0,02	0,06
12. Government goods and services	0,00	0,00	0,00	0,00

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