GNI inventory, Finland

Statistics Finland, National Accounts
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Statistics Finland

SUMMARY OF CONTENT

ABBREVIATIONS

Table 1: Acronyms and abbreviations

Code	Description
BoP	Balance of Payments
COICOP	Classification of Individual Consumption by Purpose
CP	Current Prices
CPA	Statistical Classification of Products by Activity
ECB	European Central Bank
ECOICOP	European Classification of Individual Consumption by Purpose
ESA	European System of Accounts
EU	European Union
FDI	Foreign Direct Investment
FNA	Finnish National Accounts
FP	Fixed Prices
GDP	Gross Domestic Product
GNI	Gross National Income
HERP	Harmonised European Revision Policy
NA	National Accounts
NACE	Statistical Classification of Economic Activities in the European Community (Nomenclature statistique des Activités économiques dans la Communauté Européenne)
NPISH	Non-profit Institutions Serving Households (Sector S15)
PRODCOM	List of Products of the European Community (Production Communautaire)
SBS	Structural Business Statistics
SNA	System of National Accounts
TOL	Finnish Acronym for Industry; see NACE
VAT	Value Added Tax
YTY	Business Statistics IT-system of Statistics Finland

Table 2: Example of the structure of a transaction classification (P11R Market output)[1]

P	*11*	*R*
Description	Description	Description
P = Transaction in products D = Distributive transaction F = Financial transaction B = Balancing item E = Employment item	Identifier	U/USE/PAY/K = Uses, payable, expenditure R/REC = Resources, receivable, income

[1] A comprehensive description of all the classifications can be found in the ESA 2010 manual: https://ec.europa.eu/eurostat/documents/3859598/5925693/KS-02-13-269-EN.PDF/44cd9d01-bc64-40e5-bd40-d17df0c69334#p542

CHAPTER 1 OVERVIEW OF THE SYSTEM OF ACCOUNTS

1.1 Introduction

1.1.1 Finnish national accounts (FNA)

This methodological description contains the descriptions of the compilation methods of the gross domestic product (GDP) and the gross national income (GNI) in Finland in accordance with the European System of Accounts (ESA 2010). Every EU country is obliged to compile a corresponding description, and this description is uniform with the descriptions from other EU countries.

The methodological description includes only a report of calculating figures at current prices, that is, constant priced methods (volume, amount, at previous year's prices) are not discussed in this description. The methodological description includes the general description of the compilation of National Accounts, calculation methods according to various approaches (output, income, expense), account balancing methods, ensuring exhaustiveness of data, and describes the main data sources.

The main Regulation concerning the National Accounts is Regulation (EU) No 549/2013 of the European Parliament and of the Council (ESA 2010). It is based on the revision of the international recommendation on National Accounts System of National Accounts (SNA) 2008. There are also ample specifying legislation and instructions at EU level.

The National Accounts are statistics that are derived from other statistics, where several different source data are often used to assess one set of data. The data may differ from the source data used for the National Accounts. There may also be conceptual differences between the source data and the National Accounts. As examples we could mention capital formation of the National Accounts vs the concepts of fixed assets in business structures statistics and the concept of disposable income between the National Accounts and income distribution statistics. The National Accounts are the only available uniform statistics that describe the entire economic development.

The main data are published simultaneously on Statistics Finland's website for all users. Statistical databases contain more detailed data. A press conference is usually arranged about the first preliminary data, which can also be held only on the web. All published data are also available in the chargeable Astika time series database. In addition, statistical data are reported to Eurostat, the Statistical Office of the European Communities, and thus become published in both Eurostat's and the OECD's databases.

1.1.2 Economic territory of Finland

The economic territory of Finland comprises Finland's geographic territory based on the borders of the country (incl. Åland), excluding foreign countries' embassies and consulates situated in Finland, as well as supranational and international organisations. Finland's territorial enclaves situated in the rest of the world (embassies, consulates, scientific bases,

etc.) are included in the economic territory of Finland. Finland's national airspace and territorial waters, vessels, aircraft and other mobile equipment, when the operator is domiciled in Finland are also included in the economic territory of Finland.

The methodological description of the gross national income in Finnish National Accounts includes descriptions of the source data and methods used when calculating the statistical reference year 2018 with example figures in accordance with the data published in July 2021.

1.1.3 Organisation of National Accounts in Finland

The Finnish National Accounts are compiled in full at Statistics Finland. The National Accounts are one of the main tasks of the Economic Statistics Department responsible for macroeconomic statistics. The Department is divided into six groups, three of which compile national accounts. The National Accounts group is responsible for the compilation of the Annual National Accounts and regional accounts. The Government Finance and Sector Accounts group is responsible for the sector accounts of the National Accounts, excluding the non-financial corporations sector. The Balance of Payments and Financial Accounts group is responsible for the calculation of foreign transactions and financial accounts of the National Accounts. The groups are divided further into teams that are responsible for compiling a particular sub-area of the National Accounts. In addition to the teams, there are some calculation entities that consist of experts from several teams.

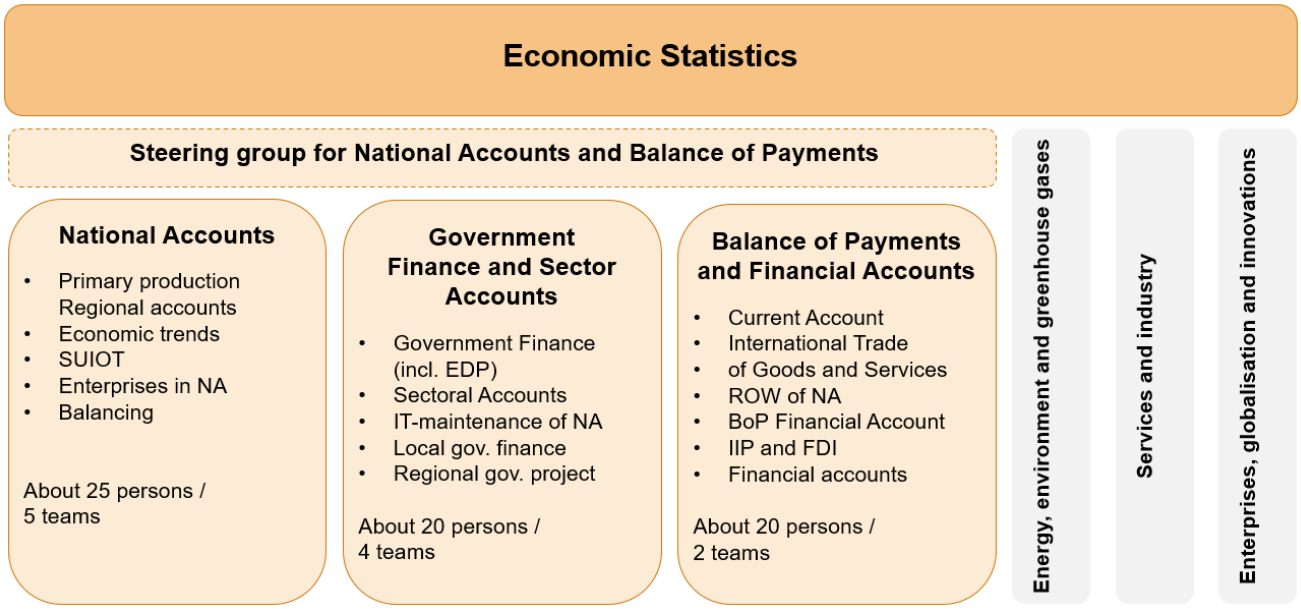

Figure 1: Organisation of National Accounts

Table 3: Tasks of National Accounts

National Accounts	Government Finance and Sector Accounts	Balance of payments and financial accounts
• Regional accounts • Annual National Accounts • Culture satellite accounts • Economic Accounts for Agriculture (EAA) • Quarterly National Accounts • Input-output • Trend Indicator of Output (including flash GDP) • Productivity surveys • GNI reporting	• General government expenditure by function (COFOG) • General government revenue and expenditure • General government deficit and debt • Value of household production • Local government finances by year and quarter • Sector accounts by year and quarter • Taxes and tax-like payments • EDP reporting	• General government financial accounts • General government debt by quarter • Balance of payments and international investment position • Financial accounts by year and quarter • Foreign direct investments • International trade in goods and services

At the end of 2020, altogether 24 persons in the National Accounts group and the Head of Statistics participated in the calculation. In addition to the Head of Statistics, 21 persons work in the area of the Government Finance and Sector Accounts group. Data concerning the rest of the world sector are produced in the Balance of Payments group and there one employee is principally responsible for these data. The calculation of the National Accounts is carried out in matrix-format, where one expert produces data for many sub-systems of the accounts despite their administrative area of responsibility. At the end of 2020, a total of 48 persons of the good 140 people working at the Economic Statistics Department participated in the work of the various sub-areas of the National Accounts. The persons compiling the National Accounts all have university degrees.

The compilation of the National Accounts is organised by sector into transaction-specific task entities for which various teams and calculation groups are responsible. For example, one team is responsible for the calculation of the output and intermediate consumption of the non-financial corporations sector, another for financial and insurance corporations, and one for calculating the corresponding items for general government. In addition, a summary group of around four people works with the routine calculation procedure of the accounts, whose task is to summarise the various task entities into the whole National Accounts. Three to four people participate in the summarising and balancing of the supply and use tables. Fixed-term projects with project groups have been established for renewals.

The Economic Statistics Department does not compile the source statistics of the National Accounts, except for consumer and producer price indices, financial statistics and balance of payment statistics, the compilation of which was moved to the department from the Bank of Finland in 2014. The source statistics are produced in Statistics Finland’s other statistical

departments and partly outside Statistics Finland. At the end of 2020, the personnel at Statistics Finland numbered 768.

1.1.4 Supervisory and control systems for the National Accounts

1.1.4.1 *Risk management*

The performance of a regular and comprehensive analysis of potential risks in the main data sources and methods used, and the application of actions aimed at managing and minimising these risks.

Each department agrees annually with the Director General on the work and development programme. When the work programme has been drawn up, the Economic Statistics Department discusses with the units responsible for the main source statistics at department meetings and, where necessary, at separate meetings (business statistics, price statistics). In the annual planning process, there are also meetings with service departments like the IT department. Development projects are planned in the specific development area process of the National Accounts and balance of payments over a time span of several years.

Statistics Finland has a steering group for all statistics production departments (for Economic Statistics the *Information and Statistical Services* steering group) that discusses and prepares decision-making matters related to statistics production.

The annual statistical programme and release calendar for all statistics is a part of Statistics Finland's normal planning process. The management monitors their implementation regularly. Statistics Finland concludes an annual performance agreement with the Ministry of Finance.

Statistics Finland also has a special (secret) plan for extraordinary circumstances (an emergency plan), which prioritises which statistics will be produced in extraordinary circumstances: the National Accounts and its main sources are in the first priority group.

In order to maintain and increase good communication between National Accounts and source statistics there is a cooperation group with source statistics. During the calculation process of the National Accounts, persons responsible for each source statistics are invited to participate in the so-called adjustment meetings and members of the cooperation group are invited to the information meetings concerning the National Accounts calculations and results before publication.

The cooperation committee with the main users of the National Accounts (FNA group) also meets regularly. The committee informs about and discusses important issues going on in the field of the National Accounts. The group supplies valuable feedback on the results of the National Accounts calculations.

Due to personnel turnover, Statistics Finland and especially the National Accounts have paid attention to transferring knowledge from old staff to younger employees (job orientation, mentoring system, improving documentation and developing a system for deputies).

1.1.4.2 *Service level agreements*

Formal service level agreements are made with many institutes. These include the Board of Customs (foreign trade statistics), Bank of Finland (responsibility for Balance of Payments before 2014, part of financial market statistics, etc.), Fiva (Financial Supervisory Authority), TELA (Finnish Pension Alliance), Trafi (Finnish Transport Safety Agency), Tax Administration, and so on.

Inside Statistics Finland, the above-mentioned statistical programmes and their regular follow-up in directors' meeting and agreements of each department with the director general are considered adequate and no formal agreements are needed within Statistics Finland. In addition, the above-mentioned annual planning meetings for the National Accounts with the main source statistics and the department responsible for IT serve this purpose.

1.1.4.3 *Quality reports*

Statistics Finland follows the principles of the EFQM (European Foundation for Quality Management) model in its activity. The agency is a key corporate member of Excellence Finland.

Statistics Finland observes the European Statistics Code of Practice [2] approved by the European Commission and supports other producers of Official Statistics of Finland in their development of quality and implementation of the Code. Statistics Finland also organises training in matters related to the quality of statistics and quality development. A Peer Review on compliance with the guidelines was conducted in 2014 [3].

The quality principles and good practices of statistical work have been gathered into the guidelines, *Principles of official statistics*, which are updated at regular intervals of a couple of years[4].

[2]Further information at: https://www.stat.fi/org/periaatteet/laadunhallinta_en.html
[3]See the report at: http://ec.europa.eu/eurostat/documents/64157/4372828/2015-FI-Report/688a9a11-741e-4311-b2f8-a0943104c933
[4]Further information at: https://www.stat.fi/org/tilastotoimi/tilastoperiaatteet-ja-laatu/virallisen-tilaston-periaatteet.html (in Finnish)

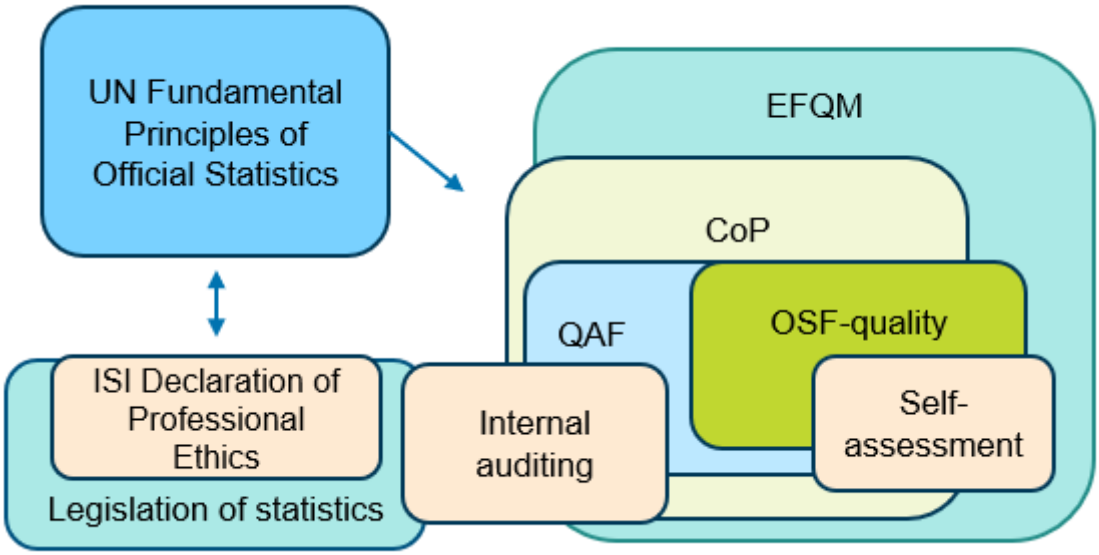

Figure 2: Framework of Statistics Finland's quality management

For published official statistics, there are quality criteria[5], which consist of nine criteria including a criterion that every set of statistics should contain a quality report. So-called quality descriptions [6] are published on the website of every statistical product (at least in Finnish). There are special guidelines for correction procedures if mistakes have been found in the published data. Main source statistics (e.g. SBS and Business Register) compile regular quality reports for Eurostat.

Ethical principles are also closely related to the quality of statistics. Statistics Finland has published Guidelines on Professional Ethics[7] in 2014. The Guidelines are based on the Declaration on Professional Ethics adopted by the International Statistical Institute and reflect its principles from the perspective of the National Statistical Service in Finland.

The purpose of the Guidelines is to explain the general principles governing Statistics Finland’s activity and to help resolve ethical problems. Compliance with the principles of statistical ethics is the fundamental obligation of all statistical authorities.

The publication is intended for the employees, customers and stakeholders of Statistics Finland. It is also recommended for people working in other organisations producing statistics.

[5]Further information at: https://stat.fi/org/tilastotoimi/quality-criteria_en.html
[6]Examples of quality descriptions of statistical products:
https://stat.fi/en/statistics/documentation/ssij and
https://stat.fi/en/statistics/documentation/tyti
[7]Available at:
http://www.stat.fi/tup/julkaisut/tiedostot/julkaisuluettelo/yksk30c_201400_2014_12560_net.pdf

1.1.4.4 *Supervisory controls performed by management*

During the compilation process of the Annual National Accounts, a special team led by the team leader (summariser) of the Annual National Accounts checks the calculations in meetings attended by the teams responsible for each area and statisticians from source statistics. For the Quarterly Accounts, these kinds of checking meetings are also organised. Information meetings for the whole staff and source statistics are organised when the calculations are almost finished.

In the Annual National Accounts, each team/researcher is responsible for writing a report on their special area after the calculation round. Besides the latest developments in the area concerned, the report also consists of a description of the main methodological changes.

In recent years, the Economic Statistics Department has developed a system for documentation and controlling of processes of statistics including detailed work instructions. They are updated as part of building of a new information system.

The information system for the National Accounts provides tools for better documentation of calculations from source statistics to results (the model is taken from the GNI process tables), as well as tools for analysing the results. A preliminary report on the new information system for the National Accounts has been started.

1.1.4.5 *Internal audits*

The internal quality review and auditing system suitable for any statistics production process in Statistics Finland started in 2007. Annually, about five to ten different source statistics for the National Accounts are audited, so far, e.g. the building cost index, producer price index and producer price index for services, statistics on renovation building, statistics on trade, balance of payments and international investment position, the Business Register, and statistics on industrial output. Among the National Accounts statistics the Regional Accounts, Financial Accounts, Sector Accounts, Quarterly National Accounts, Trend Indicator of Output and Annual National Accounts (2016) have been audited over the years.

The main objectives of the regular statistical audit system are:

1) To evaluate and question ways of working, methods and techniques, leading to development proposals at the end of an audit process;
2) To identify and search for good practices used by different statistics and disseminate (by the steering group) them at the organisation level;
3) To increase knowledge by bringing together experts from different parts of the organisation, and to introduce more discussion into the organisational culture. This is a valuable part of the system.

The objectives relate to the entire production process including planning and management, staff competency, contacts with users, data collection,

data processing, dissemination, documentation and archiving, and follow-up, evaluation as well as improvements. Risk management is the main theme throughout the audit procedure. The audit process itself has been designed to be efficient and fast but still useful, and to promote strong participation.

1.1.5 Quality assurance for National Accounts

Quality assurance work is carried out at several stages during the compilation of the National Accounts. The flow graphs below describe the different methods used in the process. The stages are not necessarily carried out in the order indicated by the boxes. One process stage may be repeated several times, and the process itself may be iterative. All stages are not necessarily included in the compilation process, as the order and number of the quality assurance tasks depend on the topic concerned.

1.1.5.1 *Flow graphs describing the quality assurance process*

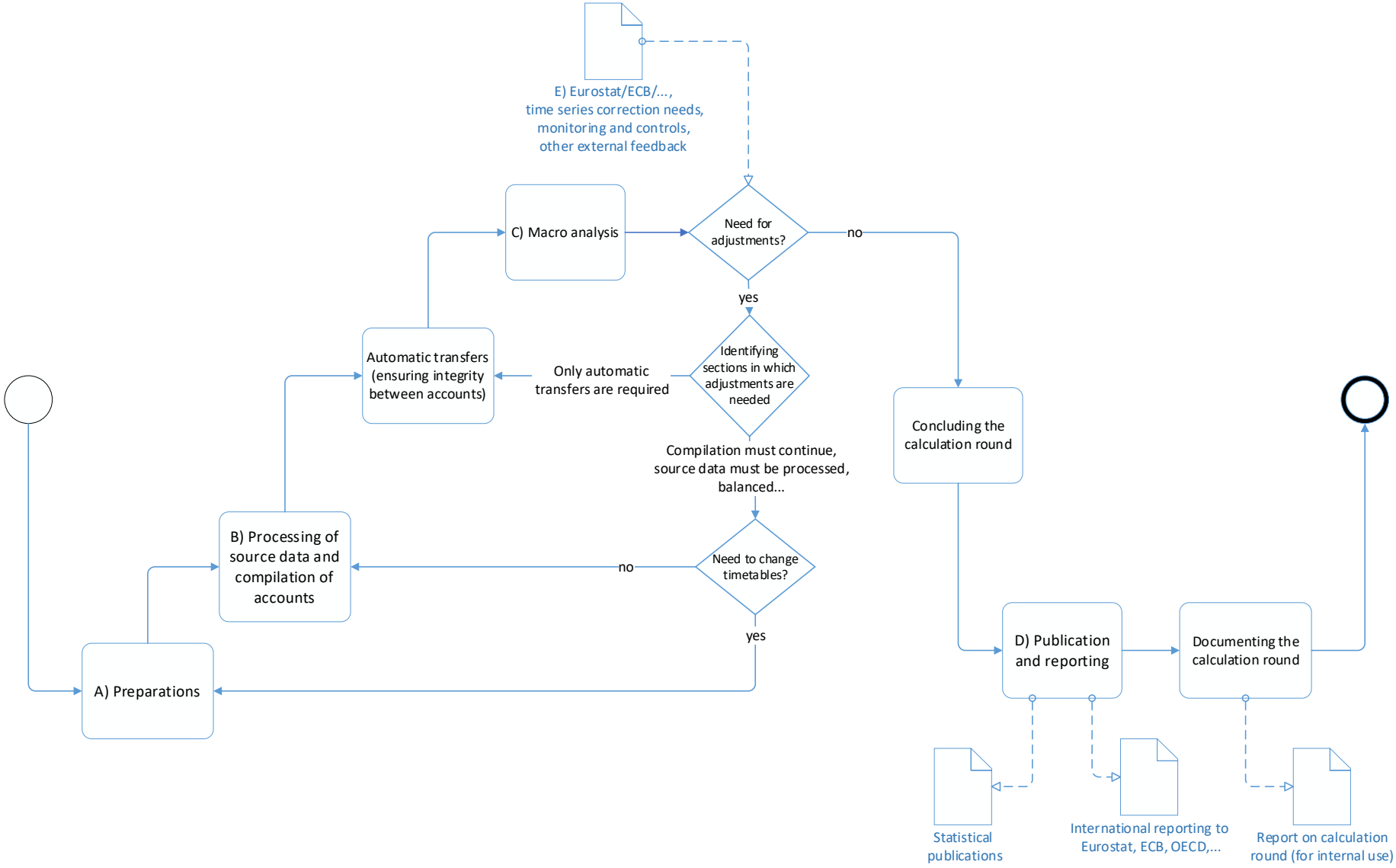

Figure 3: Compilation round

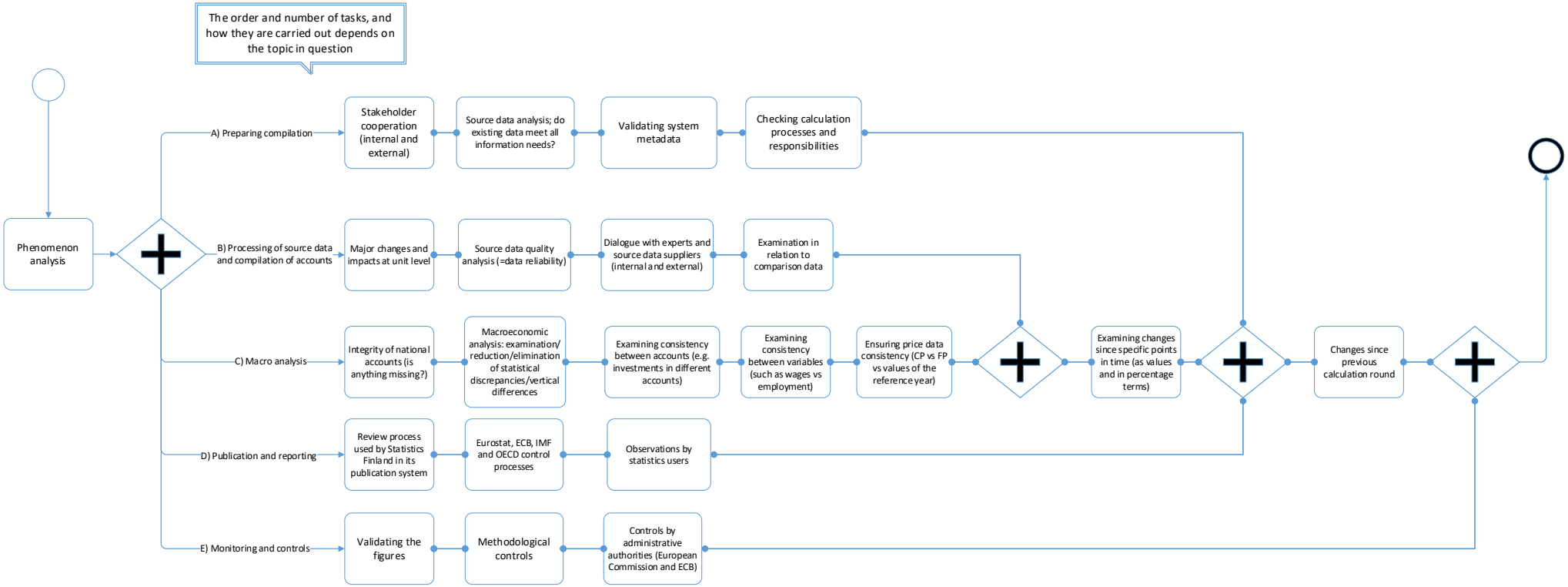

Figure 4: Quality assurance measures at different stages of the compilation round

1.1.5.2 *Preparations*

Before a set of statistics is compiled, preparations must be carried out to ensure that the calculation round can be successfully completed. The preparations concern such matters as information system metadata and source data checks. It is also important to allocate the responsibilities between the participants and agree on the timetables.

1.1.5.2.1 Stakeholder cooperation (internal in Statistics Finland and external)

Stakeholder cooperation is the overarching part of the statistics compilation process. Stakeholder cooperation is carried out before, during and after the compilation of the statistics. Stakeholders can provide advance information about such matters as changes in source data or phenomena that must be taken into account as the statistics are compiled. Advance knowledge of the factors potentially impacting the compilation process will facilitate the process itself.

1.1.5.2.2 Source data analysis: do the existing data meet all information needs?

Before the compilation work, it is ensured that all necessary data are available when required, and that they still meet all information needs. If necessary, alternative data sources are examined at this point. Additional data (comparison data) are also used alongside primary data. Every effort is made to include all data relevant to the phenomenon in question in the national accounts. A large proportion of the data included in the national accounts can be obtained from the basic statistics compiled by Statistics Finland (such as business statistics). Administrative registers (such as the Incomes Register) and statistics compiled by other government agencies are also used. For a more detailed description of the source data, see CHAPTER 10.

1.1.5.2.3 Checking system metadata

The system metadata is checked, these checks are carried out to ensure that the versioning and other variables of the planned calculation round (such as the period covered by the data) are correct. Database integrity must also be ensured. This is done by specifying which classification combinations are logically possible. The purpose of this work, which is carried out partly in advance, is to prevent impossible classification combinations (for example, sector *S121 Central bank* + industry *017 Hunting*) generated by such actions as input or code errors.

1.1.5.2.4 Checking calculation processes and responsibilities

Before the compilation process, the summarisers of the calculation round must ensure that persons have been designated to compile individual parts of the statistics, and that each person participating in the calculation process knows their responsibilities and timetables. All experts involved must know each other’s responsibilities, internal timetables and the publication timetables of the finalised statistics. The compilation timetables are regularly reviewed in joint information briefings attended by all the experts taking part in the compilation of the national accounts.

1.1.5.3 *Processing of source data and compilation of accounts*

As a rule, several persons take part in the processing of the source data and the compilation of the accounts, and each has their own areas of responsibility (such as an economic sector or an industry). A wide range of standard and automated checks is carried out to remove the most significant errors from the data. Manual checks are also carried out as necessary. The national accounts become more comprehensive as more source data are processed, but the overall picture of the trends in the Finnish economy will only become clear when all accounts have been entered into the compilation system.

1.1.5.3.1 Major changes and impacts at unit level

The compilation process starts with data checks at micro (unit) level (Business ID/product/establishment). The micro data checks are often carried out on a programmatic basis. The purpose of the checks is to identify major changes that may indicate errors in the data.

1.1.5.3.2 Source data quality analysis (= reliability of the data)

The Finnish national accounts are based on the Statistics Finland's quality criteria as applicable. When examining the source data, experts pay attention to a variety of different quality criteria (for example, the data must be exhaustive and comprehensive). For example, the data on general government finances are usually comprehensive and of high quality, but business data may be of uneven quality. The work input allocated to the analysis of the source data quality depends on the estimated data quality. If data deviations are found as the calculation progresses, the data will be checked more carefully, reasons for the deviations are determined, and relevant stakeholders are notified of the matter. The quality of the source data is therefore a key consideration as the work progresses.

1.1.5.3.3 Dialogue with experts and source data suppliers (internal in Statistics Finland and external)

During the compilation of the accounts, a need often arises to conduct discussions and check figures with Statistics Finland experts on basic statistics or suppliers of external source data. Experts from Statistics Finland and from outside the agency may also hold useful views on such matters as developments in a particular sector, or they may be aware of changes or a major phenomenon affecting the sector. It is essential to take these views into account as the figures are compiled so that quick action can be taken to correct any inconsistencies.

However, the results of the compilation process will only be reviewed with parties outside Statistics Finland after the statistics have been published. An exception to this rule is the review of the balance of payments figures with statistical experts of the Bank of Finland at the end of each compilation round before the data are published by Statistics Finland on its website.

1.1.5.3.4 Examination in relation to comparison data

Other data describing the same matter are used as comparison data. Comparison data can be found in the statistics produced by Statistics Finland and in the statistics published by other bodies such as other Finnish statistical authorities. The amount and availability of the comparison data vary depending on the topic in question. Such sources as *exploreadministration.fi* are used as external comparison data. Such sources as the labour force survey and wage and salary statistics produced by Statistics Finland are used as internal comparison data for wages, salaries and employed persons. To ensure a coherent overall picture, the comparisons are made before the final estimate. If necessary, the publishers of the comparison data are also contacted at this stage if differences are found. Summarisers and experts must ensure in each calculation round that an economic phenomenon/transaction is treated in the same manner and based on the same sources in different parts of the account systems. This is the responsibility of each expert, and they are also responsible for ensuring the consistency of the process.

1.1.5.4 *Macro analysis*

Quality checks for the macro analysis are carried out after each account has been carefully calculated, and all data have been combined. Instead of the persons compiling the accounts, this task is carried out by the summarisers of the calculation entity, and it is a key part of their work. The summarisers review the figures from this perspective once all the data have been entered into the macro database of the national accounts for the first time.

1.1.5.4.1 Integrity of the national accounts (is anything missing?)

Ensuring that all necessary content has been entered into the accounts (no figures are missing) constitutes the first stage of the quality assurance process. The relationship between the figures and their feasibility from the perspective of the economy as a whole can only be examined at this stage.

1.1.5.4.2 Macroeconomic analysis: examination/reduction/elimination of statistical discrepancies/vertical differences

A macroeconomic analysis of the different parts of the national accounts is carried out from different perspectives, and the summarisers of the compilation round are tasked with assessing such factors as the horizontal difference.[8] They assess the logical feasibility of demand and supply in relation to each other and to the views on past and current economic trends. The group of summarisers, which also includes the summarisers responsible for the different types of national accounts, reviews the situation and assesses the need to balance the statistical discrepancy. At the same time, they examine whether demand or supply is more heavily affected by uncertainty. All areas of the national accounts are reviewed in the same manner, and the matters can be examined from the perspective of

[8] Horizontal difference describes the difference between demand and supply.

vertical differences, for example.[9] Several such reviews are carried out during the process.

At the end of the compilation process, each type of national accounts is examined at a separate summary meeting, in which the compilation work and any uncertainties affecting it are reviewed against the background of any balancing needs, and the changes required to balance the figures are made. If necessary, this stage is also repeated several times during the final stages of the compilation round. The suppliers of the statistics used as source data are also invited to the final summary meeting. Types of national accounts are for example quarterly, annual, sector and financial accounts.

1.1.5.4.3 Examining consistency between accounts (such as investments in different accounts)

As a rule, the information system used in the national accounts ensures data consistency between accounts on a programmatic basis. However, to achieve this, data must be transferred between accounts in a process that must be started manually. Several minor consistency items are updated manually in different accounts. Consistency reports are produced at different stages of the compilation process to identify any outliers and other inconsistencies.

1.1.5.4.4 Examining consistency between variables (such as wages and salaries vs employment)

Consistency between variables means that all data in the national accounts must suit the 'big picture' and be reasonable in relation to each other. In the summary of the national accounts, measures are taken to ensure that the development in wages, salaries and employment by industry, and the economy as a whole are consistent and uniform. At this stage, checks are also made to ensure that the results are consistent with the comparison data.

1.1.5.4.5 Ensuring price data consistency (CP vs FP vs reference year values)

During the compilation stage, the national accounts data are first calculated at current prices (CP) for all sectors. However, when the balance of demand and supply is calculated, they are also converted into fixed-priced items (FP) using price indices so that they can be compared with data from earlier periods. After conversion into fixed-priced items, the data are reviewed by product, and the accuracy of the fixed-price series is checked. If necessary, the weight structures of the price index are examined more closely, and their suitability for the product group in question is checked. At this stage, corrections to the fixed-price value of the data can also be made.

1.1.5.5 *Publication and reporting*

In addition to the production of the release text and the creation of tables, publication of and reporting on statistics also include several other tasks.

[9] Vertical difference means the statistical discrepancy between net lending/net borrowing in financial and non-financial accounts.

During the publication and reporting stage, the data must undergo several internal and external checks. After publication, the parties that compiled the statistics must answer the questions from the users of the statistics, among other things.

1.1.5.5.1 Review process used by Statistics Finland for its publication system

The tables containing the statistical data can only be published on the Statistics Finland website after they have undergone the joint programmatic review processes of Statistics Finland. The focus in the validation of the publication system is on the structures of the tables (classifications and categories) rather than on their content (accuracy of the figures).

1.1.5.5.2 Reviews carried out by Eurostat, the ECB, the IMF and the OECD

There are significant differences between the review processes used by the organisations receiving the data, depending on the organisation and the data supplied to them. The supply of the statistics often involves a technical review process created by the organisation receiving the data. As a rule, it consists of the sending of the data, reviews and possible contacts. The focus in the review is on consistency and revisions.

Some of the data are already checked by Statistics Finland using automated processes before the data are sent. In these processes, the reporting system gives an alert if there are data-related inconsistencies between different parts of the account systems, for example. In such cases, the data can only be delivered to the recipient once the errors have been corrected. Recipients may request further information if there are significant differences in data between deliveries.

1.1.5.5.3 Observations made by users of statistics

A large amount of statistical data is published as part of the national accounts, and the data are used by experts familiar with the different topics. Statistics Finland receives feedback and questions on quite specific matters such as the accuracy of the figures in different parts of the account systems or the credibility of the figures against the background of the prevailing economic situation. The questions are read thoroughly, and the answers are sent without delay. If necessary, the errors are corrected in the error correction process specified by Statistics Finland.

1.1.5.6 Monitoring and controls

The statistics compiled by Statistics Finland are monitored by several national and international official bodies. The methods used to compile the data also undergo detailed checks and evaluations from time to time. EU-level administrative processes are also launched from time to time.

1.1.5.6.1 Checking the figures

The production of statistics by Statistics Finland is monitored by a large number of external bodies. National controls are carried out by such bodies as the Bank of Finland and the National Audit Office of Finland, while international controls are performed by several international organisations such as Eurostat, the ECB, the OECD and the IMF.

The Advisory Board of Official Statistics of Finland OSF[10] has prepared a recommendation for quality reports, which the OSF producers will start using by 31 December 2025 according to their own timetables. In future, each set of OSF statistics must be accompanied by a quality report or (during a transition period) a quality description. The quality report describes such matters as the quality and reliability of the statistics and their suitability for different purposes. The quality report is published simultaneously with the statistics so that it is easily accessible to the data users. Statistics Finland is already using the new structure in its own statistical releases.

1.1.5.6.2 Methodological controls

The methods are assessed nationally and internationally, and the revisions prompted by the assessments are usually carried out in connection with benchmark revisions. The methods used in the compilation of the national accounts are specified in an EU regulation and in the manuals detailing its provisions. This means that the statistics must be compiled in accordance with the manuals. Methods may also have to be revised if there are unforeseen changes in the economic situation, data sources are no longer available and/or they are replaced by new sources.

1.1.5.6.3 Controls carried out by administrative authorities (the European Commission and the ECB)

Statistics Finland participates in several EU-level administrative processes as a rapporteur. They include GNI (gross national income), EDP (excessive deficit procedure) and MIP (macroeconomic imbalance procedure).

Quality assurance work concerning the GNI and EDP is based on EU legislation. Eurostat supervises the accuracy and uniformity of GNI data based on the GNI inventory in verification cycles lasting several years, which include review visits, assessments of the methodological description and the annual verification of GNI data.

EDP work includes regular review visits, in which the compilation methods used and classification issues are inspected, and reported figures are reviewed.

The quality assurance work carried out by Eurostat may result in action points and reservations. A timetable is prepared for addressing them, and the process is monitored by Eurostat. Quality reservations lead to a separate investigation process, which will only end once the reservations have been addressed.

In connection with the supply of both GNI and EDP data, Eurostat verifies the data, requesting information about the figures, their background, compilation methods and such matters as classifications of transactions.

MIP quality assurance work is jointly carried out by Eurostat and the ECB. The progress of the work is monitored on an annual basis. In addition to producing a progress report, Statistics Finland reports on the completion of individual data sections to Eurostat and the ECB during the year.

[10] https://www.stat.fi/org/tilastotoimi/advisory-board-official-statistics-finland_en.html

1.1.5.7 Quality assurance work across process stages

The overarching quality assurance measures described below are shown in Figure 2 (Quality assurance at different stages of the compilation round), and each of these stages of the quality assurance process is checked in full or in part. The different stages of the quality assurance process are described in the following sections: 1.1.5.2 Preparations; 1.1.5.3 Processing of source data and compilation of accounts; 1.1.5.4 Macro analysis; 1.1.5.5 Publication and reporting; and 1.1.5.6 Monitoring and controls.

1.1.5.7.1 Phenomenon analysis

In addition to their basic duties, the persons compiling the statistics must be familiar with changes and developments in the topics covered by the statistics so that the statistics can be kept up to date. In a changing world, phenomenon analysis is extremely important and may result in the replacement of source data or methodological changes if the change is expected to be permanent. This applies to all the stages of the quality assurance process referred to above.

1.1.5.7.2 Examining changes since specific points in time (as values or in percentage terms)

The checks are always carried out at a level ensuring maximum accuracy. During the compilation process, the data are reviewed from the perspective of time series as accurately as is feasible. At this stage, new calculated figures are compared with the previous figures of the time series, while the whole time series is compared with the time series produced in the previous calculation rounds so that any errors and inconsistencies can be found. Occasionally, a suspicious change at unit level may involve a single value deviating from the time series, or a level shift, or the time series may have completely changed. In addition to values, it is important to examine percentage changes and compare figures with the figures preceding them. If any deviations are found at this stage, the source data are re-examined to locate the source of the deviation. This primarily applies to the sections 1.1.5.3 Processing of source data and compilation of accounts; and 1.1.5.4 Macro analysis.

1.1.5.7.3 Changes since the previous calculation round

The examination cannot be limited to comparisons between figures of the same calculation round. Instead, the figures for the same and earlier periods produced during the previous calculation round, and how much they differ from the figures of the calculation round in progress, must also be checked. The number and size of the revisions considered as normal depend on the source data, phenomena and time series in question. The national accountant compiling the statistics must check the scale of the revisions[11] in the figures of the time series and the length of the period during which the revisions usually occur. After finding answers to these questions, the

[11] In the compilation of the national accounts statistics, Finland complies with the EU's common revision policy: https://ec.europa.eu/eurostat/documents/3859598/9530664/KS-GQ-18-012-EN-N.pdf.

compiler has a better picture of whether it is a question of a normal process of the data becoming more accurate, or whether past data should be checked to determine the reasons for the discrepancies. This primarily applies to the sections 1.1.5.3 Processing of source data and compilation of accounts; 1.1.5.4 Macro analysis; and 1.1.5.5 Publication and reporting.

1.1.6 Information system of the National Accounts

The National Accounts and the Balance of Payments operate side by side in the same information system. Technically, the information system comprises two frameworks, which are divided into eight compilation systems and further into 42 subsystems. Statistics production takes place on the subsystem level. Each compilation system has a normalised SQL database built into a star model. Each system also has its own calculation application (.NET) with which the SQL database in question can be viewed and edited directly.

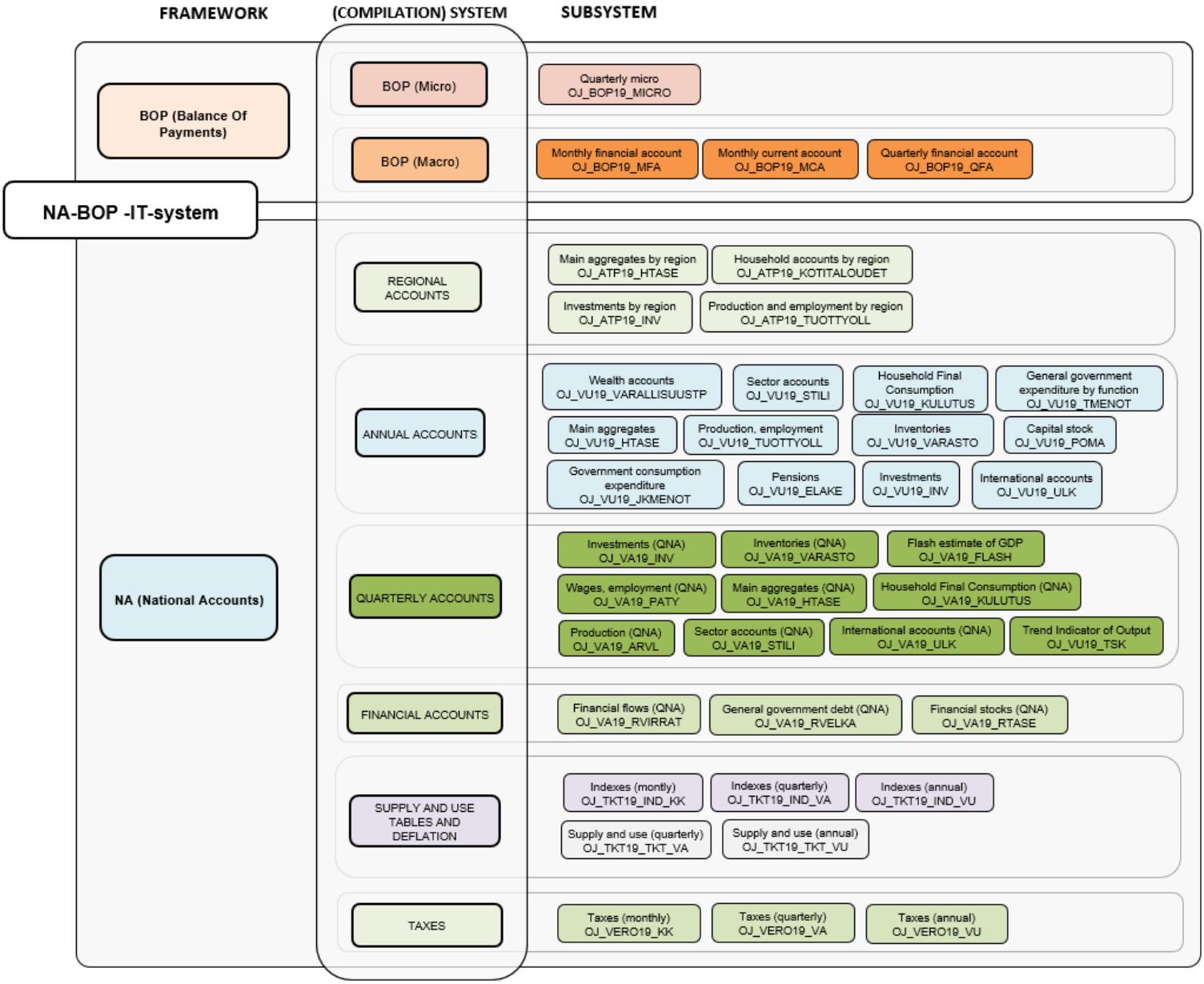

Figure 5: IT-system structure

The compilation process of the National Accounts can be divided roughly into three parts: 1) processing of source data, 2) macro editing and analysis, and 3) publication and reporting.

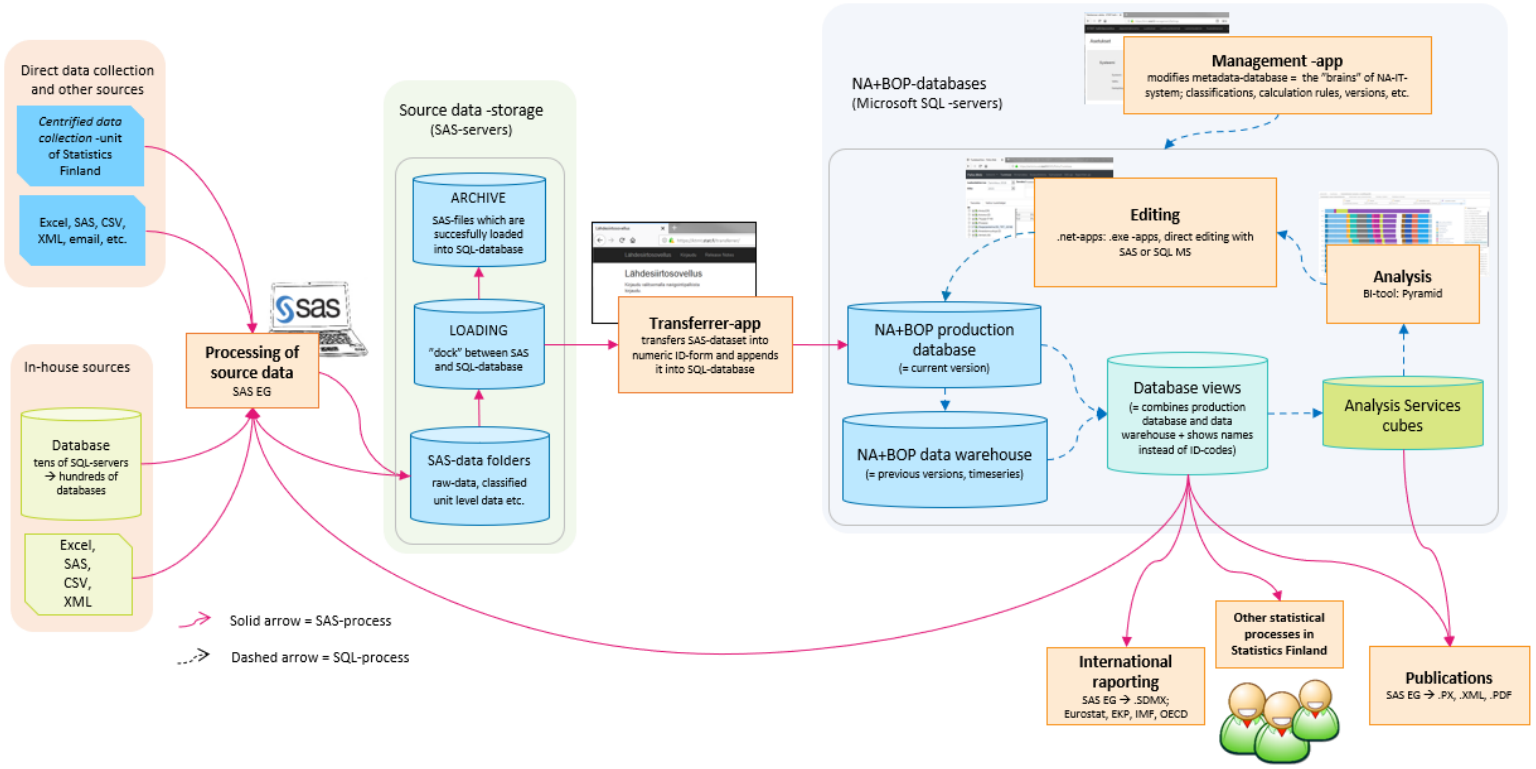

Figure 6: Process flow chart of the information system of the National Accounts and the Balance of Payments

The source data is processed with SAS projects that have been created according to a uniform model. All the SAS programs used in production and related control/link tables and other auxiliary files are updated and run through a version management software. The SAS Enterprise Guide is used as the main SAS software.

Most of the source data used by the National Accounts come from Statistics Finland's internal databases. Some data deficiencies are also supplemented from external databases/data sources or by direct data collections.

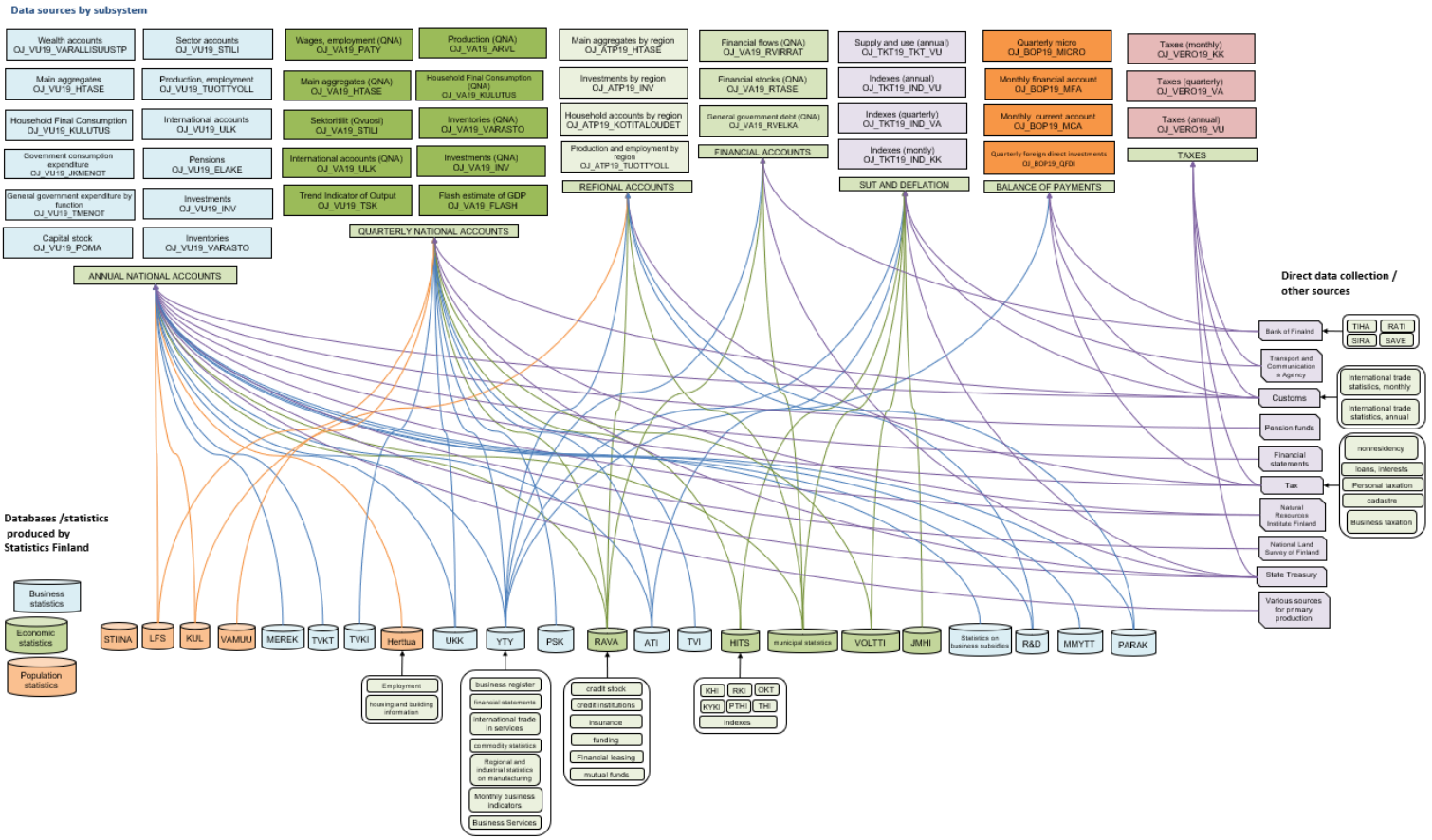

Figure 7: Data sources by subsystems

The original format of the source data varies (SQL, CSV, JSON, XLSX, SAS, …) but all source data are saved as unedited raw data versions into SAS tables on the SAS server. The files are processed further with SAS: classifications according to the National Accounts are derived to the data (e.g. sector, industry, transaction) and possible conceptual corrections according to the National Accounts are made. In the source data process, data processing is carried out on the most detailed source data level possible and, simultaneously, the correctness of data is checked, for example, coverage, changes from the previous year, links between variables, classifications and general consistency.

Aggregated data are then stored on the SQL server for macro analysis and editing. The SAS files aggregated to the calculation classifications of the National Accounts are uploaded into the SQL database with a separate user interface. After the files are transferred to the SQL database, all the individual sources are summed into *sources total* process and other necessary processes, all the way to the *final result* process. In addition, calculation rules are also performed in the direction of the accounting system. An example: output and intermediate consumption data *are entered* into the database and the information system *calculates* the value

added from these with the help of the calculation rules.[12] See examples of the calculation rules in ANNEX 10.

Source data that cannot be directly found in databases or in electronic sources can also be compiled and entered manually into the information system. These data are compiled into fixed format files that follow the classifications of the National Accounts, e.g., in Excel. The dependency on Excel has gradually reduced in the compilation of the National Accounts and the aim is to discontinue its use completely in suitable parts in the long run.

Data between the sub-systems stay consistent with the help of automatic transfers and benchmarking between the sub-systems. When processing source data, it is uploaded into the information system only once; to the sub-system where the data are needed on the most detailed level. For example: market output (P1) is calculated *by industry* in its own sub-system, but the same data are also utilised in more aggregated form elsewhere in the system. Figure 8 shows a summary of connections between sub systems through automatic data transfers.

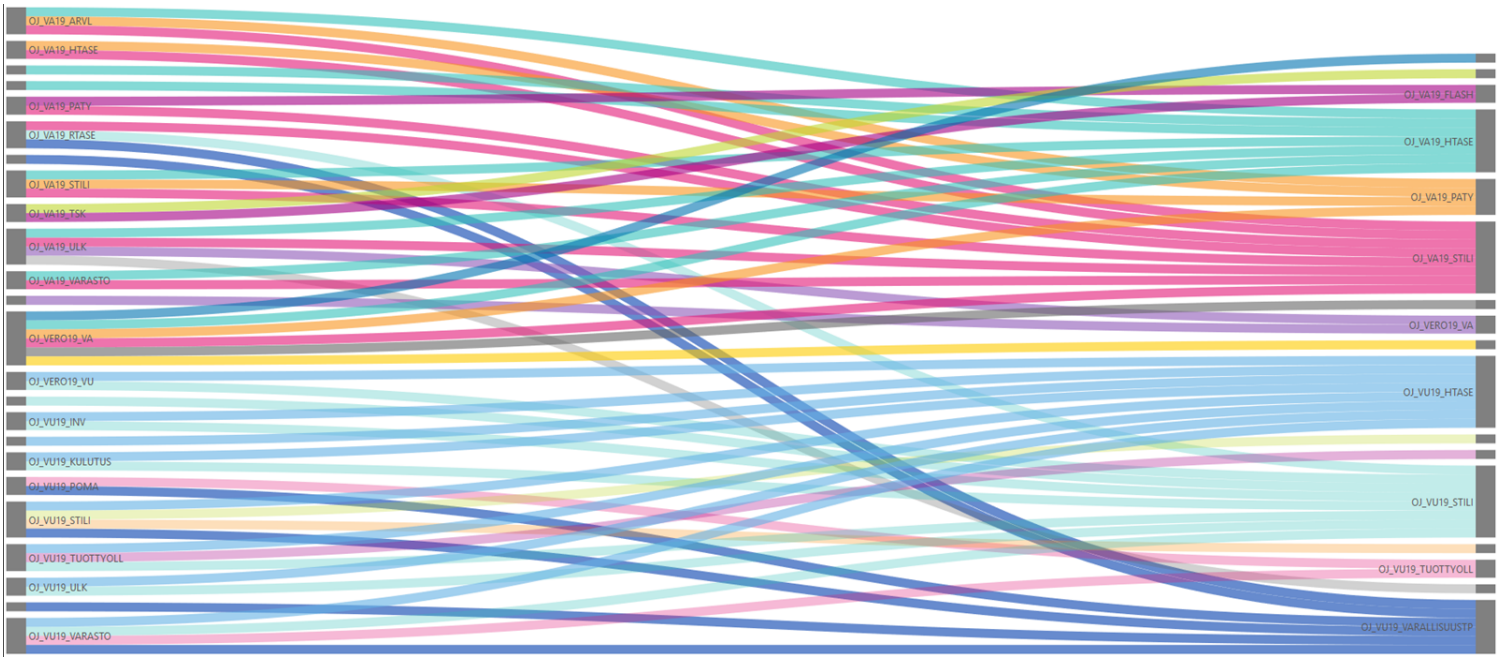

Figure 8: Automatic data transfers between subsystems

IT-system consists variety of calculation-related functions, such as fixed pricing, extrapolation, benchmarking, seasonal adjustment, data transfers between subsystems and so on. The features are implemented as SQL procedures that the user can call through the calculation applications.

[12]When selecting data from the information system to the process table appendix of the methodological description, there may be rounding differences compared with the final result of the information system due to the *direction* of calculations and aggregations. In the information system summing over the source processes is made from unrounded figures. In the process tables point of view, rounding must already be done to the summary levels of source processes. Possible rounding differences compared to the published figures have been taken to the biggest processes. A picutre example of this can be found in the process table appendix.

For analysis and visualisation purposes the information system has an analysis services (AS) layer which adds imputed variables, such as change percentages and aggregates, to the data stored on the SQL server. These "cubes" of the AS server are read with the BI software *Pyramid*. In addition to Pyramid, calculation applications for editing the database and SAS programs are utilised in data analysing.

The information system of the National Accounts and Balance of Payments is based on a common metadata model for all the sub-systems, where for example classifications, calculation rules or aggregates are maintained centrally.

The National Accounts' information system has its own process categories for macro level editing and balancing. In practice, part of this editing, for example, part of error corrections, are made directly in the source data. For example, the source data can generate a new version that takes into account the comments provided by the National Accounts, or some corrections are made centrally in the source data processes. More information on the exhaustiveness and balancing procedures is given in Sections 1.6 and 1.7.

Each edit made with the calculation application generates metadata in the joint metadata table. The revised cell, the magnitude of the correction, the person who made the correction, the correction time and a comment on the correction are recorded in the metadata.

Each completed calculation round is saved as a separate entity into the SQL database so that it is easy to perform, for example, revision examinations.

PxWeb database tables required by Statistics Finland's publishing system are produced from completed statistics with SAS for national statistical releases. SDMX format files are created with SAS and an SDMX-converter for international reporting (Eurostat, ECB, OECD, IMF).

1.2 The revisions policy and the timetable for revising and finalising the estimates; major revisions since the last version of the GNI Inventory

1.2.1 Revision policy

Several versions of the National Accounts for each statistical reference year are compiled. The completion schedule of the versions is presented in Section 2.1.3. All the data available at the time of compiling each version are utilised, so the National Accounts become gradually revised. The final figures are published about two years after the end of the statistical reference year. When statistical data are published nationally, they are also delivered to Eurostat and the ECB.

The revision policy of the National Accounts was reviewed in 2019 in line with the Harmonised European Revision Policy (HERP).

In the review, the publication schedule changed for annual data, while the times of monthly and quarterly releases of national accounts and balance of payments remained unchanged. The release dates of annual data in January and July were abolished.

The annual releases are now scheduled based on the European Harmonised Revision Policy in March, June, September and December when quarterly data are also published at each time. Preliminary annual data are revised in connection with each quarter. In March, annual national accounts data are updated concerning the two previous years. In June and September, two previous years are updated, in December only the previous year.

The focus of the calculation of the National Accounts has shifted to quarterly national accounts, where the aim is to improve the data basis especially in terms of investments. The calculation method for value added in quarterly national accounts has also been revised by utilising the volume data of Statistics Finland's volume index of industrial output and the statistics on the turnover of service industries more extensively. In addition, a more extensive division of data into the public and private economy has been made in the quarterly national accounts.

Since the previous methodological description, no such removals of reservations have not been made that would have had an effect on gross national income.

1.2.2 Timetables for data checks

The first preliminary data for the year t are completed at the end of February of year t+1 in connection with the Quarterly National Accounts. The data content is less extensive than in the actual Annual National Accounts and corresponds to the data content of the Quarterly National Accounts. The first version to be published in mid-March also contains preliminary data on the entire data content of sector accounts for all sectors.

The Quarterly Accounts concerning the other quarters have since 2018 been completed in 60 days after the end of the quarter, in 2011 to 2017 the delay was 65 days from the end of the quarter, and previously it was 70 days.

The second version of the Annual Accounts is completed in mid-June of year t+1. At this time, the National Accounts for year t are for the first time compiled for all non-financial accounts and at an accuracy of around 100 industries. The supply and use tables are not compiled at this time.

The third version is completed in September and the fourth version in December.

The fifth version is completed at the end of February of year t+2. The sixth final version based on the supply and use tables is published in December of year t+2. Supply and use tables and input/output tables based on them are published in November of year t+2.

Table 4: Completion times of different versions of the Annual National Accounts for year

Version	Month of completion
1.	t+1 March
2.	t+1 June
3.	t+1 September
4.	t+1 December
5.	t+2 February
6.	t+2 December

1.3 Outline of the output approach

1.3.1 Framework

The output approach is dominant in the Finnish National Accounts when calculating the gross domestic product. The expenditure approach is also considered when accounts are balanced.

Gross value added at basic prices is the sum of sector-specific gross value added. The final figures are calculated and balanced by product in the supply and use tables. When product taxes are added and subsidies on products are subtracted from the gross value added at basic prices, the gross value added at market prices or gross domestic product is derived.

1.3.1.1 *Statistical unit*

The statistical units of the output approach of the Finnish National Accounts are product, establishment, producer type and institutional unit. An establishment is a production unit that is owned by one enterprise, or a quasi-corporate unit, located on one site and produces goods and services of mainly one particular type. An establishment equals a local kind-of-activity unit as defined in ESA 2010. The basic angle of view of the National Accounts is, however, the institutional sector that is also used as the basic frame for industry-specific examination.

1.3.1.2 *Classifications*

Production and income formation accounts at current prices are compiled with three classifications: classified by industry, producer type and institutional sector.

1.3.1.2.1 Classification of Sectors

The Classification of Institutional Sectors is the basic classification of the National Accounts. In addition to the production and income formation accounts, the income distribution and use of income accounts, as well as the income formation accounts the capital account and financial account are compiled according to the Classification of Sectors.

1.3.1.2.2 Standard Industrial Classification

The Finnish National Accounts contain 182 industries at the most detailed calculation level and 92 industries at the compilation level. The same calculation level applies in the preliminary calculation. The production and income formation accounts are compiled by industry.

1.3.1.2.3 Classification of producer types

Next to the Standard Industrial Classification, the establishment-based Classification of producer types is also used. The main producer types are: market producers and non-market producers. Market producers are divided into producers for own final use and other non-market producers.

1.3.1.2.4 Product classification

The final figures are based on a product classification comprising 836 products. The classification is based on the CPA2008 classification.

1.3.1.3 *Main data sources*

The main data sources for the output approach are business structural statistics and the Register of Enterprises and Establishments in terms of market producers and producers for own final use, which are used in the calculations of several industries. In addition, several industry-specific data sources are used. In other non-market production, the main data sources are central government's bookkeeping and financial statement material and statistics on local government finances.

1.3.2 Valuation

The calculation accuracy of the Finnish National Accounts is EUR one million, but the accuracy of the source data is usually EUR one or one thousand.

Transactions are mainly valued at market prices, i.e. at the value at which the flows and reserves are actually traded or could be traded for money. If trade values are not directly available, the market prices of corresponding goods, services or assets are used. For example, the output of owner-occupied dwellings is valued based on the rent level of corresponding rented dwellings. When prices for corresponding goods are not available, for example in terms of non-market services produced by public activities, production costs are used in valuation.

Use of products is valued at the purchaser's price. For example, intermediate consumption thus includes transport costs, trade margins and product taxes (incl. value added tax if it is not deductible). Output in turn is valued at basic prices, i.e. it contains subsidies on products but not product taxes or transport costs, nor trade margins.

Transactions are primarily recorded on accrual basis. If this is not the case, it is mentioned separately.

The Finnish National Accounts are for the most parts compiled at fixed prices as well. This description discusses the compilation of the National

Accounts only at current prices. Calculations at fixed prices are referenced only if they are needed to comply the current prices.

1.3.3 Moving from business bookkeeping and administrative concepts to the concepts of the National Accounts

For market producers, the main data source in calculating the output and/or intermediate consumption of most industries is the structural statistics. Structural statistics combine data from the Register of Enterprise and Establishments, the business tax register and a direct inquiry. The concepts of the statistics are based on the concepts of enterprises' profit and loss accounts.

In the output calculation, change in the inventory of finished products, production for own final use, and other operating income are added to turnover according to structural statistics. In other operating income, proceeds from sales of fixed assets are separated from other more permanent income items like rental income. Sales gains from fixed assets are not included in the output.

Purchases during the accounting period (excl. purchases into inventory), purchases of outside services, direct leasing rents, and *other variable and fixed costs* from business structural statistics are included in intermediate consumption.

The use of other main data sources is explained separately under the section in question, for example, the use of statistics on local government finances in connection with calculations on joint municipal authorities.

Finland's source statistics data are extensively based on total data that are collected in accordance with bookkeeping data. Enterprises' bookkeeping data are also the basis for special analyses. The Finnish Accounting Standards Board gives instructions on interpretations of the law and has determined the maximum value for durable goods recorded in intermediate consumption.

1.3.4 Use of direct and indirect estimation methods

The calculation of output and intermediate consumption in the Finnish National Accounts is mainly based on the use of direct estimation methods. Direct estimation methods are the use of structural statistics, the Business Register, financial statements of the state, statistics on finances of municipalities, bank statistics, insurance company statistics, and other total statistics. Indirect estimation methods are, for example, a price times amount type method.

The compilation of the Finnish National Accounts is mainly based on the use of source statistics compiled every year. Benchmark and extrapolation are only used in a few industries when calculating the output.

1.3.5 Basic principles for ensuring coverage

The primary compilation method for the Finnish National Accounts is the output approach. Ensuring coverage is based both on industry-level examination and product-specific balancing in the supply and use tables.

In practice, the main measure to ensure coverage is comparing the data in various source data. Extensive basic data concerning production are the Register of Enterprises and Establishments that covers all enterprises and corporations, as well as entrepreneurs. Another extensive data source used in the calculation of the gross domestic product is the business structural statistics. The database of business statistics combines all business data from the structural statistics inquiry, the Business Register and the business taxation file.

In practice, in addition to these sources, other statistical sources are used industry-specifically. Separate data are received on employment and earnings and comparisons are made with the help of these by monitoring the earnings level changes, productivity changes in calculations, as well as the level and changes in average earnings.

Even though the basic data sources are of high quality, there may be classification and random errors. Depending on the data sources and studies, the share of the non-observed economy is added to industry-specific data. Special analysis and data from tax audits are utilised when estimating the non-observed economy. Revisions are made, for example, in the figures concerning construction, trade, transport, and hotel and restaurant activities.

Data concerning public activities are fully exhaustive because they include all units involved in public activities.

1.4 Outline of the income approach

1.4.1 Framework and valuation

The income approach refers to calculating the gross domestic product by summing up the various income components of the GDP. They are compensation of employees, gross operating surplus (incl. consumption of fixed capital), and other taxes on production minus other subsidies on production.

In the Finnish National Accounts, the gross domestic product is not calculated with the income approach because there is not a reliable enough independent estimate of the gross operating surplus. Thus, the gross operating surplus is calculated as a residual in market production when other income components are deducted from the gross value added.

The various income components of the GDP are calculated using the same industry and producer type classification as the gross value added in the output approach.

Transactions are recorded on accrual basis and not on cash basis. For example, wages and salaries paid and employer's social insurance

contributions are recorded for the period when the work is done and the obligation to pay compensation of employees is generated.

The main data sources used for the income approach are Statistics on local government finances (Statistics Finland), Labour Force Survey (Statistics Finland), Index of wage and salary earnings (Statistics Finland) and Incomes Register (Tax administration). More detailed description is in chapter 10.2.

1.4.2 Moving from business bookkeeping and administrative concepts to the concepts of the National Accounts

The concept of wages and salaries in business bookkeeping and in various source statistics is usually the same as in the National Accounts. A significant exception from this is benefits in kind. On the other hand, in the National Accounts, benefits in kind also include benefits in kind exempt from tax, which are not always included in wages and salaries in business bookkeeping but may be included in other operating expenses or indirect staff expenses. In the National Accounts, employee stock options are also included in wages and salaries.

The concept corresponding with employer's social insurance contributions in business bookkeeping and many source data is indirect staff expenses, which are usually not divided into payment types. In the National Accounts, industry-specific employer's social insurance contributions are usually calculated with the so-called payment per cent method.

Consumption of fixed capital is in the National Accounts calculated completely with the perpetual inventory method and depreciations in accordance with business bookkeeping are not used.

1.4.3 Use of direct and indirect estimation methods

In the Finnish National Accounts, compensation of employees is in most industries estimated with the direct estimation method, i.e. total data are available.

Employer's social insurance contributions by industry and payment type are usually calculated with the so-called payment per cent method that can be seen as an indirect method, but total social insurance contributions are calculated with the direct method. The difference is revised by adjusting the industry-specific figures.

Consumption of fixed capital is calculated with the perpetual inventory method, which is an indirect method.

Other taxes on production and other subsidies on production are derived from total data, i.e. the calculation method is direct.

1.4.4 Basic principles for ensuring required coverage

1.4.4.1 *Wages and salaries*

From the perspective of compiling statistics in accordance with the national accounts, the challenge is primarily wages and salaries on which no tax is paid and which are thus not found in administrative registers. Hidden wages are estimated to be included in certain industries where the grey economy is believed to occur.

According to Finnish law, tips are taxable income. Thus, tips should be visible in the Tax Administration's annual tax return data on which the calculation of wages and salaries in the National Accounts is based. A certain amount of tips has been estimated to be part of the wagebill of the underground economy, as all tips are not reported to the Tax Administration.

1.4.4.2 *Gross operating surplus and mixed income*

Additions to an enterprise's income are one of the most important data of the Tax Administration's tax auditing unit for the National Accounts. Hidden income decreases the output and thus the value added and the gross operating surplus/mixed income

1.5 Outline of the expenditure approach

1.5.1 Framework

In the expenditure approach, the GDP is calculated as the sum of its expenditure components or demand items. These items are consumption expenditure, gross fixed capital formation, change in inventories, and exports of goods and services minus imports of goods and services.

In the Finnish National Accounts, the GDP is determined based on the output approach but the expenditure approach is also independently taken into account. The difference between the GDPs calculated with the output and expenditure approaches are recorded as a statistical difference in the preliminary National Accounts. In the final figures, the supply and demand are balanced by product and no statistical difference occurs.

The main data sources used for the expenditure approach are Household Budget Survey (Statistics Finland), International trade in goods statistics (Customs Finland), International trade in services and international flows of goods (Statistics Finland), and Frascati Manual Survey (Survey conducted by R&D statistics, Statistics Finland). More detailed description is in chapter 10.3.

1.5.2 Valuation

Use of products is valued at the purchaser's price. Thus consumption expenditure includes value added tax and other taxes on products but not subsidies. Products acquired through hire purchase or similar credit arrangements are recorded based on the time of purchase.

Gross fixed capital formation includes value added tax to the extent that it is not deductible. Investments are recorded at the time when ownership is changed. There are three exceptions to this rule in the Finnish National Accounts. Firstly, financial leasing is recorded as an investment for the industry that uses the item even though no change in ownership happens. Secondly, investments made for own use are recoded when they are produced. Thirdly, construction investments are recorded as they are constructed, and not when the building is completed and ownership is usually changed.

Change in inventories is valued at the average price of the year, so the value of the inventories at the end and beginning of the year are first changed to the average price of the year and then the difference between them is calculated.

Exports and imports of goods are valued as f.o.b. that is free on board at frontier. Exports of services are valued at basic price and imports at purchaser's price.

1.5.3 Moving from business bookkeeping and administrative concepts to the concepts of the National Accounts

The statistics on local government finances, central government's bookkeeping and financial statement material, and the profit and loss accounts of various organisations are used in the calculation of public consumption expenditure. Their concepts are edited into concepts of the National Accounts.

Part of business structural statistics, statistics on local government finances , and central government's bookkeeping and financial statement material are used in the calculation of gross fixed capital formation. From their concepts, the items that are accordant with the National Accounts are selected.

1.5.4 Use of direct and indirect estimation methods

Both direct and indirect estimation methods are used when calculating demand items.

Benchmark and extrapolation have been used in the calculation of household consumption expenditure. They have particularly been based on Household Budget Surveys.

Benchmark and extrapolation based on special analysis have also been used in the calculation of gross fixed capital formation when calculating renovation investments included in building construction investments.

1.5.5 Basic principles for ensuring required coverage

The data sources of the expenditure approach are usually quite exhaustive. The calculation is based on comprehensive data for exports and imports of goods, public consumption expenditure, and partly for gross fixed capital formation, inventories and consumption expenditure of non-profit institutions serving households. The main data source for household

consumption expenditure, the Household Budget Survey, is basically extremely exhaustive excluding some famously problematic consumption items like alcohol. The supplementations made in the data of the Household Budget Survey are explained later in this paper.

The non-observed economy is not really a considerable problem for the expenditure approach. The consumer goods and services produced by the underground economy are assumed to be primarily included in the Household Budget Survey data.

Ultimately, the reconciliation and balancing of the output and expenditure approach is ensured in the supply and use table framework that offers a systematic approach to ensure coverage in the estimation of the expenditure components of the GDP as well.

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

1.6.1 Compilation of balanced figures of the National Accounts in the supply and use tables framework

The final figures of the National Accounts are compiled in the supply and use tables framework, where the supply data (domestic output + imports) and use data (intermediate consumption + consumption expenditure + gross capital formation + exports) are balanced by product. The supply and use tables are completed in t+23 months. The final figures of the National Accounts in accordance with the balanced supply and use tables are published in t+24 months. The supply and use tables are compiled annually.

The compilation of the balanced supply and use tables follows the order below:

1. Compilation of supply data at basic prices and use data at purchaser's prices by product.
2. Compilation of price formation items.
3. Converting use data at purchaser's prices to basic prices.
4. Compilation of unbalanced product account.
5. Balancing of the supply and use data.

1.6.2 Compilation of supply data at basic prices and use data at purchaser's prices by product

The basis for the compilation of supply and use tables (SUT) is the preliminary (product transaction specific) data (t+21 months) of the National Accounts' sub-systems.

In the compilation of the SUT, the value data of product transaction specific data concerning the supply and use of the National Accounts are divided into 836 products according to the National Accounts' classification of products that is based on the CPA2008. The supply and use data are divided into 20 data categories starting with 1 for supply and

51 starting with 2 for use according to the product transactions of the national accounts.

The other classifying variables in the supply and use tables and their accuracy (number of categories) are the same as in the annual accounts.

The product transaction-specific data of the preliminary annual accounts are divided into products based on source data. The source data are mainly the same as in the preliminary annual accounts. Separate sources for product data are, for example, business services and production and raw material data of the commodity statistics. All source data are annual data with the exception of the Household Budget Survey (conducted roughly every five years), which are used as the source for the product data on household consumption expenditure, and the raw material data of the commodity statistics (compiled every two years). The product data of the source data are value data, supply data at basic prices and use data at purchaser's prices. The product data are converted with the help of classification conversion keys in line with the product classification of the supply and use tables.

1.6.3 Price formation data and converting use data at purchaser's prices into basic prices

For balancing, the use data at purchaser's prices of the product-specific supply and use data are converted into basic prices with the help of use data of price formation items in accordance with the following equation:

$$
\begin{aligned}
&BASIC\ PRICE \\
&= PURCHASER'S\ PRICE - value\ added\ tax - transport\ margins \\
&- wholesale\ margins - retail\ trade\ margins \\
&- other\ taxes\ on\ products\ (not\ VAT\ and\ import\ duties) \\
&- import\ duties + subsidies\ on\ products
\end{aligned}
$$

To calculate the price formation items of use data, product-specific share data are created for the price formation items. The product-specific share data of product subsidies, import duties and other taxes on products are calculated relative to the basic price. The product-specific share data of trade and transport margins are calculated relative to the producer price (= basic price - product subsidies + import duties + other taxes on products). The product-specific share data of value added tax are calculated relative to the purchaser's price exclusive of value added tax. Processing rules have been separately defined for each price formation item according to which product-specific share data are applied for various uses.

1.6.4 Compilation of the unbalanced product balance

The first full but still unbalanced product balance is compiled from the supply data at basic prices, the use data at purchaser's prices and the share data of price formation items. In addition to the supply data at basic prices, and the use data at purchaser's prices, the product balance comprises the values of price formation items in use data and use data at basic prices by product.

At this stage, it is checked that the output types *P12 Output for own final use, P131 Non-market products, sales or purchases,* and *P132 Other non-*

market output are in balance by product. The use data of these output types are determined based on industry-specific output data.

1.6.5 Balancing of supply and use tables

For the balancing of supply and use tables, the basic price supply and use of 836 products and their difference, i.e. the balance situation is calculated. The balancing condition for each product is

$$output + imports = intermediate\ consumption + consumption\ expenditure + gross\ capital\ formation + exports.$$

Supply and use data are balanced in three stages:

1. Manual balancing incl. automatic balancing of price formation items
2. Elimination of the statistical discrepancy of the balance of supply and demand
3. Automatic balancing

1.6.5.1 Manual balancing (product-specific)

The biggest product-specific imbalances between supply and use at basic prices are corrected in manual balancing. This applies to products whose value of the difference between supply and use is over ten per cent of the value of supply at basic prices and the absolute value of the difference is over EUR 30 million. These products are balanced by correcting the supply data at basic prices of the products and/or use data at purchaser's prices manually so that the differences between supply and use are below the above-mentioned limits.

The correction of supply and use data are mainly based on an estimate on the accuracy and reliability of the supply and use data of the source data related to the product. In general, the supply data are more accurate and reliable than the use data and, therefore, they are revised less in balancing.

After the above-mentioned balancing, the aim is to carry out balancing mainly so that unbalanced products are balanced between one another within P64 product groups (publication level of supply and use tables). In other words, supply or use is moved from products that are as close to each other as possible, and whose differences in supply and use are of different signs. The combined values of industry-specific supply and intermediate consumption data, imports and end use products are changed in manual balancing only in exceptional cases when shortcomings and errors found in preliminary annual accounts data need to be corrected.

In practice, manual balancing is performed with the help of the balancing and price index application of the balance of products (the “PaHIS” application, a browser application programmed and maintained by Statistics Finland). In the application, balancing data (e.g. the original and connected value and the comment text related to the correction) are saved to the database table reserved for metadata.

In all, 304 products were selected for manual balancing in 2018. In addition to the above-mentioned 304 products, 270 other products were balanced in manual balancing. In manual balancing, supply data at basic prices and use data at purchaser's prices were revised in total by good EUR 46 billion.

In manual balancing, price formation items are automatically balanced: The subsidies and taxes on products of the use data are scaled to correspond with paid and collected subsidies on products and taxes on products, and the trade and transport margins correspond to the supply values of service products that produce trade and transport margins.

1.6.5.2 Elimination of the statistical discrepancy

After the manual balancing and automatic balancing of price formation items, we are able to see at which products the statistical discrepancy of the balance of supply and demand of the preliminary National Accounts is directed at this stage. The statistical discrepancy is eliminated by balancing the products whose differences between supply and use are biggest and similar to the statistical discrepancy. In eliminating the statistical discrepancy, the values of the product transactions in the preliminary annual accounts change. The biggest revisions are usually made in intermediate consumption of the non-financial corporations sector. The effect of the changes determine the final value of the GDP.

The statistical discrepancy of the balance of supply was EUR +402 million in the preliminary data in 2018. During the compilation of the input data of the supply and use tables and the manual balancing, the statistical discrepancy decreased by EUR 6 million. The final correction of the statistical discrepancy was EUR 396 million. The correction was made to intermediate consumption (EUR +200 mil.), investments (EUR +117 mil.) and households' consumption expenditure (EUR +79 mil.) of service industries in the non-financial corporations sector.

1.6.5.3 Automatic balancing (product-specific)

When the statistical discrepancy has been eliminated, there is no difference in supply and use in the entire economy but there are still product-specific differences in the output types *P11 Market output* and *P7 Imports*. In order to correct these differences, automatic balancing is preformed, where the remaining differences are removed with the RAS algorithm. The algorithm calculates the multipliers with which the elementary units of the matrix to be balanced are summed into the pre-fixed row directional product-specific supply values at basic prices and column directional industry-specific intermediate consumption and end use item values at purchaser's prices. In other words, in automatic balancing, the product values may change within use categories excluding the use category specific and product values that have been fixed in advance (e.g. fuels in households' consumption expenditure). As a result of automatic balancing, the balanced supply and use data are generated, where supply and use at basic prices are in balance by product and output type.

Nearly all products are included in automatic balancing. Altogether, use data at purchaser's prices were corrected in automatic balancing with good EUR 28 billion in 2018. Compared with manual balancing, the importance of automatic balancing in the balancing of supply and use tables is smaller.

Finally, the corrections made required by the balancing of supply and use tables are recorded in the product transaction data of the sub-systems of annual accounts. The revised data form the balanced data of the National Accounts. The statistical discrepancy of the balance of supply is zero.

1.6.6 Other approaches used to validate GDP

Before balancing, sector researchers/teams make calculations within their own topic areas. In these calculations, the data in the source data are revised to meet the concepts of the National Accounts. Already at this stage, attention is paid to certain key figures and dependencies. Attention must be paid particularly to the following issues in the topic-specific calculations:

- Changes in the value, volume and prices from the previous year
- Corresponding changes from the previous version
- Changes in absolute level compared with the previous version
- Compatibility of wages and salaries and employment that is measured with the development of the wages and salaries sum
- Compatibility of the volume development in value added and work input that is measured with the change in the productivity of labour
- Compatibility of employment and working hours that is measured with hours worked per employed person
- The real disposable income: nominal disposal income deflated with the price indices of consumption expenditure (households)
- The savings rate: savings relative to the disposable income (households, general government)
- The level of net lending.

In the balancing of the preliminary National Accounts, each industry, sector or other calculation entity are examined in summary meetings. Two to four summarisers and one or several sector researchers responsible for the compilation of the calculation entity in question participate in these meetings.

The revision of individual calculation entities takes place as data become ready. In the summary meeting, the calculation as a whole is examined paying special attention to the above-listed issues. In addition, data sources, their availability and usability, changes in them or methodological changes in calculations and other background information that affect calculation are essential topics.

The picture of the entire national economy starts to shape and become focused as a majority of the calculation entities are completed. An overall view can only start forming when all pieces are ready.

Towards the end, attention is paid to how supply and demand correspond to each other. The difference between them, statistical discrepancy, is minimised by looking for reasons for the difference from the calculation and the used sources. The statistical discrepancy cannot be fully closed in the preliminary data, because a reason must be found for each change in supply and demand data. The statistical discrepancy is not removed until the final product-specific balancing is done in the supply/use table framework.

1.7 Overview of the allowances for exhaustiveness

In the Finnish National Accounts, all three compilation methods are used when calculating the GDP (output, demand, income) of which, however, the income approach cannot be considered fully independent. The most reliable results are achieved with the income approach. The basic data sources for calculating output and intermediate consumption are good and exhaustive. The end demand items are calculated independently. In the final calculations, supply and demand are balanced in the supply and use tables. In preliminary calculations, the result achieved through demand is compared with the GDP calculated through output and the difference is recoded as a statistical discrepancy. In practice, its sign varies. Only one GDP figure calculated based on the output approach is published. The statistical discrepancy is presented as an individual item on the demand side in preliminary calculations.

The income components of the GDP can also be calculated independently. These data are partially used in the summary of the whole economy as well. Data sources concerning the operating surplus are, however, largely the same as in the output approach. Compensation of employees comes from independent material (taxation data, accumulation data of employers' social contributions). The wage and salaries and social insurance contributions of the whole economy are defined in accordance with these data. The result of the industry calculations is used as the wages and salaries sum of the whole economy if it exceeds the level of the taxation data. The difference between the sum of accumulated social insurance contributions and the sum of industries is revised in the industry-specific social insurance contribution expenditure.

The exhaustiveness revisions made in source data are made in every calculation round. The estimates on the illegal and underground economy (coefficients) are revised based on analyses carried out every five to seven years.

1.7.1 Allowances for exhaustiveness in the production approach

Statistics Finland's statistics on production are quite exhaustive. The Register of Enterprises and Establishments covers all enterprises and corporations, non-profit institutions and unincorporated enterprises (incl.

farms and housing and real estate companies) that are employers, liable to pay value added tax or belong to the preliminary tax withholding register. Public administration entities belong to their own database.

Business structural statistics are also very exhaustive. The database of business statistics combines all business data from the structural statistics inquiry, the Business Register and the business taxation file.

The data of the business structural statistics and the Business Register are used in the compilation of the National Accounts to compare establishment and enterprise data at industry-level. Comparisons are also made with other available data sources. Even though the business structural statistics and the Register of Enterprises and Establishments are high-quality data sources, there may be classification differences and random errors. Depending on the data sources and studies, the share of the non-observed economy is added to industry-specific data.

The data sources concerning public sector units are exhaustive. The statistics on local government finances contain the economic data of all municipalities and joint municipal authorities. Central government data derives from the government's accounting system. Data concerning social security funds are also exhaustive.

The non-observed economy (grey economy, VAT fraud, illegal economy and prostitution) has been estimated with studies and special analyses. Based on the analyses, the share of the non-observed economy is not very large in Finland. Due to the nature of the calculation, it is not possible to estimate the non-observed economy precisely.

1.7.2 Allowance for exhaustiveness in the expenditure approach

The data sources of the expenditure approach are quite exhaustive. The calculation is based on comprehensive data for exports and imports of goods, public consumption expenditure, and partly for gross fixed capital formation, inventories and consumption expenditure of non-profit institutions serving households. The main data source for households' consumption expenditure, the Household Budget Survey, is basically extremely exhaustive.

1.7.3 Allowances for exhaustiveness for the income approach

The data sources for wages and salaries and social contributions paid by employers are quite exhaustive. For wages and salaries, exhaustiveness adjustments are mainly made for wages and salaries in the grey economy.

Operating surplus and mixed income are not calculated separately but they are formed as residuals in the income approach.

1.8 The transition from GDP to GNI

The gross national income is derived from the gross domestic product by adding employers’ social contributions, taxes on production and imports, subsidies, distributed income of corporations, reinvested profits from direct investments, property income attributed to insurance policy holders and

rents paid on land paid to abroad from Finland to the GDP. Similarly, the same items paid from Finland to abroad must be subtracted.

The transactions between Finland and other countries are congruent in the National Accounts with the balance of payments excluding financial intermediation services indirectly measured.

Table 5: GNI items paid from abroad to Finland and from Finland to abroad, current prices, EUR million

Transaction	2016	2017	2018
B1G Gross Domestic Product	217,518	226,301	223,468
D1R Compensation of employees, receivable	703	734	640
D1K Compensation of employees, payable	562	652	624
D2K Taxes on production and imports, payable	276	297	230
D3R Subsidies, receivable	832	762	796
D4R Property income received from the rest of the world	14,546	14,817	15,881
…D41R interest	4,554	3,659	3,673
…D42R Distributed income of corporations	5,984	8,781	10,146
…D43R Reinvested earnings on FDI	2,231	287	121
…D44R Other investment income	1,777	2,090	1,941
D4K Property income paid to the rest of the world	14,253	15,251	15,525
…D41K Interest	4,896	4,618	4,456
…D42K Distributed income of corporations	7,012	7,902	12,322
…D43K Reinvested earnings on FDI	1,922	2,378	-1,587
…D44K Other investment income	423	353	334
B5G Gross National Income (B1G + D1R - D1K - D2K + D3R + D4R - D4K)	218,508	226,414	234,406

1.8.1 Compensation of employees

1.8.1.1 *Earned income and subsidies received from abroad*

Tax payment statistics contain data on income earned from abroad by "natural persons" or households. This figure only includes the income earned by people who worked abroad for less than six months because tax is paid to Finland on such income. Therefore, the figure is raised by 50 per cent so that it is estimated to contain the wages and salaries of all employment relationships lasting for less than one year.

In addition to the Tax Administration's payment statistics, data on income earned abroad are available in Statistics Finland's income distribution survey. The social contributions paid by employers obtained from abroad have on average been estimated as 16 per cent of income earned from abroad.

1.8.1.2 *Wages and salaries and subsidies paid to abroad*

The Tax Administration's data on taxpayers with limited tax liability includes data on payments made to persons who have stayed continuously in Finland at most for six months. For example, wages and salaries,

pensions, work compensations, dividends, interests, fund shares and surplus of personnel funds and royalties are reported in the annual tax returns. Item types considered as wages and salaries are separated from the material.

A 50 per cent increase is made to the figures of the data on taxpayers with limited tax liability. The aim of this is to cover persons that spend six to twelve months (non-resident) in the country on which there otherwise are no direct data.

1.8.1.3 *Employers' social contributions related to foreign wages and salaries*

1.8.1.3.1 1. Employers' social contributions paid to abroad from Finland

There is no direct information available on the social contributions paid by employers to foreign employees. Therefore, the size of this transaction is estimated on the basis of wages and salaries paid to foreigners in Finland. For lack of better information, it is assumed that social contributions paid by employers can be included for the benefit of foreigners in ratio to the wagebill as paid to Finnish employees by virtue of the regulations and agreements in force in the year in question.

1.8.1.3.2 2. Employers' social contributions paid from abroad to Finland

It has been decided in Finland to calculate the social contributions paid by employers as a relative proportion of the wagebill received from abroad so that the proportion used is somewhat lower than the one paid in Finland. This proportion is estimated to be 16 per cent of the wagebill received from abroad.

1.8.2 Taxes on production and imports

Taxes on production and imports only appears as an item paid to abroad from Finland. They are value added taxes (D762) and import duties (D212) paid by Finland to the EU starting from 1995. The items derive from the final central government accounts, the National Boards of Customs and the Ministry of Agriculture and Forestry.

Payments based on the value added tax base paid to the EU since 1995 have been entered as value added tax.

In addition to the actual duties, import duties also include import payments on agricultural products. Data on these derive from the National Board of Customs. Import duties have been settled to the EU since 1995.

The data of the Finnish National Accounts have included taxes, subsidies and current and capital transfers between Finland and the EU since 1995, that is since the beginning of our EU membership.

1.8.3 Subsidies

Subsidies only appear as an item paid from abroad to Finland. They are subsidies on products (D31) and other subsidies on production (D39) paid

by the EU to Finland since 1995. Subsidies have, for example, been paid to farmers.

The data source for subsidies paid by the EU are central government's bookkeeping and financial statement material and special analysis. The subsidies paid by the EU in practice circulate through Finland's central government budget but in the National Accounts, the subsidies related to agricultural policy are processed as paid by the EU. The total amount of subsidies paid by the EU and Finland's central government are derived from central government's financial statement material from which the share of the EU is separated.

All expenses that are subsidies by nature (this is determined with the help of business bookkeeping accounts, budget accounts, etc. above-mentioned information) and that are financed with income received from the EU and where the Finnish central government does not decide on the use of the finances, are shown as subsidies paid by the EU. Thus, these subsidies that, in practice, are subsidies related to the EU's joint agricultural policy are recorded directly from the EU to the final recipient sectors. From the perspective of the central government, both income and expenditure are deducted from the sector accounts of central government.

1.8.4 Cross-border property income

1.8.4.1 Interests

Interests are collected directly in the respective surveys and recorded on an accrual basis, that is, interests are recorded as accruing continuously over time to the creditor on the amount of principal outstanding. The interest accruing in each accounting period is recorded whether or not it is paid or added to the principal outstanding. The amounts of accrued and paid interest are reported separately in the respective surveys. Interests are recorded before the deduction of taxes levied on it and collected interests do not include grants for interest relief. On debt securities the creditor approach is used in recording the interests and for index-linked debt securities, the total nominal value reported is multiplied by the current index multiplier.

All interests from Intra-Eurosystem technical assets are reported against the ECB, I.e. there are no reported technical assets between Finland and other Eurozone countries. The interest rates are accumulated from the MFI data collection.

1.8.4.2 Distributed income of corporations; dividends

Dividends are collected in the securities and investment fund surveys as well as the dedicated BoP surveys. Dividend data are recorded at the time period they are paid and in which the data provider has recorded them as income or has deducted them from the equity capital included in its balance sheet.

1.8.4.3 Reinvested earnings (RIE) of foreign direct investment (FDI)

The calculation of re-invested earnings is based on individual enterprise and enterprise group data gathered from the annual and quarterly BoP surveys and uses the current operating performance concept (COPC). Income statement data and FDI income and dividends are gathered from the annual BoP survey supplemented with dividend data from the quarterly survey. Re-invested earnings are calculated as a residual of COPC and dividends on a given period. Re-invested earnings are calculated also from indirectly owned FDI-enterprises.

1.8.4.4 Other investment income

Investment income attributable to policyholders is an imputed item that helps transfer the income from investing the technical reserves from the insurance corporations to the policyholders. Investment income attributed to insurance policyholders is divided into counterpart sectors, such as the rest of the world sector, based on the sector distribution of technical reserves in financial accounts.

Investment income attributable to collective investment fund shareholders is calculated using the accrued income factor from the CSDB.

Investment income payable on pension entitlements and rent on land and sub-soil assets are not separately compiled into statistics in Finland.

1.9 Main classifications used

1.9.1 Classifications used in the output approach

The Classification of Sectors is the basic classification of the output approach. It is also used in the income approach. The fifth digit of the ESA 2010 sector classification is not in use. However, the fifth digit of FNA2010 is used in the national sub-category

In the output approach, another important production classification is the Standard Industrial Classification TOL 2008 that follows the NACE rev.2 classification.

Alongside to the Standard Industrial Classification, the establishment-based classification of producer types is also used. There are three main producer types: market producers, non-market producers, of which non-market producers are divided further into producers for own final use and other non-market producers.

In the compilation of supply and use -tables, the product transaction specific data, concerning the supply and use of the National Accounts, are divided into products. National Accounts' classification of products (NACP) is based on the CPA2008 classification.

1.9.2 Classifications used in the income approach

The main classification of the income approach is the Classification of Sectors (see previous section).

1.9.3 Classifications used in the expenditure approach

The classification of individual consumption used in Finland follows the ECOICOP classification well. Most of the 5-digit classes are used, but some classes have been combined, which is shown with the letter X in the code. A letter indicating the durability class (D, ND, SD, S) has been added to the end of the code separated by a dot. In education, only one group is used compared to the (E)COICOP's division by level of education. For rents, one group has been used for both actual and imputed rents.

The standard classification in accordance with the ESA 2010 recommendation for the National Accounts is used for gross fixed capital formation with a few exceptions. Information and communication equipment (AN.1132) have a national sub-division. In change in inventories the assets Materials and supplies (AN.121) and Other work in progress (AN.1222) have a more detailed national sub-division.

In the statistics on foreign trade, the basic classification used for products both in internal and external trade is commodities in accordance with the combined nomenclature (CN classification). The current account classification follows the IMF's balance of payments classification applied for Finland.

1.10 Main data sources used

The chapter does not describe all the data sources used in the National Accounts, but a comprehensive selection of the most important sources. An indicative picture of the total number of individual data sources can be found in the data flow diagram (Figure 7).

Table 6:The main data sources used for the production approach

Organisation	Data source
Statistics Finland	Register of Enterprises and Establishments
Statistics Finland	Annual data collections of the Business Register
Statistics Finland	Business structures statistics
Tax Administration	Business taxation data
Statistics Finland and The Finnish Pension Alliance	Employment Pension Scheme Quarterly Survey (EPSQ)
The Financial Supervisory Authority	Financial statement data of employment pension scheme
Statistics Finland	Statistics on industrial output
Statistics Finland	Inquiry on raw materials in manufacturing
Statistics Finland	Statistics on financial leasing
Statistics Finland	The business services statistics
Finnish Communications Regulatory Authority	Income and investment data of telecommunications operators
Tax Administration	Tax return of associations and foundations
State Treasury	Data on financial statements of the state
Statistics Finland	Financial statement inquiry of bus and coach transport

Table 7: The main data sources used for the income approach

Organisation	Data source
Statistics Finland	Statistics on local government finances
Statistics Finland	Labour Force Survey
Statistics Finland	Index of wage and salary earnings
Tax Administration	Incomes Register

Table 8: Statistical surveys and other data sources used for the expenditure approach

Organisation	Data source
Statistics Finland	Household Budget Survey
Customs Finland	International trade in goods statistics
Statistics Finland	International trade in services and international flows of goods
Statistics Finland	Frascati Manual Survey (Survey conducted by R&D statistics)

Table 9: The main data sources used for the transition from GDP to GNI

Organisation	Data source
Statistics Finland	Annual inquiry on foreign financial assets and liabilities (BOPA)
Statistics Finland	Quarterly inquiry on financial assets and liabilities (BOPQ)
Bank of Finland	MFI data collection (RATI)
Bank of Finland	Investment fund balance sheet statistics (SIRA)
Bank of Finland	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government (SAVE)
Bank of Finland	Survey of deposit banks and investment firms providing custody and asset management services (TIHA)

CHAPTER 2 THE REVISIONS POLICY AND THE TIMETABLE FOR REVISING AND FINALISING THE ESTIMATES; MAJOR REVISIONS SINCE THE LAST VERSION OF THE GNI INVENTORY

2.1 The revisions policy and the timetable for revising and finalising the estimates

2.1.1 Revision policy

Several versions of the National Accounts for each statistical reference year are compiled. The completion schedule of the versions is presented in Section 2.1.3. All the data available at the time of compiling each version are utilised, so the National Accounts become gradually revised. The final figures are published about two years after the end of the statistical reference year. When statistical data are published nationally, they are also delivered to Eurostat and the ECB.

The revision policy of the National Accounts was reviewed in 2019 in line with the Harmonised European Revision Policy (HERP).

In the review, the publication schedule changed for annual data, while the times of monthly and quarterly releases of national accounts and balance of payments remained unchanged. The release dates of annual data in January and July were abolished.

The annual releases are now scheduled based on the European Harmonised Revision Policy in March, June, September and December when quarterly data are also published at each time. Preliminary annual data are revised in connection with each quarter. In March, annual national accounts data are updated concerning the two previous years. In June and September, two previous years are updated, in December only the previous year.

The data content of preliminary National Accounts data (year T-1) changes when annual data are published in each quarter: March, June, September and December. In the March release, the data content corresponds to previous data, that is, mainly based on quarterly sources (excl. the public sector from which annual source data are obtained). The data content of preliminary annual data in June is less detailed than for the data that used to be released in July. For example, industry-specific data, investments or consumption are published on a less detailed level than before. Both quarterly and annual sources are used in the calculation in June. Annual sources have been used, for example, in the calculation of the public sector and the non-financial corporations sector, whose share considerably affects the value added.

The preliminary annual release for September specifies the data on the rest of the world and household consumption with a more accurate classification of consumption. The preliminary annual publication for December provides new data on local government. Extensive annual data based on so-called accurate industries and more detailed combined sector and industry data are available at a lag of 14 months in February of the following year, when final annual sources have been utilised.

The focus of the calculation of the National Accounts has shifted to quarterly national accounts, where the aim is to improve the data basis especially in terms of investments. The calculation method for value added in quarterly national accounts has also been revised by utilising the volume data of Statistics Finland's volume index of industrial output and the statistics on the turnover of service industries more extensively. In addition, a more extensive division of data into the public and private economy has been made in the quarterly national accounts.

2.1.2 History of level revisions

In the system based on SNA68, so-called level revisions were also made around once every five years. The level revisions have been made in connection with changing the base year of calculations at constant prices. SNA68 was adopted in 1979 (FNA75, base year 1975). After that, level revisions were made in 1984 (FNA80, base year 1980), 1987 (FNA85, base year 1985) and 1993 (FNA90, base year 1990). In the level revisions, the time series were revised retrospectively until 1975, in 1984 until 1960.

Three types of revisions were made to the time series in level revisions. First of all, the detected errors were corrected. Secondly, so-called level revisions were made to the figures that were the result of the fixing points of the new base year being set to new levels. Thirdly, revisions required by changes in classifications and other similar factors were made.

The system based on ESA95 was adopted in three stages. In the first phase, in February 1999, the calculations stretched to 1990 and in December 1999, the time series were continued to 1975 (FNA95). The second phase was to include the supply and use tables in January 2003 until the year 1995 and in July 2003, the time series were continued to 1975 (FNA2000). The main content changes were the division of housing companies into owner sectors and the division of financial intermediation services indirectly measured (FISIM) into users. In the third phase, in April 2006 (FNA2005), the previous year was adopted as the base year for volume calculations and the double deflation method was commonly adopted. In some public services, performance indicators were taken into use.

A considerable revision was made in service exports in April 2006 and service imports were revised in January 2008. In addition, non-financial corporations and households were separated into individual sectors in all accounts.

In July 2011 (FNA2010), the National Accounts started using a new information system, simultaneously the new Standard Industrial Classification TOL 2008 was adopted, and other time series revisions were made. The entire calculation was also reorganised so that the old industry-based phenomena calculation was swapped for team-based transaction calculation.

ESA 2010 was adopted in July 2014. The most significant change was that R&D expenditure was included in gross fixed capital formation.

In 2017, the handling of factoryless goods production was changed. Previously, the margin from factoryless goods production or net sales from abroad to abroad was Finnish service exports. Now the margin in question is recorded as Finnish goods exports.

In 2019, the release policy of the National Accounts was reviewed in line with the Harmonised European Revision Policy (HERP). At that time, the publication of annual data was brought forward to June from the previous July.

In calculations based on annually changing base years, level revisions are needed mainly when significant source data compiled at specific intervals, e.g. the Household Budget Survey, are completed. Corrections of small errors, etc. in the time series are collected and made in connection with the level revisions. System-level changes are made in accordance with a common European timetable, such as the changeover from ESA95 to apply ESA 2010. Such changes have been made roughly every 15 years.

2.1.3 Timetables for data checks

The first preliminary data for the year t are completed at the end of February of year t+1 in connection with the Quarterly National Accounts. The data content is less extensive than in the actual Annual National Accounts and corresponds to the data content of the Quarterly National Accounts. The first version to be published in mid-March also contains preliminary data on the entire data content of sector accounts for all sectors.

The Quarterly Accounts concerning the other quarters have since 2018 been completed in 60 days after the end of the quarter, in 2011 to 2017 the delay was 65 days from the end of the quarter, and previously it was 70 days.

The second version of the Annual Accounts is completed in mid-June of year t+1. At this time, the National Accounts for year t are for the first time compiled for all non-financial accounts and at an accuracy of around 100 industries. The supply and use tables are not compiled at this time.

The third version is completed in September and the fourth version in December.

The fifth version is completed at the end of February of year t+2. The sixth final version based on the supply and use tables is published in December of year t+2. Supply and use tables and input/output tables based on them are published in November of year t+2.

Table 10: Completion times of different versions of the Annual National Accounts for year t

Version	Month of completion
1.	t+1 March
2.	t+1 June
3.	t+1 September
4.	t+1 December
5.	t+2 February
6.	t+2 December

The final figures are published two years after the end of the statistical reference year.

When the different versions of the National Accounts are compiled all available data are utilised. In each version, only part of the data is changed. For example, the production and income formation accounts for industries are compiled for the first time in June of year t+1 (version 2). After this, the production and income formation accounts of a particular industry can change next time, for example, in February of year t+2, when data for all industries are compiled and nearly final data are available for the calculation.

Mainly three things affect the compilation timetable of the National Accounts: user needs, completion of source statistics and the ESA 2010 transmission programme, which in EU legislation sets the deadline for the submission of data.

The main user of the National Accounts in Finland is the Ministry of Finance. The Ministry of Finance compiles an economic survey annually in February and August, which is central background material when, for example, the central government budget is prepared. The Ministry of Finance needs as up-to-date data as possible concerning economic development for the economic survey. The Bank of Finland and financial research institutes also use the latest National Accounts data as the basis for their economic forecasts.

The main source statistics are completed at slightly different times in different years. The general trend has been that the completion of statistics has sped up. The following is a description of the completion of the main source statistics.

The first data on the development of the economy on the annual level are obtained based on the annual sums of quarterly accounts. When compiling the first version of the Annual Accounts (in March of year t+1) final price indices and labour force statistics from the year before are available. In addition, the index of wage and salary earnings, production statistics on most agricultural products, felling statistics of commercial timber and price statistics of timber, volume index of industrial output, volume index of newbuilding in building construction, sales statistics of trade, statistics on local government financial statement estimates, statistics on foreign trade, and statistics on balance of payments are available as preliminary statistics. For some source statistics, data are available for part of the year, for example, for nine, ten or eleven months. Such statistics are, for example,

data on value added taxation and self-assessed taxes of employer contributions.

When compiling the second version (in June of year t+1) of the above-mentioned statistics production statistics on most agricultural products, felling statistics of commercial timber and price statistics of timber, volume index of newbuilding in building construction, sales statistics of trade, bank statistics, statistics on foreign trade and data on value added taxation and self-assessed taxes of employer contributions have become final. New data are, for example, rent statistics. In addition, preliminary data of structural industrial statistics and some other industries, bank statistics and economic statistics on municipalities and joint municipal authorities are available. Some of the data by industry are still based on the Quarterly Accounts and only some of the industries are calculated with annual methods based on preliminary sources.

The third version (in September of year t +1) includes the data needed for calculating household consumption, incl. the Household Budget Survey (every five to six years) and the data are published by product category at their full accuracy. The items of property income abroad are also usually revised in this round.

When compiling the fourth version (in December of year t +1), the data become revised as regards general government, when the statistics on the finances of municipalities and joint municipal authorities are available. At the same time, general government expenditure by function (COFOG) is published.

When compiling the fifth version (in February of year t+2) new available data are, for example, taxation data and insurance company statistics. The index of wage and salary earnings, as well as the Register of Enterprises and Establishments, structural statistics of various industries, industrial product statistics, accident insurance contributions data, statistics on enterprises' employment pension contributions, statistics on agricultural enterprises and revenue and balance of payments are available as final statistics. The data are no longer in any respect based on quarterly national accounts.

For the sixth version (in December of t+2) no new source data are available unless the publication of particular source statistics has been exceptionally delayed. At this time, the product-specific supply and use tables are compiled, which form the final National Accounts.

2.2 Level revisions not caused by the ESA 2010 transition since the previous GNI description

Table 11: An overview table listing all main changes to sources and methods made since the last version of the GNI Inventory

Transaction / Item	Change	Incorporated in NA
Factoryless goods production	Moved to goods exports	2017
General government data	Revisions in the statistics on local government finances	2017
Value added	Exhaustiveness revisions to services	2019
	Activities auxiliary to financial services revised	
	Hidden economy revised	
	Housing and construction	
Output and intermediate consumption	Changes in housing and local government not having impact on value added	2019
	Change to cold rents	
	Elimination of internal items in local government	
Investments	Building construction, civil engineering investments and machinery investments revised	2019
Private consumption expenditure	Revised based on 2016 Household budget survey	2019
	Change of classification level on compilation	
Rest of the world	Factoryless goods production change extended to years 1999 to 2005	2019
	Some minor revisions to harmonise NA and BoP	
	Property income	
Compensation of employees, employment	Incomes register	2020

2.2.1 Level corrections caused by removal of GNI reservations

Since the previous methodological description, no such removals of reservations have not been made that would have had an effect on gross national income.

2.2.2 Other level revisions

2.2.2.1 *Level revisions made in the ESA 95 system*

The transition to the ESA 95 system was completed in Finland in 2006. After this, several revisions have been made to the time series of which some have been considerable. Here, we first explain the considerable level revisions made to ESA 95 accordant data.

In January 2008, imports of services were increased mainly based on data on imports of R&D services and other business services. At most, the increase was EUR two billion per year.

In January 2010, several level revisions were made in the time series. The reason for the revisions were new data in source statistics and changes in calculation methods.

The level of both output and intermediate consumption has been raised at most by EUR eight to nine billion. Compared to previous data, the level of value added and GDP fell in almost all years, GDP at most by EUR 1.4 billion in 2006. In other years, the changes remained much smaller.

The output of building construction grew considerably because the volume index of newbuilding released renewed time series in August 2007. In them, the level of output of newbuilding rose notably due to increased cubic meter prices of the model buildings used in the calculations. All in all, the value added of building construction grew at most by nearly EUR one billion.

The value added of trade decreased by about EUR one billion compared to before in 2006 to 2007. The value added of transport decreased by around EUR three billion compared to earlier figures in 2006 to 2008. The value added of ownership and letting of property grew in most by around EUR one billion, and that of business services by nearly EUR one billion.

New estimates were made about the hidden economy on the basis of a separate study. The hidden economy comprises both the informal grey economy and the illegal economy (prostitution, drugs, smuggling). Grey output and value added increased especially in servicing and repair of motor vehicles, and in hotel and particularly in restaurant activities.

New data concerning households' consumption expenditure were obtained from the 2006 Household Budget Survey. Because the results of the previous Household Budget Survey (2001) had already been taken into consideration earlier, the corrections concerned the years 2002 to 2006.

Building construction investments, especially those in residential buildings were increased because the level of newbuilding was re-evaluated. All in all, investments grew at most by nearly EUR two billion in 2004 to 2005 compared with earlier data.

In July 2011, the old standard industrial classification (TOL 2002) was replaced by the new standard industrial classification (TOL 2008) in the National Accounts. The calculation was done by adhering to the previous totalled up current-priced levels of gross value added and other transactions of all industries in the 1975 to 2007 period. All series have been genuinely recalculated according to the revised industrial classification starting from 2008 because the revised classification was adopted in the source statistics starting from 2008.

At the same time, the information system of the National Accounts was renewed, which resulted in revisions in the use of methods and sources. Therefore, the 2008 level of the GDP was revised upward by around EUR one billion.

2.2.2.2 *Other level revisions made when transferring to the ESA 2010 system*

Here we explain the main level revisions not caused by the ESA 2010 renewal and made to the time series when transferring to the ESA 2010 system.

2.2.2.2.1 Value added tax

The accumulation of VAT was revised. The data source used for value added tax paid by municipalities and joint municipal authorities and repaid to municipalities were the Tax Administration's data starting from 2002, because the previously used data source, statistics on local government finances did not include value added tax of municipal enterprises.

As a result, value added tax revenue grew, because the repayment in question is calculated as part of the value added tax revenue. At most, the revenue increased by over EUR 300 million. Gross domestic product and income rose, because value added tax is tax on products. In municipalities' expenses, the imputed value added tax paid is included in intermediate consumption, investments and social transfers in kind, between which it is divided. Now they grew, as did consumption expenditure. Repayment of value added tax to municipalities is recorded as income transfer from central government.

2.2.2.2.2 Compensation of employees

In financial corporations, wages and salaries were revised particularly in activities auxiliary to financing and insurance activities starting from 2000. Wages and salaries paid by non-financial corporations were revised starting from 2010 based on the Business Register data and in many industries throughout the 2000s. In addition, wages and salaries in building construction were revised upwards from 1995 onwards, because the number of foreign employees was estimated again. In real estate activities, wages and salaries were also revised upwards from the 1990s on. In total, these other revisions increased the wagebill at most by under EUR 500 million.

Voluntary social security contributions received by insurance corporations were mostly revised upwards starting from 1975, based on the statistics on insurance companies. The change was, at its highest, good EUR 100 million. Voluntary social security contributions paid by non-financial corporations were changed accordingly.

2.2.2.2.3 Foreign trade and current account

An estimate of private persons' e-commerce was added for the years 2000 to 2007 into imports of goods and services. From 2008, the data are already included in imports, based on the statistics on e-commerce produced by TNS Gallup. For imports of goods, Finnish Customs' statistics on foreign trade cover imports from outside the EU, but imports from EU countries were added. Purchases made from outside the EU were also added to imports of services. In total, imports increased at most by good EUR 400 million.

Certain other revisions were made to imports and exports of services and foreign interest rates and dividends starting from 2004, when data were compared to the statistics on balance of payments and international trade in services. At most, the changes were under EUR 500 million.

Wages and salaries paid from Finland to abroad were revised upwards in 2000 to 2010 based on the Tax Administration's data on taxpayers with limited tax liability, at most by EUR 170 million. Related employer's social insurance contributions were revised simultaneously.

2.2.2.2.4 Financial and insurance corporations

The market output of financing includes part of income from currency and securities trading, for example. Their calculation method was changed starting from 2005. At its most, market output decreased by good EUR 100 million.

A new industry 'Letting of other real estate' was added alongside insurance activities in insurance corporations. It contains insurance corporations' income and expenses from real estate activities. The data were previously included in the industry in question in the non-financial corporations sector.

The most significant change in calculating insurance is the shift to use the so-called cost method in calculating the market output of life insurance. The market output of non-life insurance is, in turn, calculated mainly similarly as before.

The market output of life and pension insurance is now calculated as a sum of costs (total operating expenses and consumption of fixed capital) and operating surplus (11-year moving average of profit/loss for the financial year). As a result of the new method, output, value added and operating surplus develop more evenly than before. The previous system produced time series that fluctuated along with value changes in investment activities and holding gains. Output must describe the service produced by insurance activities and the relatively even service fee levied from it, so it must not be directly influenced by fluctuations in investment activities. Value changes and holding gains and losses in investment activities are, in turn, visible in financial accounts.

Changing the method had no significant effect on average output, value added and operating surplus. Instead, the effects may be significant in individual years, even hundreds of millions of euros either way, especially at the turn of the millennium. The change in the market output of insurance also altered household consumption expenditure on insurance considerably.

The data on insurance corporations are based on the statistics on insurance companies.

2.2.2.2.5 Non-profit institutions serving households

New data for the calculation of non-profit institutions serving households were obtained from the Tax Administration's 6C form starting from 2010. The data contain information given by around 20,000 associations in income tax returns. It was supplemented with data from the Business

Register from around 10,000 units. The data were used when calculating the output and intermediate consumption of the sector's different industries. Data on wages and salaries are still based on the Business Register.

The level difference between the old and new figures of 2010 were faded out backwards maintaining the old level of 1999.

Intermediate consumption grew by over EUR 900 million in 2010. Market output increased by over EUR 500 million, but sales of non-market products decreased by almost the same amount. The wages and salaries paid by the sector diminished due to the sector shift (universities of applied sciences, etc.) by over EUR 200 million. As a consequence of these changes, consumption expenditure grew by around EUR 600 million in 2010.

2.2.2.2.6 Housing

In letting of dwellings, output (paid rents) was revised downwards starting from 1996. The revision is based on the Household Budget Surveys, where the level of paid rents has been lower, both for square metres and rents per square metre.

2.2.2.2.7 Households' consumption expenditure

Households' consumption expenditure altered mainly because data were obtained about households' consumption from the Household Budget Survey for 2012. The previous Household Budget Survey was from 2006 and the consumption data of that year were not as a rule changed. In contrast, consumption data for 2007 to 2012 were altered so that the data for 2012 now correspond better than before with those of the Household Budget Survey and the level difference was faded out backwards by the year 2006.

Compared to the previous data, expenditure decreased on food, beverages and tobacco, clothing and footwear, decoration and home maintenance, health, education, restaurant services, social security and financial services. In turn, expenditure on acquisition of vehicles, telecommunications, and recreation and culture grew compared with earlier data.

Households' consumption expenditure on insurance was changed to correspond to changes made to the output of insurance. Actual housing rents were revised downwards from 1996 on, at most by around EUR one billion. Expenditure on use of private vehicles (fuel, maintenance and repair) was revised upwards starting from 1995, at most by more than EUR one billion. The reason for this was that the operating costs of company cars must be recorded as expenditure for households not enterprises, because a corresponding fringe benefit is part of households' wages and salaries.

Different changes mostly cancelled each other out, and households' total consumption expenditure decreased or increased at most by around EUR 700 million.

2.2.2.2.8 Consumption of fixed capital

The lifetime assumption of investments in residential buildings was changed from 50 to 60 years, which reduced their annual consumption.

2.2.2.2.9 Net growth of forests

Net growth of forests was revised from 1975 onwards based on data from the Finnish Forest Research Institute, mainly downwards, which diminished value added at most by over EUR 300 million. On the demand side, net growth of forests is recorded as change in inventories.

2.2.2.2.10 Grey economy

In several industries, concealed sales revenues (grey output) to be added to the market output of non-financial corporations and households were re-assessed from 2009 on, also to balance the supply and demand of the national economy. This increased output and value added by around EUR 600 million.

2.2.2.2.11 Investments

In investments, data on the product type "mineral exploration" were revised starting from 1995 based on the data of the Finnish Safety and Chemicals Agency.

2.2.2.2.12 Effect on gross national income

The above-mentioned level revisions raised the gross national income of 2012 by EUR 257 million.

Table 12: Effect of level revisions on the 2012 gross national income

Gross value added:	EUR million	% of GNI
Financial and insurance corporations		
…Non-profit institutions serving households	-26	0
…Housing	0	0
…Net growth of forests	-704	-0.4
…Grey output	0	0
Value added tax (VAT)	630	0.3
International primary income: interests and dividends	357	0.2
Total	0	0
Gross value added:	257	0.1

2.2.2.3 *Level revisions after ESA 2010 transition*

In 2017, the recording of factoryless goods production was changed. Previously, the margin from factoryless goods production or net sales from abroad to abroad was Finnish service exports. Now the margin in question is recorded as Finnish goods exports.

A larger level revision was made in 2019, when the release policy of the national accounts was also renewed in line with the Harmonised European Release Policy (HERP). At that time, the publication of annual data was

brought forward to June from the previous July. The level revision did not include any fundamental changes to the calculation methods. It did not have much effect on the annual changes in the volume of GDP, but the changes made raised the level of value added especially in the 2010s.

Table 13: Revisions of gross national income in the level revision of 2019

	2010	2011	2012	2013	2014	2015	2016	2017
GNI revision, of which	0.5	0.5	0.6	0.5	0.8	1.0	-0.3	-0.3
…GNI dur to reservations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
…Due to changes in methods and sources	0.5	0.5	0.6	0.5	0.8	0.7	-0.2	0.0
…Due to routine revisions	0.0	0.0	0.0	0.0	0.0	0.3	-0.1	-0.3

2.2.2.3.1 Value added

In 2018, value added at current prices grew by EUR 2.4 billion from the previous level. The growth in value added was mainly due to exhaustiveness revisions made to services. Corresponding changes were made for the entire 2010s and for some items even longer.

Items related to finance and insurance, and the grey and illegal economy have been added to the series with time series revisions.

In the financial sector, the growth in value added was affected by increased output of other operating income and revisions to the data on output and intermediate consumption in activities auxiliary to financial services.

Time series revisions have also been made to the levels of housing and construction.

2.2.2.3.2 Output and intermediate consumption

Changes that have a major effect on output and intermediate consumption but not on value added were also made in the time series revision. These changes directed to housing and local government decrease output and intermediate consumption by the same amount and thus do not change value added at current prices.

Energy consumption included in intermediate consumption and output of housing was moved into households’ consumption expenditure in the time series revision. The change affects the internal breakdown of households' consumption expenditure (between rents and energy) but not the level. In the new data they are so-called cold rents, which is a uniform practice with other EU countries. It is also in line with the recording of environmental accounts.

Internal items in the local government sector have been eliminated for the years 2004 to 2014. The items consist of the internal purchases and sales of health care joint municipal authorities that after elimination decrease the local government's market output and intermediate consumption.

2.2.2.3.3 Investments

The level of investments rose for 2018 by EUR 2.9 billion (around five per cent). The level revision did not have much effect on annual changes in investments.

In investments, the most significant changes were made to the levels of building construction investments. The changes concerned repairs to building construction production. The levels of civil engineering investments and machinery investments were also raised in connection with the time series revision.

2.2.2.3.4 Private consumption expenditure

The time series of households' consumption expenditure was now revised on the basis of the results of the 2016 Household Budget Survey. The inclusion of the results of the Household Budget Survey influenced the time series of households' consumption expenditure so that the overall level fell slightly. Other time series revisions were also made to households' consumption expenditure, mainly related to housing and the insurance sector.

In connection with this time series revision, a classification change related to the calculation level was also made to households' consumption expenditure, which raised the number of classes to be calculated.

2.2.2.3.5 Rest of the world

The definition change related to factoryless goods production was extended to the years 1999 to 2005. This lowered the level of service exports and raised the level of goods exports for these years but did not affect the level of total exports. For more recent years, the change has already been made earlier.

As a result of the time series revision, the time series of national accounts and balance of payments were harmonised. In connection with this, some changes have been made to the figures of foreign trade. For example, the handling of project deliveries has been changed, which has a lowering effect on the levels of service exports and imports but not on net exports.

More detailed information than before was obtained on certain significant enterprise reorganisations. This information has an effect on property income paid from Finland and received by Finland. The time series on income received from mutual funds was also revised to correspond with the new source data. This revision increased property income paid to Finland.

The time series revision for 2019 did not include any fundamental renewals, but as a result, national accounts data describe better than before the structure of the economy and changes in it.

2.3 Planned actions for improvements

According to the current plan, the next level revision of the National Accounts will be made in 2024. At that point, the data from the Household Budget Survey of the statistical reference year 2022 will be available. Prior

to this, smaller revisions may be made to the time series mainly to correct detected errors.

The precise content of the level revision in 2024 is naturally not yet known but at least in the following areas the quality of the National Accounts data published then will be improved if possible:

- Grey economy and illegal economy

Assessments concerning the grey economy and illegal economy always involve uncertainty and the latest studies and surveys in the area are always taken into consideration when estimating them. This may lead to time series revisions.

- Consolidation of general government's intra-group items

Currently only part of general government's intra-group purchases and sales are consolidated. Therefore, public total expenditure and income are shown as too large. The possibility to consolidate completely general government’s intra-group items will be assessed. This may lead to time series revisions. The revisions do not change the gross national income.

- Development projects of the information system

The reform of the information system of the National Accounts started in 2021. The reform will take several years and it will probably be introduced in the late 2020s.

- Improvements of source statistics

Calculations of multinational enterprises will be developed as part of an EU-wide programme with information exchange between the Member States. Statistics on local government finances will be renewed in 2020 to 2022. The planned regional administration reform (2022) will, in turn, apply in particular to human health and social work activities.

In 2019, the Tax Administration set up the Incomes Register, from which data have also been utilised at Statistics Finland. In the National Accounts, the Incomes Register is mainly used in the calculation of wages and salaries and employed persons.

CHAPTER 3 THE PRODUCTION APPROACH

3.0 GDP according to the production approach

The table below shows the level and distribution by industry of Finland's GDP in 2018.

The share of agriculture in production has clearly decreased also in Finland. The share of fishing and mining and quarrying has always been very low. By contrast, forestry and the related wood and paper industry have conventionally been "the backbone" of the Finnish economy. The metal industry is also large in Finland. In the 1990s, especially the production of the electronic industry increased considerably but in the 2010s the production decreased heavily. Other important industries in Finland are still today the food and chemical industries. There has been clear cyclical variation in construction. Distribution industries, trade and transport represent a considerable share of production. Education, health care and social services are nearly fully public activities in Finland.

Table 14: The level and distribution by industry of Finland's GDP in 2018

Industry	Value added, gross at basic prices, EUR million	% of value added
Industries, total	201,314	100
A Agriculture, Forestry and Fishery	5,572	3
B Mining and quarrying	991	0
C Manufacturing	34,072	17
D Electricity, gas, steam and air conditioning supply	4,140	2
E Water supply; sewerage, waste management and remediation activities	1,844	1
F Construction	14,975	7
G Wholesale and retail trade; repair of motor vehicles and motorcycles	18,043	9
H Transportation and storage	9,355	5
I Accommodation and food services activities	3,656	2
J Information and communication	11,851	6
K Financial and insurance activities	6,525	3
L Real estate activities	25,815	13
M Professional, scientific and technical activities	10,524	5
N Administrative and support service activities	7,529	4
O Public administration and defence; compulsory social security	11,357	6
P Education	10,181	5
Q Human health and social work activities	18,832	9
R Arts, entertainment and recreation	2,512	1
S Other service activities	3,206	2
T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	334	0

Table 15: Output, intermediate consumption and gross value added by industry, 2018

Industry	P1 Output at basic prices	P2 Intermediate consumption at purchasers' price	B1GPH Value added, gross at basic prices
A Primary production	10,631	5,059	5,572
A Agriculture, Forestry and Fishery	10,631	5,059	5,572
01 Crop and animal production, hunting and related service activities	4,690	3,346	1,344
02 Forestry and logging	5,720	1,611	4,109
02 Forestry and logging	221	102	119
B-F Secondary production	175,000	118,978	56,022
B Mining and quarrying	2,567	1,576	991
05_06 Mining of coal and lignite, extraction of crude petroleum and natural gas.	0	0	0
07 Mining of metal ores	1,234	690	544
08 Other mining and quarrying	1,151	771	380
09 Mining support service activities	182	115	67
C Manufacturing	120,241	86,169	34,072
10 Manufacture of food products	10,262	7,937	2,325
11 Manufacture of beverages	1,099	687	412
12 Manufacture of tobacco products	0	0	0
13 Manufacture of textiles	507	314	193
14 Manufacture of wearing apparel	278	150	128
15 Manufacture of leather and related products	216	129	87
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	6,671	5,295	1,376
17 Manufacture of paper and paper products	15,410	11,786	3,624
18 Printing and reproduction of recorded media	1,077	679	398
19 Manufacture of coke and refined petroleum products	9,858	9,142	716
20 Manufacture of chemicals and chemical products	8,635	6,184	2,451
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	2,208	649	1,559
22 Manufacture of rubber and plastic products	3,126	2,053	1,073
23 Manufacture of other non-metallic mineral products	3,311	2,131	1,180
24 Manufacture of basic metals	9,757	8,031	1,726
25 Manufacture of fabricated metal products, except machinery and equipment	7,894	5,100	2,794
26 Manufacture of computer, electronic and optical products	9,141	5,715	3,426
27 Manufacture of electrical equipment	5,320	3,570	1,750
28 Manufacture of machinery and equipment n.e.c.	15,963	10,524	5,439
29 Manufacture of motor vehicles, trailers and semi-trailers	2,165	1,428	737
30 Manufacture of other transport equipment	1,982	1,541	441
31 Manufacture of furniture	1,163	783	380
32 Other manufacturing	728	439	289
33 Repair and installation of machinery and equipment	3,470	1,902	1,568
D Electricity, gas, steam and air conditioning supply	9,393	5,253	4,140
35 Electricity, gas, steam and air conditioning supply	9,393	5,253	4,140
E Water supply; sewerage, waste management and remediation activities	4,115	2,271	1,844
36 Water collection, treatment and supply	774	333	441
37 Sewerage	764	305	459
38 Waste collection, treatment and disposal activities; materials recovery	2,457	1,563	894
39 Remediation activities and other waste management services	120	70	50
F Construction	38,684	23,709	14,975
411 Development of building projects	488	346	142
412+432_439 Building construction, etc. excl. building development.	28,623	17,171	11,452
42+431 Civil engineering, etc.	9,573	6,192	3,381

G-T Services	250,579	110,859	139,720
G Wholesale and retail trade; repair of motor vehicles and motorcycles	34,211	16,168	18,043
45 Wholesale and retail trade and repair of motor vehicles and motorcycles	6,212	2,935	3,277
46 Wholesale trade, except of motor vehicles and motorcycles	15,561	7,524	8,037
47 Retail trade, except of motor vehicles and motorcycles	12,438	5,709	6,729
H Transportation and storage	24,919	15,564	9,355
49 Land transport and transport via pipelines	10,680	5,976	4,704
50 Water transport	2,431	1,788	643
51 Air transport	3,013	2,154	859
52 Warehousing and support activities for transportation	7,407	4,977	2,430
53 Post and courier activities	1,388	669	719
I Accommodation and food services activities	8,773	5,117	3,656
55 Accommodation	1,981	1,226	755
56 Food and beverage service activities	6,792	3,891	2,901
J Information and communication	23,984	12,133	11,851
58 Publishing activities	5,622	3,327	2,295
59_60 Audio-visual activities	1,975	914	1,061
61 Telecommunications	4,283	1,961	2,322
62_63 Computer and information service activities	12,104	5,931	6,173
K Financial and insurance activities	13,427	6,902	6,525
64 Financial service activities, except insurance and pension funding	7,177	3,544	3,633
65 Insurance, reinsurance and pension funding, except compulsory social security	3,175	1,477	1,698
66 Activities auxiliary to financial services and insurance activities	3,075	1,881	1,194
L Real estate activities	34,959	9,144	25,815
68 Real estate activities	34,959	9,144	25,815
681+68209+683 Other real estate activities	7,320	3,112	4,208
68201 Letting of dwellings	7,190	2,283	4,907
68202 Operation of dwellings and residential real estate	20,449	3,749	16,700
M Professional, scientific and technical activities	18,887	8,363	10,524
69 Legal and accounting activities	2,854	921	1,933
70 Activities of head offices; management consultancy activities	3,913	2,127	1,786
71 Architectural and engineering activities; technical testing and analysis	6,763	2,973	3,790
72 Scientific research and development	2,240	678	1,562
73 Advertising and market research	1,430	760	670
74 Other professional, scientific and technical activities	1,376	757	619
75 Veterinary activities	311	147	164
N Administrative and support service activities	12,712	5,183	7,529
77 Rental and leasing activities	2,235	1,208	1,027
78 Employment activities	3,257	739	2,518
79 Travel agency, tour operator and other reservation service and related activities	845	576	269
80 Security and investigation activities	866	335	531
81 Services to buildings and landscape activities	3,943	1,543	2,400
82 Office administrative, office support and other business support activities	1,566	782	784
O Public administration and defence; compulsory social security	21,551	10,194	11,357
84 Public administration and defence; compulsory social security	21,551	10,194	11,357
P Education	14,264	4,083	10,181
85 Education	14,264	4,083	10,181
Q Human health and social work activities	30,557	11,725	18,832
86 Human health activities	17,852	7,870	9,982
87_88 Social services	12,705	3,855	8,850

R Arts, entertainment and recreation	5,634	3,122	2,512
90_91 Cultural activities	2,031	982	1,049
92 Gambling and betting activities	568	444	124
93 Sports activities and amusement and recreation activities	3,035	1,696	1,339
S Other service activities	6,352	3,146	3,206
94 Activities of membership organisations	4,069	2,179	1,890
95 Repair of computers and personal and household goods	321	164	157
96 Other personal service activities	1,962	803	1,159
T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	349	15	334
97_98 Household service activities	349	15	334
Total	436,210	234,896	201,314
D21K Taxes on products, expenditure			32,855
D39R Other subsidies on production, income			701
B1GMH Gross domestic product at market prices			233,468

Table 16: Output, intermediate consumption and gross value added by sector, 2018

Sector	P1 Output at basic prices	P2 Intermediate consumption at purchasers' price	B1GPH Value added, gross at basic prices
S1 Total economy (resident sectors total)	436,210	234,896	201,314
S11 Non-financial corporations	310,337	185,317	125,020
S12 Financial and insurance corporations	13,598	7,049	6,549
…S121 Central bank	97	40	57
…S122 Other monetary financial institutions	6,559	3,116	3,443
……S1221 Deposit banks	5,192	2,534	2,658
……S1222 Other credit institutions	1,367	582	785
…S125 Other financial intermediaries	290	211	79
…S126 Financial auxiliaries	3,075	1,881	1,194
…S127 Captive financial institutions and money lenders	231	177	54
…S128 Insurance corporations	3,305	1,617	1,688
…S129 Pension funds	41	7	34
S13 General government (consolidated)	62,269	25,094	37,175
…S1311 Central government	17,758	6,683	11,075
…S1313 Local government	42,374	17,264	25,110
…S1314 Social security funds	2,137	1,147	990
……S13141 Employment pension schemes	1,461	880	581
……S13149 Other social security funds	676	267	409
S14 Households	41,300	13,277	28,023
S15 Non-profit institutions serving households	8,706	4,159	4,547

3.1 The reference framework

The production approach is dominant in the Finnish National Accounts when calculating the gross domestic product. As CHAPTER 5 explains, the expenditure approach is also considered when accounts are balanced.

The calculation of the National Accounts is not arranged based on different approaches to gross domestic product, but mainly on sector-specific and

transaction-specific tasks. The compilation organisation is described in more detail in Section 1.1.3.

Gross value added at basic prices is the sum of sector-specific gross value added. When product taxes are added and subsidies on products are subtracted from the gross value added at basic prices, the gross value added at market prices or gross domestic product is derived. The final levels are based on supply and use tables.

3.1.1 Statistical unit

The statistical units of the production approach of the Finnish National Accounts are product, establishment, producer and institutional unit. An establishment is a production unit that is owned by one enterprise, or a quasi-corporate unit, located on one site and produces goods and services of mainly one particular type. An establishment equals a local kind-of-activity unit as defined in ESA 2010. The basic angle of view of the National Accounts is, however, the institutional sector that is also used as the basic frame for industry-specific examination.

3.1.2 Classifications

- Classification of Sectors

The Classification of Institutional Sectors is the basic classification of the National Accounts. In addition to the production and income formation accounts, the income distribution and use of income accounts, as well as the income formation accounts, the capital account and financial account are compiled according to the Classification of Sectors. The Classification of Sectors used in Finland is presented in Section 9.1.1.

- Standard Industrial Classification

The Finnish National Accounts contain 182 industries at the most detailed calculation level, the summary level of the economy has 92 industries. The same industries are also used in preliminary calculations. The production and income formation accounts are compiled by industry.

- Classification of producer types

Next to the Standard Industrial Classification, the establishment-based Classification of producer types is also used. The main producer types are: market producers and non-market producers. Market producers are divided into producers for own final use and other non-market producers.

- Product classification

The final figures are based on a product classification comprising 836 products. The classification is based on the CPA2008 classification. The product classification is explained in CHAPTER 6 and the actual classification can be found in ANNEX 1.

Production and income formation accounts at current prices are thus compiled with three classifications: classified by industry, producer type and institutional sector.

The gross value added is generated as the difference between the output and intermediate consumption for market producers and producers for own final use. The gross value added for other non-market producers is the sum of compensation of employees and the consumption of fixed capital. In this case, output is generated by adding intermediate consumption to the gross value added.

3.1.2.1 *Formation of the classification of sectors*

3.1.2.1.1 Deduction of sector category

A sector category is formed for the units in the Business Register and the National Accounts framework mainly automatically by deriving it from the definition diagram of the Classification of Sectors. In the definition diagram, the units are divided to the sectors based on data on legal form, owner type, or control relation, industry category and producer type. If the unit's automatically deduced data on the sector category are inconsistent, the sector category is corrected and changed manually in an exception table, which overrides automatic reasoning. Such units for which automatic deduction is not, as a rule, used to define the sector category are entered in the exception table by means of the individualising Business ID. The sector category data in the basic data of the Business Register are updated several times a year when administrative data are received. The annual data of the sector category are derived two to three times a year.

3.1.2.1.2 Handling of borderline cases

Public producers that are not independent legal entities and that are market producers are classified in sector S.11 as public quasi-corporations when they produce goods or services. Of municipally owned enterprises, those operating in water and waste management are treated as market producers. Of state-owned enterprises, Metsähallitus (the Finnish Forest and Park Service), operates as a market producer in sector S11, but Senate Properties as a non-market producer in sector S1311.

Private unincorporated enterprises refer to natural persons and, for example, estates that may have as their sector category S.11 quasi-corporations or S.141 unincorporated household enterprises and own-account workers. The sector category of unincorporated enterprises is always S.14 when their industry category is 01 (crop and animal production, hunting and related service activities). In other industries, unincorporated enterprises are divided based on self-employed persons and staff-years so that units of under two persons are classified in sector S.14 and units of two persons and over in sector S.11. In the industries of letting of dwellings (NACE 68201) and operation of dwellings and residential real estate (NACE 68202) non-incorporated enterprises are classified in sector S.11.

Private non-profit institutions serving households are classified into institutional sector categories based on legal form, industry category and producer type.

When the principal activity of the unit is production of goods and services, the producer type is defined for the unit. Either market or non-market producer type is defined for a unit based on an economically significant price that is viewed in terms of production costs and sales revenue by qualitative and quantitative criteria if information is available on them by unit.

Non-profit institutions serving households are classified as non-market producers in sector category S.15 non-profit institutions serving households.

The industrial classification is used to classify non-profit institutions in the industry category of business and trade, employers and trade associations into the non-financial corporations sector S.11102.

In real estate activities, non-profit institutions operating in the industries of letting of dwellings and operation of dwellings and residential real estate are in principle classified in the sector of other housing corporations.

Non-profit institutions operating in the industry of financial and insurance services are classified in the financial and insurance corporations sector S.12, when they are market producers or serve financial and insurance corporations.

The Business Register covers all such non-profit institutions serving households that pay wages and salaries or have taxable income with the tax return of associations and foundations.

Non-profit institutions serving households are separated from market producers based on a quantitative criterion, from units in the household sector based on legal form (e.g. a natural person belongs to households), from general government based on the control relation (derived from the Business Register or by manual examination), and from units serving business and trade based on the industry category.

3.1.2.1.3 Application group of the Classification of Sectors

In 2009, Statistics Finland set up a permanent working group to ensure uniform application of the Classification of Sectors at Statistics Finland. In the present organisation, Statistics Finland’s Information and Statistical Services service area is responsible for the principles of the Classification of Sectors and the practical application is assigned to the Business Register located in the Data Resources Department.

The function of the working group is to ensure practical cooperation related to the Classification of Sectors between economic statistics and the Business Register. The tasks of the working group also include providing information about the classification decisions presented by the National Accounts and balance of payments steering group and changes to the Classification of Sectors to the statistics using Statistics Finland’s Classification of Sectors and to the Bank of Finland.

The duty of the working group is especially to handle new units or difficult borderline cases and make a decision on the sector category of the unit in question. Decision-making often also involves defining the industry

category or the group's sector category. The working group may also discuss other questions relating to the application of the Classification of Sectors.

3.1.2.2 *Formation of the industrial classification*

The Standard Industrial Classification TOL 2008 is used in the National Accounts. The Standard Industrial Classification 2008 is based on the EU's common industrial classification, NACE Rev. 2 that is confirmed with a Regulation of the European Parliament and of the Council. The Regulation is binding to the Member States, i.e. EU Member States have to use NACE or a national version based on it in official statistics. TOL 2008 is such a Finnish national version as intended in the Regulation and approved by Eurostat.

The most detailed existing industry level of the national classification is at the accuracy of five digits. The industry is at the most detailed possible level in the Business Register and in the statistics on enterprise and establishments. The Business Register is responsible for the maintenance and application of the Standard Industrial Classification.

In the releases of the national accounts, manufacturing industries are released at the 3-digit level and service industries at the 2-digit level. The classification frame of industries is used in the national accounts, with which the most detailed level industries are converted into higher level industries.

The most detailed industry level is formed in the Business Register. One industry category (TOL code) is assigned to each Business Register unit according to its main economic activity. The main economic activity is the one that produces a majority of the unit's value added. If value added cannot be determined, substitute indicators, such as gross output or turnover, are used. The category descriptions of classifications, Eurostat's NACE working group's decisions, classification conversion keys and references to other basic classification systems are used when determining the industry code.

For single-establishment enterprises, data by industry are obtained from several sources. As a rule, enterprises report their industry to the tax return on their business activity. Data on the industry of single-establishment enterprises are also collected in the Business Register inquiry for single-establishment enterprises. The inquiry includes all new single-establishment enterprises and units employing more than ten persons (FTE, full-time equivalent). Enterprises with more than ten staff-years are included in the inquiry in their own rotation, which means that the same unit is included in the inquiry every three years. In addition, at least 50 quality control units whose data are checked are selected to the sample from all character level industries apart from A, B, T and U.

In the inquiry for single-establishment enterprises, the Tax Administration's industry data have been pre-filled, but the enterprise can change the industry data on its establishment. For very small enterprises

(under ten FTE's) and units not included in the inquiry data are obtained directly from the Tax Administration.

In the case of multi-establishment units, the significant shares of activities belong to more than one industry category. Multi-establishment units are asked about their industry-specific data with two inquiries. The first is the inquiry on establishment structure and personnel, which is an inquiry made in cooperation with the employment statistics. All multi-establishment units employing more than 15 persons are included in this inquiry. The second is the Business Register's inquiry for multi-establishment enterprises that includes units employing five to 14 persons. In these cases the unit's main activity is determined based on the value added generated by various activities according to the following rules:

- if a unit is engaged in activities classified into two different categories, its value-added share is usually over 50 per cent and the industry category is determined based on these activities. In a rare case, the value-added share of both activities may be 50 per cent, and then the case must be considered individually.
- if a unit is engaged in more than two activities classified into different categories and no share is more than 50 per cent, the industry of the unit must be determined using the top-down method described below.

In the case of multi-establishment units, industry data are always derived with the top-down method. In this method, the industry of the unit is deduced from the upper level with the help of the rules. The industry category at the lowest level of the unit must be consistent with its highest-level industry category. In order to achieve this, it is necessary to start from defining the highest level and move in degrees from that to the lowest level:

1. define the main category of the enterprise's activities with the largest value added
2. within the defined main category, the 2-digit level with the highest value added is defined
3. within the defined 2-digit level the 3-digit level with the highest value added is defined
4. within the defined 3-digit level the 4-digit level with the highest value added is defined.

The main activity of the units may change seasonally or by a decision to change activities. Although changes in activity require classification changes, too frequent changes may cause conflicts between short and long-term statistics and make their interpretation difficult. In cases where a unit engages in two different activities and both generate approximately one-half of value added, a stability rule is applied, the purpose of which is to avoid repeatedly changing the industry without essentially changing the economic reality. According to the rule, the main industry should only be

changed when the share of activities classified as the main activity has been under 50 per cent for at least two years.

The industry data of both single-establishment and multi-establishment units are checked if there are conflicts in the data (e.g. the enterprise's activity description does not correspond with the industry reported by the enterprise). An industry defined by Statistics Finland can also differ from the one reported by the enterprise to the Tax Administration. For example, the industry of the activity of certain units may be prescribed on EU level. On the other hand, an enterprise can correct its industry in the Business Register inquiries. An industry produced with the top-down method for multi-establishment units may also deviate from the industry reported by the enterprise itself.

3.1.2.2.1 Application group of the Standard Industrial Classification

The application group of the Standard Industrial Classification was set up for the first time in 2009. The task of the group is to ensure uniform application of the Standard Industrial Classification.

The chair of the group is appointed from the Business Register. Other members of the group are representatives of each statistical area using the Standard Industrial Classification.

The application group of the Standard Industrial Classification has continuous (items 1 to 2 below) and project-type objectives and tasks. Continuous objectives and tasks:

1. Statistics Finland applies the Standard Industrial Classification uniformly (continuous objective)
    a. The application is uniform throughout the production of statistics. The industry-specific data of different statistical areas are comparable.
    b. The application is consistent with other European countries. Finland’s statistical data are internationally comparable.
2. Coordinate the uniform application of the Standard Industrial Classification
    a. Solve problems in the application of the Standard Industrial Classification in cooperation with the statistical areas selected by the members of the group. Guidelines on the application of the Standard Industrial Classification, prepare example cases to support consistent solution of possible repetitive application problems, and provide information about the solutions and effects of application challenges.
    b. In Finland and other European countries: Take into account the opinions and recommendations of the European network of industrial classifications in all application solutions and if necessary, ask for an opinion from the network. In this way, the solutions not only guarantee the unity of national application but also European and international comparability.

Project-type tasks are connected to the classification being accurate and relevant for describing Finnish society. International classifications of economic activities are updated at regular intervals, whereby changes are also made to national classifications. Representatives of Finland take part in international seminars on industrial classification questions. Each member of the working group is responsible for formulating the views on their own statistical area into proposals for revisions to the Standard Industrial Classification. If shortcomings are detected in the present industrial classification, the national classification can also be edited or functions and classifications can be redefined.

3.1.3 Branches in Finland and abroad

The main principles of the handling of branches are the following: foreign branches of Finnish entities are excluded from the National Accounts framework and branches belonging to a non-resident unit in Finland are included in the National Accounts framework if these branches have personnel. However, in the industry of Air Transport (NACE 51) branches are not included at all because of unreliable data.

There is no complete register (codes, data base) to identify all branches of Finnish entities abroad. The largest units are estimated by using a) annual reports and annexes to the financial statements b) Statistics Finland's Financial statements inquiry for enterprises which includes the yes/no question 'The financial statement includes the income and expenses of a foreign branch'. Using this information, the figures belonging to the branches are excluded from the source data.

Branches belonging to a non-resident unit in Finland are identified by legal form. The classification of legal forms is based on the company forms of the Trade Register and on the requirements of taxation legislation. The legal forms of enterprises are recorded in the Business Information Systems (YTJ). Statistics Finland's classification of legal forms is based on this system (YTJ) and on the Tax Administration's coding of legal forms. Branches of foreign entities are classified into '71' category of legal form.

3.1.4 Special Purpose Entities (SPEs)

Statistics Finland has developed the processing of SPE flagging in accordance with the final report[13] of the IMF working group. The processing includes all items of the decision tree presented in the final report. For technical reasons and reasons related to the data, not all boundary values of the decision tree are used directly in the processing. For the purpose of flagging, Statistics Finland has set up an SPE working group whose tasks include transferring the IMF working group's SPE definition into production, flagging enterprises and monitoring the international SPE work. The group consists of representatives from the Business Register, the FATS statistics, the Enterprise Group Register and the balance of payments. The flagging is made once a year when the annual data of the Business Register and balance of payments are finalised. In individual

[13] Available at: https://www.imf.org/external/pubs/ft/bop/2018/pdf/18-03.pdf

cases, such as a corporate acquisition, SPE flagging can be made with an accelerated schedule.

The processing is carried out with the SAS EG software, adapting the items in the decision tree. The main sources are the Business Register, the Enterprise Group Register and the balance of payments. The use of Eurostat's EGR system has been studied but due to data deficiencies and the slow updating interval it was discarded. In addition, the potential benefits of the European Central Bank's RIAD system have been examined but no benefits have yet been seen.

All companies having received an SPE entry are examined manually and their data are mirrored to the typology found in the final report of the SPE working group. Enterprises that have received final flagging get the SPE entry in the Business Register and they are added to the annual financial statements inquiry for enterprises. In addition, the sectors of companies are checked. All statistics that have data needs from SPE enterprises get the information from the Business Register.

The use of the decision tree presented in the final report of the IMF working group item by item at Statistics Finland:

- Is the entity formally registered and/or incorporated resident institutional unit?

If the company has a Finnish Business ID, it belongs to the sample. Statistics Finland flags all SPEs with a balance sheet exceeding EUR 100 million. The statistical benefit has been found to be small for enterprises under that balance sheet value. In addition, enterprises added to the SPE frame are automatically added to the annual financial statements inquiry, which can reduce the response burden of smaller enterprises.

- Is the entity directly or indirectly controlled by non-resident(s)?

The data are extracted from the Enterprise Group Register and in individual cases the balance of payments is used as the source.

- Is the entity established with one or more of the four objectives in the definition?

If all other items of the decision tree are met, the objective for this item is assumed to be met.

- Does the entity have no or up to five employees?

Due to the data sources, the limit value used is 10 employees. An imputed number for the personnel is produced in the business information system, so it has been found that it is best to use 10 instead of five employees.

- Does the entity have little or no physical presence and physical production in the host economy?

Imputed variables created from the Business Register. The balance sheet data are drawn from the register and if the enterprise's fixed assets, turnover, sales or purchases exceed two per cent of the balance sheet the company is dropped from the processing.

- Does the entity transact almost entirely with non-residents?

The balance sheet and balance of payments data of the remaining enterprises are compared. If over 95 per cent of the items in the company's balance sheet are invested abroad, the company gets the SPE entry.

3.2 The borderline cases

The handling of borderline cases in the National Accounts is explained in the Sections describing the output and intermediate consumption of sectors, as well as taxes and subsidies.

3.3 Valuation

The compilation accuracy of the Finnish National Accounts is EUR one million, but the accuracy of the source data is usually EUR one or one thousand.

Transactions are mainly valued at market prices, i.e. at the value at which the flows and reserves are actually traded or could be traded for money. If trade values are not directly available, the market prices of corresponding goods, services or assets are used. For example, the output of owner-occupied dwellings is valued based on the rent level of corresponding rented dwellings. When prices for corresponding goods are not available, for example in terms of non-market services produced by public activities, production costs are used in valuation.

Use of products is valued at the purchaser's price. For example, intermediate consumption thus includes transport costs, trade margins and product taxes (incl. value added tax if it is not deductible). Output, in turn, is valued at basic prices, i.e. it contains subsidies on products but not product taxes or transport costs, nor trade margins. For market output the basic prices are directly available from data sources, i.e. the SBS data source is at basic prices.

Transactions are primarily recorded on accrual basis. If this is not the case, it is mentioned separately.

Detailed descriptions of valuation of transactions are included in the figures describing each respective transaction.

The Finnish National Accounts are for the most parts also compiled at fixed prices, (at previous year's prices). This description discusses the compilation of the National Accounts at current prices not fixed prices. Calculations at fixed prices are referred to only when they are needed to make the current price calculations.

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

The approximate equivalence between the concepts of the National Accounts and non-profit corporations' profit and loss account is explained in the following:

Table 17: The approximate equivalence between the concepts of the National Accounts and non-profit corporations' profit and loss account

National Accounts	Profit and loss account
	SALES REVENUE
	- Indirect taxes
OUTPUT at basic prices	= TURNOVER (incl. change in inventory, production for own use and other operating income, excl. transfer gains from fixed assets)
- Intermediate consumption at purchaser's price	- Materials and services and other operating expenses
= GROSS VALUE ADDED at basic price (GBP)	
- Wages and salaries	- Wages, salaries and subsidies
- Social insurance contributions	- Indirect staff expenses (excl. direct pensions and items belonging to intermediate consumption)
= GROSS OPERATING SURPLUS	(= OPERATING MARGIN)
- Consumption of fixed capital	- Depreciation, amortisation and reduction in value
= OPERATING SURPLUS	= OPERATING PROFIT/LOSS
+ Property income and current transfers received	+ Financial income (interests, dividends, etc.)
- Property income paid and current transfers paid	- Financial expenses, direct taxes and dividends paid
= DISPOSABLE INCOME	= PROFIT/LOSS FOR THE PERIOD (before extraordinary items and appropriations minus dividends paid and direct taxes)

For market producers, the main data source in calculating the output and/or intermediate consumption of most industries is the structural statistics. Structural statistics combine data from the Register of Enterprise and Establishments, the business tax register and the direct inquiry. The concepts of the statistics are based on the concepts of enterprises' profit and loss accounts.

In the output calculation, change in the inventory of finished products and work in progress, production for own final use, and other operating income are added to turnover according to structural statistics. Holding gains/losses of the inventory items are included in the change of inventories calculation. In other operating income, proceeds from sales of fixed assets are separated from other more permanent income items like rental income. Sales gains from fixed assets are not included in the output. More detailed description in chapter 3.7.2.5.

Purchases during the accounting period (excl. purchases into inventory), purchases of outside services, direct leasing rents, and other variable and

fixed costs from business structural statistics are included in intermediate consumption. Any training and recreation costs possibly included in social security costs are transferred to intermediate consumption by comparing different data sources with one another. More detailed description in chapter 3.7.2.6.

The use of other main data sources is explained separately under the section in question, for example, the use of economic statistics on municipalities in connection with calculations on joint municipal authorities.

Finland's source statistics data are extensively based on total data that are collected in accordance with bookkeeping data. Enterprises' bookkeeping data are also the basis for special analyses. The Finnish Accounting Standards Board gives instructions on interpretations of the law and has determined the maximum value for durable goods recorded in intermediate consumption.

Conceptual adjustments of the production approach by NACE according to the process tables is seen on Figure 10.

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

The calculation of output and intermediate consumption in the Finnish National Accounts is mainly based on the use of direct estimation methods. Direct estimation methods are the use of structural statistics, the business register, financial statements of the state, statistics on finances of municipalities, bank statistics, insurance company statistics and other total statistics. Indirect estimation methods are, for example, a *price times amount* type method.

The compilation of the Finnish National Accounts is mainly based on the use of source statistics compiled every year. A benchmark point and extrapolation are used in calculating the output in the following cases:

In the industry of fishing (B), the catch volume from recreational fishing is based on a survey that is carried out every two years. In the intermediate years, the data from the previous year are used.

The actual and computational rents of free-time residences are based on actual housing costs that are calculated based on the data from the Household Budget Survey. The Household Budget Survey was last made for the years 2006, 2012 and 2016.

	Basis for NA Figures												
				Extrapolation and Models									
	Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Total Extrap+Models	Other	Total (sources)
GDP PRODUCTION APPROACH													
Output of goods and services (at basic prices)	**11196**	**13767**	**363309**	**3279**	**0**	**8334**	**26211**	**2988**	**3065**	**582**	**44459**	**18755**	**451486**
Intermediate consumption (at purchasers' prices)	**7483**	**8272**	**230174**	**675**	**0**	**0**	**0**	**0**	**0**	**0**	**675**	**6197**	**252801**
Gross value added (at basic prices)	**3713**	**5495**	**133135**	**2604**	**0**	**8334**	**26211**	**2988**	**3065**	**582**	**43784**	**12558**	**198685**
A Agriculture, forestry and fishing													
Output of goods and services (at basic prices)	0	0	72	0	0	0	0	0	0	0	0	10402	10474
Intermediate consumption (at purchasers' prices)	0	-1	26	0	0	0	0	0	0	0	0	4958	4983
Gross value added (at basic prices)	0	1	46	0	0	0	0	0	0	0	0	5444	5491
B Mining and quarrying													
Output of goods and services (at basic prices)	0	0	2484	0	0	0	0	0	0	0	0	36	2520
Intermediate consumption (at purchasers' prices)	-8	-3	1635	0	0	0	0	0	0	0	0	-22	1602
Gross value added (at basic prices)	8	3	849	0	0	0	0	0	0	0	0	58	918
C Manufacturing													
Output of goods and services (at basic prices)	0	0	119118	0	0	0	0	0	0	0	0	3623	122741
Intermediate consumption (at purchasers' prices)	-141	-160	90091	0	0	0	0	0	0	0	0	-1225	88565
Gross value added (at basic prices)	141	160	29027	0	0	0	0	0	0	0	0	4848	34176
D Electricity, gas, steam and air conditioning supply													
Output of goods and services (at basic prices)	0	0	8446	0	0	0	0	0	0	0	0	88	8534
Intermediate consumption (at purchasers' prices)	-73	-6	4948	0	0	0	0	0	0	0	0	-52	4817
Gross value added (at basic prices)	73	6	3498	0	0	0	0	0	0	0	0	140	3717
E Water supply; sewerage, waste management and													
Output of goods and services (at basic prices)	0	3	3993	0	0	0	0	0	0	0	0	15	4011
Intermediate consumption (at purchasers' prices)	-16	-1	2457	0	0	0	0	0	0	0	0	-104	2336
Gross value added (at basic prices)	16	4	1536	0	0	0	0	0	0	0	0	119	1675
F Construction													
Output of goods and services (at basic prices)	0	7	34548	2069	0	15	0	0	0	0	2084	47	36686
Intermediate consumption (at purchasers' prices)	-58	-10	22318	0	0	0	0	0	0	0	0	1349	23599
Gross value added (at basic prices)	58	17	12230	2069	0	15	0	0	0	0	2084	-1302	13087
G Wholesale and retail trade; repair of motor vehicle													
Output of goods and services (at basic prices)	0	62	33187	0	0	0	0	0	0	0	0	320	33569
Intermediate consumption (at purchasers' prices)	-266	-186	16893	0	0	0	0	0	0	0	0	-114	16327
Gross value added (at basic prices)	266	248	16294	0	0	0	0	0	0	0	0	434	17242
H Transportation and storage													
Output of goods and services (at basic prices)	0	19	24397	0	0	0	0	0	0	0	0	20	24436
Intermediate consumption (at purchasers' prices)	-287	-25	15714	0	0	0	0	0	0	0	0	-47	15355
Gross value added (at basic prices)	287	44	8683	0	0	0	0	0	0	0	0	67	9081
I Accommodation and food service activities													
Output of goods and services (at basic prices)	65	87	7998	0	0	2	0	0	0	0	2	-1	8151
Intermediate consumption (at purchasers' prices)	31	28	4884	0	0	0	0	0	0	0	0	-14	4929
Gross value added (at basic prices)	34	59	3114	0	0	2	0	0	0	0	2	13	3222
J Information and communication													
Output of goods and services (at basic prices)	506	61	22062	0	0	205	0	0	0	0	205	635	23469
Intermediate consumption (at purchasers' prices)	201	-75	11796	0	0	0	0	0	0	0	0	87	12009
Gross value added (at basic prices)	305	136	10266	0	0	205	0	0	0	0	205	548	11460
K Financial and insurance activities													
Output of goods and services (at basic prices)	6530	0	0	0	0	0	0	2988	3065	0	6053	662	13245
Intermediate consumption (at purchasers' prices)	6575	0	0	0	0	0	0	0	0	0	0	223	6798
Gross value added (at basic prices)	-45	0	0	0	0	0	0	2988	3065	0	6053	439	6447
L Real estate activities													
Output of goods and services (at basic prices)	171	0	9956	1210	0	313	26211	0	0	0	27734	841	38702
Intermediate consumption (at purchasers' prices)	131	-22	9716	675	0	0	0	0	0	0	675	298	10798
Gross value added (at basic prices)	40	22	240	535	0	313	26211	0	0	0	27059	543	27904
L Imputed rents of owner-occupied dwellings													
Output of goods and services *(at basic prices)*	*0*	*0*	*117*	*1051*	*0*	*0*	*19281*	*0*	*0*	*0*	*20332*	*0*	*20449*
Intermediate consumption *(at purchasers' prices)*	*0*	*0*	*2002*	*618*	*0*	*0*	*0*	*0*	*0*	*0*	*618*	*0*	*2620*
Gross value added *(at basic prices)*	*0*	*0*	*-1885*	*433*	*0*	*0*	*19281*	*0*	*0*	*0*	*19714*	*0*	*17829*
M Professional, scientific and technical activities													
Output of goods and services (at basic prices)	461	714	16104	0	0	512	0	0	0	5	517	327	18123
Intermediate consumption (at purchasers' prices)	134	198	7740	0	0	0	0	0	0	0	0	-121	7951
Gross value added (at basic prices)	327	516	8364	0	0	512	0	0	0	5	517	448	10172
N Administrative and support service activities													
Output of goods and services (at basic prices)	0	357	12805	0	0	1	0	0	0	0	1	78	13241
Intermediate consumption (at purchasers' prices)	-78	147	5779	0	0	0	0	0	0	0	0	-21	5827
Gross value added (at basic prices)	78	210	7026	0	0	1	0	0	0	0	1	99	7414
O Public administration and defence; compulsory so													
Output of goods and services (at basic prices)	0	8485	10342	0	0	3557	0	0	0	48	3605	1008	23440
Intermediate consumption (at purchasers' prices)	0	4681	6708	0	0	0	0	0	0	0	0	619	12008
Gross value added (at basic prices)	0	3804	3634	0	0	3557	0	0	0	48	3605	389	11432
P Education													
Output of goods and services (at basic prices)	3463	530	7918	0	0	2222	0	0	0	128	2350	40	14301
Intermediate consumption (at purchasers' prices)	1374	461	2323	0	0	0	0	0	0	0	0	-1	4157
Gross value added (at basic prices)	2089	69	5595	0	0	2222	0	0	0	128	2350	41	10144
Q Human health and social work activities													
Output of goods and services (at basic prices)	0	843	40098	0	0	957	0	0	0	194	1151	13	42105
Intermediate consumption (at purchasers' prices)	-22	675	22629	0	0	0	0	0	0	0	0	-13	23269
Gross value added (at basic prices)	22	168	17469	0	0	957	0	0	0	194	1151	26	18838
R Arts, entertainment and recreation													
Output of goods and services (at basic prices)	0	776	6584	0	0	352	0	0	0	81	433	21	7814
Intermediate consumption (at purchasers' prices)	-12	644	3647	0	0	0	0	0	0	0	0	-23	4256
Gross value added (at basic prices)	12	132	2937	0	0	352	0	0	0	81	433	44	3558
S Other service activities													
Output of goods and services (at basic prices)	0	1823	2965	0	0	198	0	0	0	126	324	580	5692
Intermediate consumption (at purchasers' prices)	-2	1927	870	0	0	0	0	0	0	0	0	420	3215
Gross value added (at basic prices)	2	-104	2095	0	0	198	0	0	0	126	324	160	2477
T Activities of households as employers; undifferen													
Output of goods and services (at basic prices)	0	0	232	0	0	0	0	0	0	0	0	0	232
Intermediate consumption (at purchasers' prices)	0	0	0	0	0	0	0	0	0	0	0	0	0
Gross value added (at basic prices)	0	0	232	0	0	0	0	0	0	0	0	0	232
Taxes on products	**2904**	**30024**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32928**
Value added type taxes	2877	18493	0	0	0	0	0	0	0	0	0	0	21370
Taxes and duties on imports excluding VAT	0	174	0	0	0	0	0	0	0	0	0	0	174
Taxes on products, except VAT and import taxes	27	11357	0	0	0	0	0	0	0	0	0	0	11384
Subsidies on products	**0**	**66**	**104**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**461**	**631**

Figure 9: Direct and indirect estimation methods of the production approach according to the process tables

3.6 Main approaches taken with respect to exhaustiveness

The primary compilation method for the Finnish National Accounts is the output approach. Ensuring exhaustiveness is based both on industry-level examination and product-specific balancing in the supply and use tables.

In practice, the main measure to ensure exhaustiveness is comparing the data in various source data. Extensive basic data concerning production are the Register of Enterprises and Establishments that covers all enterprises and corporations, as well as entrepreneurs. Another extensive data source used in the calculation of the gross domestic product is the business

structures statistics. The database of business statistics combines all business data from the structural statistics inquiry, the business register and the business taxation file.

In practice, in addition to these sources, other statistical sources are used industry-specifically. Separate data are received on employment and earnings and comparisons are made with the help of these by monitoring the earnings level changes, productivity changes in calculations, as well as the level of and changes in average earnings.

Even though the basic data sources are of high quality, there may be classification and random errors. Depending on the data sources and studies, the share of the hidden economy is added to the data. Special analysis and data from tax audits are utilised when estimating the hidden economy. Revisions are made, for example, in the figures concerning construction, trade, transport, and hotel and restaurant activities.

Ensuring of exhaustiveness and the revisions required by it are described in more detail in Section 7.1. A KML breakdown of exhaustiveness types is used in Finland’s national accounts, its equivalence to the European N classification is explained in the above-mentioned section.

	Data validation	Adjustments													
		Conceptual				Exhaustiveness								Balancing	Total (adjustments)
		Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness		
GDP PRODUCTION APPROACH															
Output of goods and services (at basic prices)	-13408	183	0	-4385	-4202	0	354	0	0	0	5563	-3624	2293	41	-15276
Intermediate consumption (at purchasers' prices)	-15262	2844	1137	-3369	612	0	56	0	0	0	0	-3378	-3322	67	-17905
Gross value added (at basic prices)	1854	-2661	-1137	-1016	-4814	0	298	0	0	0	5563	-246	5615	-26	2629
A Agriculture, forestry and fishing															
Output of goods and services (at basic prices)	92	0	0	0	0	0	0	0	0	0	65	0	65	0	157
Intermediate consumption (at purchasers' prices)	-11	58	29	0	87	0	0	0	0	0	0	0	0	0	76
Gross value added (at basic prices)	103	-58	-29	0	-87	0	0	0	0	0	65	0	65	0	81
B Mining and quarrying															
Output of goods and services (at basic prices)	-28	0	0	0	0	0	0	0	0	0	57	18	75	0	47
Intermediate consumption (at purchasers' prices)	56	5	7	0	12	0	0	0	0	0	0	-94	-94	0	-26
Gross value added (at basic prices)	-84	-5	-7	0	-12	0	0	0	0	0	57	112	169	0	73
C Manufacturing															
Output of goods and services (at basic prices)	-856	0	0	-1890	-1890	0	0	0	0	0	124	122	246	0	-2500
Intermediate consumption (at purchasers' prices)	-1300	197	242	-1559	-1120	0	0	0	0	0	0	-82	-82	106	-2396
Gross value added (at basic prices)	444	-197	-242	-331	-770	0	0	0	0	0	124	204	328	-106	-104
D Electricity, gas, steam and air conditioning supply															
Output of goods and services (at basic prices)	843	0	0	0	0	0	0	0	0	0	0	16	16	0	859
Intermediate consumption (at purchasers' prices)	265	157	14	0	171	0	0	0	0	0	0	-9	-9	9	436
Gross value added (at basic prices)	578	-157	-14	0	-171	0	0	0	0	0	0	25	25	-9	423
E Water supply; sewerage, waste management and															
Output of goods and services (at basic prices)	-4	0	0	0	0	0	0	0	0	0	92	16	108	0	104
Intermediate consumption (at purchasers' prices)	-79	11	0	0	11	0	0	0	0	0	0	3	3	0	-65
Gross value added (at basic prices)	75	-11	0	0	-11	0	0	0	0	0	92	13	105	0	169
F Construction															
Output of goods and services (at basic prices)	-124	2	0	0	2	0	0	0	0	0	1682	438	2120	0	1998
Intermediate consumption (at purchasers' prices)	-222	69	22	0	91	0	0	0	0	0	0	241	241	0	110
Gross value added (at basic prices)	98	-67	-22	0	-89	0	0	0	0	0	1682	197	1879	0	1888
G Wholesale and retail trade; repair of motor vehicle															
Output of goods and services (at basic prices)	200	0	0	7	7	0	122	0	0	0	889	-576	435	0	642
Intermediate consumption (at purchasers' prices)	-34	78	45	-6	117	0	0	0	0	0	0	-273	-273	31	-159
Gross value added (at basic prices)	234	-78	-45	13	-110	0	122	0	0	0	889	-303	708	-31	801
H Transportation and storage															
Output of goods and services (at basic prices)	96	0	0	175	175	0	0	0	0	0	430	-218	212	0	483
Intermediate consumption (at purchasers' prices)	36	47	35	92	174	0	0	0	0	0	0	-22	-22	21	209
Gross value added (at basic prices)	60	-47	-35	83	1	0	0	0	0	0	430	-196	234	-21	274
I Accommodation and food service activities															
Output of goods and services (at basic prices)	156	0	0	0	0	0	0	0	0	0	475	-9	466	0	622
Intermediate consumption (at purchasers' prices)	174	12	3	0	15	0	0	0	0	0	0	-8	-8	7	188
Gross value added (at basic prices)	-18	-12	-3	0	-15	0	0	0	0	0	475	-1	474	-7	434
J Information and communication															
Output of goods and services (at basic prices)	-54	2	0	108	110	0	0	0	0	0	285	174	459	0	515
Intermediate consumption (at purchasers' prices)	84	37	14	-109	-58	0	0	0	0	0	0	81	81	17	124
Gross value added (at basic prices)	-138	-35	-14	217	168	0	0	0	0	0	285	93	378	-17	391
K Financial and insurance activities															
Output of goods and services (at basic prices)	0	0	0	0	0	0	0	0	0	0	0	182	182	0	182
Intermediate consumption (at purchasers' prices)	0	76	161	0	237	0	0	0	0	0	0	0	0	-133	104
Gross value added (at basic prices)	0	-76	-161	0	-237	0	0	0	0	0	0	182	182	133	78
L Real estate activities															
Output of goods and services (at basic prices)	-20	1	0	0	1	0	0	0	0	0	372	-4096	-3724	0	-3743
Intermediate consumption (at purchasers' prices)	-335	1773	294	0	2067	0	0	0	0	0	0	-3386	-3386	0	-1654
Gross value added (at basic prices)	315	-1772	-294	0	-2066	0	0	0	0	0	372	-710	-338	0	-2089
L Imputed rents of owner-occupied dwellings															
Output of goods and services (at basic prices)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Intermediate consumption (at purchasers' prices)	*0*	*969*	*160*	*0*	*1129*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*1129*
Gross value added (at basic prices)	*0*	*-969*	*-160*	*0*	*-1129*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*-1129*
M Professional, scientific and technical activities															
Output of goods and services (at basic prices)	394	1	0	-26	-25	0	0	0	0	0	395	0	395	0	764
Intermediate consumption (at purchasers' prices)	320	88	12	-32	68	0	0	0	0	0	0	19	19	5	412
Gross value added (at basic prices)	74	-87	-12	6	-93	0	0	0	0	0	395	-19	376	-5	352
N Administrative and support service activities															
Output of goods and services (at basic prices)	-669	0	0	0	0	0	0	0	0	0	153	-13	140	0	-529
Intermediate consumption (at purchasers' prices)	-715	31	41	0	72	0	0	0	0	0	0	-1	-1	0	-644
Gross value added (at basic prices)	46	-31	-41	0	-72	0	0	0	0	0	153	-12	141	0	115
O Public administration and defence; compulsory so															
Output of goods and services (at basic prices)	-1682	72	0	-229	-157	0	0	0	0	0	0	-51	-51	1	-1888
Intermediate consumption (at purchasers' prices)	-1665	72	59	-229	-98	0	0	0	0	0	0	-51	-51	0	-1814
Gross value added (at basic prices)	-17	0	-59	0	-59	0	0	0	0	0	0	0	0	1	-75
P Education															
Output of goods and services (at basic prices)	-98	29	0	0	29	0	0	0	0	0	33	-4	29	3	-37
Intermediate consumption (at purchasers' prices)	-137	30	31	0	61	0	0	0	0	0	0	2	2	0	-74
Gross value added (at basic prices)	39	-1	-31	0	-32	0	0	0	0	0	33	-6	27	3	37
Q Human health and social work activities															
Output of goods and services (at basic prices)	-11690	58	0	0	58	0	0	0	0	0	82	-2	80	4	-11548
Intermediate consumption (at purchasers' prices)	-11707	79	90	0	169	0	0	0	0	0	0	-10	-10	4	-11544
Gross value added (at basic prices)	17	-21	-90	0	-111	0	0	0	0	0	82	8	90	0	-4
R Arts, entertainment and recreation															
Output of goods and services (at basic prices)	235	8	0	-2530	-2522	0	0	0	0	0	101	4	105	2	-2180
Intermediate consumption (at purchasers' prices)	216	13	17	-1526	-1496	0	0	0	0	0	0	146	146	0	-1134
Gross value added (at basic prices)	19	-5	-17	-1004	-1026	0	0	0	0	0	101	-142	-41	2	-1046
S Other service activities															
Output of goods and services (at basic prices)	-199	10	0	0	10	0	137	0	0	0	306	375	818	31	660
Intermediate consumption (at purchasers' prices)	-208	11	21	0	32	0	41	0	0	0	0	66	107	0	-69
Gross value added (at basic prices)	9	-1	-21	0	-22	0	96	0	0	0	306	309	711	31	729
T Activities of households as employers; undifferen															
Output of goods and services (at basic prices)	0	0	0	0	0	0	95	0	0	0	22	0	117	0	117
Intermediate consumption (at purchasers' prices)	0	0	0	0	0	0	15	0	0	0	0	0	15	0	15
Gross value added (at basic prices)	0	0	0	0	0	0	80	0	0	0	22	0	102	0	102
Taxes on products	0	0	0	0	0	0	0	0	0	0	0	0	0	-73	-73
Value added type taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	-6	-6
Taxes and duties on imports excluding VAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxes on products, except VAT and import taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	-67	-67
Subsidies on products	257	0	0	-187	-187	0	0	0	0	0	0	0	0	0	70

Figure 10: Exhaustiveness adjustments of the production approach according to the process tables

3.7 Non-financial corporations and Households (sectors S11, S14)

3.7.1 Primary production (industry A)

Table 18: Items of industry A by sub-industry, 2018, EUR million

	A total	Agriculture (011_016)	Forestry (02)	Hunting and fishing (017+03)
P1 Output at basic prices	10,631	4,588	5,720	323
P2 Intermediate consumption at purchasers' price	5,059	3,346	1,611	102
B1GPH Value added, gross at basic prices	5,572	1,242	4,109	221

Table 19: Shares of the entire industry A, 2018, per cent

	A total	Agriculture (011_016)	Forestry (02)	Hunting and fishing (017+03)
P1 Output at basic prices	100	43	54	3
P2 Intermediate consumption at purchasers' price	100	66	32	2
B1GPH Value added, gross at basic prices	100	22	74	4

3.7.1.1 *Agriculture and related services (Industry 011_016)*

The agriculture industry contains the following industries of the European Union's classification of economic activities (NACE Rev. 2) from the main group *A Agriculture, forestry and fishing*: *growing of non-perennial crops 011, growing of perennial crops 012, plant propagation 013, animal production 014, mixed farming 015, and support activities to agriculture and post-harvest crop activities.*

3.7.1.1.1 Data sources

Data concerning production volumes are collected, on the one hand, from processing (dairies, slaughterhouse, egg packing plants) or trade enterprises that receive agricultural products and, on the other hand, from local kind-of-activity units, farms. Data on crops from cereal production and horticulture are collected form the producer units mainly based on sample surveys while data concerning the area under cultivation are received as total data from the administrative register (IACS - Integrated Administration and Control System). In addition, the output data from small units that produce only for own final use derive from the Household Budget Survey.

The statistical services unit of the Natural Resources Institute Finland (Luke) is primarily responsible for collecting data on output from the beginning of 2015. Data on subsidies derive from the administrative support registers of the Agency for Rural Affairs (Mavi). The data sources are partly total statistics and partly based on a sample.

Certain central government research institutes also produce statistical data in addition to their research activities, which are utilised in the accounting of agriculture. Of these, we can mention the Finnish Food Authority on feed production, the Finnish Safety and Chemicals Agency (Tukes) on production and use of pesticides, Luke's State Research Institute of Engineering in Agriculture and Forestry (Vakola) as the compiler of statistics on the sale of agricultural machinery and equipment, and Luke's economic and social research unit as the maintainer of the Farm Accountancy Data Network, FADN.

The volume data of intermediate consumption are collected from the product producers, while the price data derive primarily directly from the price data collection used for Statistics Finland's price indices on production inputs in agriculture.

The marginal distributions of intermediate consumption (total use of output) mainly derive from the data of the statistics on the finances of agricultural and forestry enterprises. The information basis of these

statistics is the Tax Administration's total taxation material concerning all those liable to pay tax on agriculture, which are complemented with Statistics Finland's own sample-based statistical inquiry. The frame population consists of agricultural enterprises subject to taxation according to the act on income tax of agriculture belonging to the farm register. In addition, data on some production sectors are collected from organisations that represent the particular production sectors, such as price data on garden plants from Kasvistieto Oy, volume and price data on fur production from auction house Saga Furs Oyj, data on reindeer farming from the Reindeer Herders' Association, and data on honey production from the Finnish Beekeepers Association.

Certain agricultural activities – fur breeders, reindeer farming and beekeeping – have been separated into their own calculation entities (other animal production) and the source data for these are collected by trade associations. Statistical data concerning picking of wild berries and mushrooms are collected by Kantar TNS Agri Oy in terms of market output, data on final use by the producer are based on the Household Budget Survey. Kantar TNS Agri Oy is a private market research company. In terms of agricultural services, the National Accounts are based on Statistics Finland's business structures statistics.

Because the National Accounts calculations concerning agriculture are compiled based on product or product group data, other data sources not mentioned here are also used. They are presented in connection with the description of the calculation methods.

3.7.1.1.2 Output

The value of the output of agriculture is calculated by product or product group usually with the formula value = volume x price. The output is valued at basic price, which means that the value includes product subsidies but not taxes on products.

3.7.1.1.2.1 Animal production

3.7.1.1.2.1.1 Animal production

The volume data on animal production derive from Luke's statistics on meat production, apart from reindeer farming. Detailed data on the compilation of statistics on meat production can be found in the quality description of the statistics in question [14]. The statistics describe the development of the volume of meat production, number of slaughtered animals and average carcass weights. The slaughterhouses included in the data collection are slaughterhouses approved by the Finnish Food Authority or small slaughterhouses approved by a municipal food official. Some small slaughterhouses remain outside the data collection. Data on slaughters that have taken place on farms are inquired around every two years from farmers with a sample survey (farm structure survey). The slaughter volume of bovine animals is based on data from the bovine

[14] Available at (in Finnish):https://www.luke.fi/fi/tilastot/lihantuotanto/lihantuotantotilaston-laatuseloste

animal register to which all slaughterhouses are obliged to report slaughter data concerning bovine animals.

The statistics also contain data collection on producer prices of beef, pork, lamb meat and poultry, even though producer prices are published separately.

The output is valued at basic prices by adding animal species specific subsidies on products to the producer price based value, both the subsidies in accordance with the EU's common agricultural policy CAP and domestic subsidies. In terms of subsidy data, the data sources are the Integrated Administration and Control System, IACS and the Common Control System of Support. Division of subsidies into subsidies related to production and subsidies on products are based on joint decisions by the "Price and economic accounts in agriculture" and "National Accounts" working groups.

The Reindeer Herders' Association, which the reindeer herders form as required by law, maintains statistics on the number of reindeer owned by each herder and finances by reindeer herding year. The Reindeer Herders' Association also collects statistics on the number of reindeer left alive and the number of slaughtered reindeer, production of reindeer meat and producer prices.

Output also includes gross fixed capital formation in the animals for own use. This subject is described in Section 5.10.3.7. Gross fixed capital formation in the animals is calculated only for bovine animals and pigs. Data on the numbers of domestic animals are collected by Luke with a sample survey in December. For bovine animals, the data derive directly from the bovine animal register. Change in the inventory of capital animals is valued at the average prices of the calendar year, which derive from livestock breeding societies.

Sheep are not bred in Finland for wool production, but wool is a by-product of sheep breeding. In Finland, horses are kept mainly for trotting race and riding activities. The value of animal exports derive from the foreign trade statistics. The item does not include exports of trotters.

3.7.1.1.2.1.2 Animal products

3.7.1.1.2.1.2.1.1 Milk

The data sources for milk production are primarily dairy statistics compiled by Luke[15]. The statistics contain monthly and annual level data on milk production, volume of produced organic milk, number of milk producers, fat and protein contents of producer milk, and production volumes of milk products. Data on the use of milk on the farms are also published on an annual level. Data on the use of milk at the farms are inquired every two years with a sample survey (farm structure survey). The use of milk on farms is divided into the use of milk in food management of the farm, milk given to livestock and other use. Other use includes, for example, direct sale of milk and use of milk to produce farm cheese.

[15] Description available at (in Finnish): https://stat.luke.fi/laatuseloste-maito-ja-maitotuotetilasto_fi-3

All dairies that receive milk from producers are included in the data collection. In terms of enterprises that produce milk products, the population of the data collection is based on the register of approved milk industry plants maintained by the Finnish Food Authority.

Producer price and subsidy data concerning milk are also collected in connection with the data collection for dairy statistics. Final data on the size of the secondary account are available only after the end of the statistical reference year when dairies have completed their financial statements.

The coverage of the statistics can be considered to be relatively good as the combined processing volume of milk covered by the data collection cover around 98 per cent of the processing volume of milk in milk industry plants.

3.7.1.1.2.1.2.2 Eggs

Production data on eggs are based on the statistics on the production of eggs compiled by Luke [16]. The production volume data on eggs are collected from the biggest packagers with a monthly statistical form in connection with the data collection for the statistics on producer prices of eggs. From other packagers the data are collected four times per year. Data concerning producer prices are collected from packagers in connection with production data.

Production of eggs for own final use is estimated based on Statistics Finland's Household Budget Survey.

3.7.1.1.2.1.2.3 Hides of fur animals and reindeer

Hide production volumes of fur animals and unit prices of hides are based on annual data provided by the auction house Saga Furs. The production volume and price data on reindeer hides derive from the Reindeer Herders' Association in connection with all other data concerning reindeer farming.

3.7.1.1.2.1.2.4 Beekeeping

Data on honey production are based on statistics compiled by the Finnish Beekeepers' Association. The association is an industry association for beekeepers. In order to calculate the total honey harvest, an average harvest of a bee colony and the number of colonies is estimated for each area based on horizontal hive observations and printed harvest inquiries. The estimation contains uncertainty factors as there is no exact information on the number of colonies and their annual increase.

3.7.1.1.2.2 Crop production

3.7.1.1.2.2.1 Cereal crops

The output of cereal crops depicts the volume of harvested crops. The cultivated area of yield calculations are based on the Integrated

[16] The quality description is available at (in Finnish): https://stat.luke.fi/laatuseloste-kananmunien-tuotanto_fi-4

Administration and Control System (IACS) and data on yield per hectare are based on LUK's sample survey [17].

The losses after harvesting and producers' own seed use are subtracted from the output. LUKE compiles the yield calculations.

Cereal use comprises:

1) Deliveries outside the industry
2) Deliveries between farms
3) Use of the produced cereal as fodder by the producer
4) Use of cereal in the food management of the farm
5) Change in inventories.

Deliveries of cereal outside the industry are described by statistics on cereal purchased by industry and trade [18]. They describe the total volume of domestic and international cereal bought as seeds excluding sales. The statistics take into account the purchases of end users of cereal (i.e. mills, malt houses, seed stores, feed plants and other enterprises) from farmers, grain collectors, intervention stock, other enterprises and from abroad.

Statistics on cereal purchased by Finnish industry are compiled by Luke based on a monthly inquiry directed at enterprises. Export and import statistics on cereal are based on the National Board of Customs' foreign trade statistics, and purchases from the intervention stock on statistics from the intervention unit of the Ministry of Agriculture and Forestry.

Luke collects data on deliveries between farms, use of produced cereal as fodder by the farm, and use of cereal in the food management of the farm with a sample survey.

The opening inventory for the statistical reference year 2018 was estimated as the volume of cereal from the previous season available for sale by the end of July of year t and correspondingly, the closing stock was estimated as the crop harvested in calendar year t that will be available for sale by the end of July of year t+1. Change in inventories is the difference between the beginning and closing stock. The calculations assume that the farms' inventories will be empty at the end of the season, i.e. at the end of July. In addition, storage is assumed to concern only cereal deliveries outside the industry.

Because use and resource data are (usually) not fully balanced, they must be reconciled.

For four use items the same producer price is used, the average price of the calendar year. When valuing the change in inventories, the average prices of the period between the beginning of January and the end of July are used. The method is based on the manual for compiling economic accounts for agriculture and forestry. Monthly average prices have been calculated as averages of the weekly prices weighted by purchase volumes derived

[17] The quality description is available (in Finnish) at: https://stat.luke.fi/laatuseloste-satotilasto_fi-5
[18] The quality description is available (in Finnish) at: https://stat.luke.fi/laatuseloste-teollisuuden-ja-kaupan-viljan-osto-k%C3%A4ytt%C3%B6-ja-varastotilastot_fi-0.

from the market price monitoring system. Prices have been inquired from 30 enterprises and 45 establishments every week. The average prices for the calendar year have been calculated from the monthly data. LUKE compiles the producer price data [19].

The output is valued at basic prices by allocating subsidies on products to all use items by first dividing the subsidies between the stored and not-stored share of the output and then between the other use items based on use volume. Subsidies on products include subsidies on products in accordance with the EU's common agricultural policy. Subsidies on products in accordance with the EU's common agricultural policy derive from the Integrated Administration and Control System.

3.7.1.1.2.2.2 Sugar beet

The production volume of sugar beets derive from LUKE's crop production statistics. The price data, in turn, are based on Statistics Finland's data collected for the index of purchase prices of agricultural production.

3.7.1.1.2.2.3 Oil plants

The price and volume data of oil plants, turnip rape and oilseed rape, are collected by LUKE. The output is calculated using the same data sources as for the output of cereal crops.

3.7.1.1.2.2.4 Protein plants

The production volume derives from LUKE's crop production statistics. The price data are based on the price inquired from the main manufacturing enterprises that purchase protein crops.

3.7.1.1.2.2.5 Potato

The basis for estimating the output of potatoes is LUKE's crop production statistics. In terms of potatoes, crop production statistics contain data on production distributed into potatoes for human consumption, for industry use, seed potatoes, and so on. LUKE's statistics on producer prices are also used as price data. Output for own final use is, in turn, estimated based on Statistics Finland's Household Budget Survey. Stock levels are estimated based on the data from LUKE's inventory inquiry on potatoes and the average price at the end of the calendar year is used when valuing the inventories.

3.7.1.1.2.2.6 Garden plants

LUKE is responsible for the total calculation of garden production. Data on the output of garden plants (berries, fruits and vegetables) derive from LUKE’s agricultural and horticultural enterprise register. Prices collected by Kasvistieto Oy are used as price data.

Statistics Finland determines the opening and closing stocks of garden plants based on the monthly sales volumes from Kasvistieto, that is, the share of sales in the early part of the year are raised to correspond with the

[19] The quality description is available (in Finnish) at: https://stat.luke.fi/laatuseloste-maataloustuotteiden-tuottajahinnat_fi-1

harvest in LUKE's statistics. Output for own final use is estimated based on Statistics Finland's Household Budget Survey.

3.7.1.1.2.2.7 Forage plants

The production volume of fodder plants is based on LUKE's crop yield calculations. The price data are partly obtained from price data collected by Pro Agria, but because there is no actual market price for many feeds (e.g. silage) they have to be priced according to their feed unit value.

3.7.1.1.2.2.8 Ornamentals and seedlings

The value of these products is also calculated by LUKE. The value of the output of ornamentals derives from the Finnish Glasshouse Growers' Association that is an industry association. The industry association covers close on one-half of the enterprises in the industry, but it includes the largest enterprises. The value of seedling output is received from *Taimistoviljelijät r.y.*

3.7.1.1.2.3 Agricultural services:

Agricultural services include service activities related to growing of crops and farming of animals excluding veterinary services. The data source is the statistics on the finances of agricultural and forestry enterprises and the business structures statistics compiled by Statistics Finland.

Part of the activities processed as inseparable activities consists of services produced by local farming units for one another. They have not been estimated separately from other activities.

3.7.1.1.2.4 Activities not belonging to agriculture and activities not separated from these:

The data source is the data from the statistics on the finances of agricultural and forestry enterprises. The income item "Income from secondary income activities in agriculture" of the statistics describes income that derive from renting means of agricultural production, farm tourism, further processing of agricultural products, and so on. Cost data concerning these items cannot be statistically separated from the costs of agriculture. In contrast, the costs of forestry can be separated based on the data sources of the statistics.

Table 20: Output of agriculture in 2018, EUR million

	Output at producer prices	Subsidies on products	Output at basic prices
Animal output	870	141	729
Animal products	1,401	198	1,202
Animal husbandry total	2,271	339	1,931
Crop production, garden plants	1,568	14	1,553
Total goods production in agriculture	3,838	354	3,485
Agricultural services	159	0	159
Agricultural production	3,997	354	3,644
Inseparable activities	591	0	591
Output of agriculture	4,588	354	4,234

3.7.1.1.3 Intermediate consumption

Intermediate consumption is valued at the purchaser's price. Thus, it includes taxes deriving from the use of commodities, like fertiliser taxes. Statistical data concerning intermediate consumption mainly derive from the following data sources: production and sales data reported by input producers and sellers, statistics on the finances of agricultural and forestry enterprises, and business structures statistics.

Enterprises belonging to the structural statistics are taxed according to the Business Tax Act (EVL), while enterprises belonging to the statistics on the finances of agricultural and forestry enterprises are taxed according to the act on the income tax of agriculture (MVL). This provides an exhaustive overall picture of both intermediate consumption of enterprises involved in conventional MVL accordant production and costs of enterprises belonging to EVL. Because no data are available on inventories of production inputs, intermediate consumption describes to some extent only acquisition expenditure and not actual use. The classification presented below is based on the classification used in the economic accounts of agriculture. The same classification is used to collect data for the index of purchase prices of the means of agricultural production.

3.7.1.1.3.1 Seeds and seedlings

The Finnish Food Authority collects data on certified seed production. Price data are, in turn, collected from seed stores.

3.7.1.1.3.2 Energy, lubricants

The data from the statistics on the finances of agricultural and forestry enterprises are used to chart the costs arising from veterinary services, fuels and lubricants, electricity, use of firewood and timber, acquisition of tools and equipment with small value, renting means of agricultural production, maintenance and repairs of machinery and equipment and buildings, as well as costs from using goods and service.

The data of the statistics in question are based on the tax data of agricultural entrepreneurs that are received as total data. The above-mentioned detailed cost items like fertiliser and fuel costs are based on sampling data. Detailed cost items have been estimated and raised to correspond with the total items of tax data, that is, so-called marginal distributions are based on tax data.

3.7.1.1.3.3 Fertilisers and soil conditioners

The value of the use of fertilisers is based on data from the statistics on the finances of agricultural and forestry enterprises and the Farm Accountancy Data Network (FADN) (garden plants). Sales data concerning fertilisers and other soil conditioners are used as checking data.

3.7.1.1.3.4 Plant protectants

Data concerning the use of plant protectants are collected by the Finnish Safety and Chemicals Agency (Tukes).

3.7.1.1.3.5 Veterinary costs

The data are based on the data of the statistics on the finances of agricultural and forestry enterprises. The data were inquired from farmers belonging to the sample of the statistics prior to 2010, so, since then, the item in question has been chained based on the index of purchase prices of agricultural inputs.

3.7.1.1.3.6 Animal fodder

Fodder costs consist of concentrated fodder mixtures, use of pure fodder of domestic or international origin, intra-industry consumption that is also included in the output, and intra-unit consumption of fodder that is also included in the output. Data concerning the use of fodder mixtures are collected by the Finnish Food Safety Authority, Evira from fodder plants. The price data, in turn, derive from the data of Statistics Finland's index of purchase prices of the means of agricultural production. According to a study, 40 per cent of the fodder produced and used by the farm itself are used in the calendar year and the rest in the next year. Based on this, the consumption and change in the value of inventories for this item is calculated.

The volume and prices of fodder for fur animals is provided by the Finnish Fur Breeders' Association.

3.7.1.1.3.7 Maintenance and repair of machinery and equipment and buildings

The data source is the statistics on the finances of agricultural and forestry enterprises. The above-mentioned cost items are raised with the estimated costs of farms with corporate form.

3.7.1.1.3.8 Agricultural services

The corresponding cost item from the statistics on the finances of agricultural and forestry enterprises is used as the data source.

3.7.1.1.3.9 Other goods and services

Other goods and services consist of cost items not included in the above presented categories. The data source is the data from the statistics on the finances of agricultural and forestry enterprises. In addition, the costs of reindeer farming and honey production are estimated separately. Other goods and services include, for example, acquisitions of tools of small value, rent expenses, service fees on insurance, postal and telecommunication costs, membership fees, and so on.

The costs of reindeer farming are based on data collected by the Reindeer Herders’ Association.

Costs included in honey production are based on calculations by the Finnish Beekeepers' Association on costs per bee colony.

3.7.1.1.4 Value added

Value added at basic prices is calculated as the difference between output at basic prices and intermediate consumption at purchaser's prices as in the other market production industries.

3.7.1.2 *Hunting, trapping and related service activities (Industry 017)*

The industry of hunting mainly depicts the output formed from not commercial hunting and trapping. The industry includes only actors in the households sector producing goods for own final use. Only around five per cent of the industry's output is market output.

The intermediate consumption of the industry is not estimated.

The data sources used are the statistics produced by the Riistaweb site and Natural Resources Institute Finland (LUKE). For the purpose of the calculation, data are needed on the number of game animals and catch prices.

The number of hours worked is also estimated for the industry. For this purpose, use is made of LUKE’s statistics on numbers of hunters.

3.7.1.3 *Forestry and logging (Industry 02)*

3.7.1.3.1 Forestry in Finland

The forestry and logging industry (NACE2008 02) is formed as the sum of four computational sub-industries. Silviculture and other forestry activities (NACE2008 02100) include activities related to growing of forests and forestry, such as forest cultivation, prevention of forest damages, and income from felling. Logging (NACE2008 02200) includes felling and short distance hauling of industrial wood and firewood, as well as making of timber used in its unrefined form. Support services to forestry (NACE2008 02400) include forestry planning and other general promotion activities of forestry, e.g. activities of forestry societies and forestry boards, as well as training of forest owners. Net growth of forests (NACE2008 02500) includes the difference between the gross growth of forests and felling. All forestry and logging establishments have been categorised as market producers.

The industry of forestry and logging is divided in the National Accounts by sector into non-financial corporations, local government, non-profit institutions and households.

In Finnish forestry, annual felling represents around two to three per cent of the growing stock. Forest stocktaking concerning the entire growing stock are carried out as continuous stocktaking. It takes a long time for northern forests to grow, for example, it takes on average 90 years for a pine to mature. Reliable data on the volume and prices of felling are received monthly.

In 2006, the Finnish National Accounts started following the ESA95 (now ESA 2010) practice in compiling forestry accounts. In practice, this means that the output of forestry includes, in addition to the value of the felling

volume and activities related to forestry, also the value of change in inventories in terms of growing trees. The value of the change in inventories is calculated based on data produced by the Natural Resources Institute Finland as a sum of income of the annual change in the growing stock by type of timber and corresponding average stumpage prices. The change in growing stock by type of timber is calculated as the annual difference in growth and felling.

In Finland, over one-half of the forest area is owned by private households. Agricultural activities and forestry also go hand in hand. In practice, part of the area of nearly every farm is forest. The state-owned enterprise Metsähallitus, the Finnish Forest and Park Service, is an important forest owner, particularly in northern Finland and Lapland. Enterprises involved in forest industry activities own close on ten per cent of the entire forest area of Finland. Finland has good data on the volume of timber sold by all forest owner groups by types of timber, as well as on prices paid for timber to private forest owners. These data are used as the basis for the forestry calculations in the National Accounts.

Timber is sold either as felling rights for growing forest, so-called standing sale or by agreeing on a deal where the seller delivers the felled timber cut into lengths to the transport route. In addition, large institutional units that own forest, like the Finnish Forest and Park Service and jointly owned forests sell timber delivered to factories.

Standing sale is the most popular trading form with a share of around 80 per cent. In standing sale, the seller contacts the buyer's representative and once a deal is reached the sale is completed. The value of the sold lot of timber is determined only after the felled volume has been measured. The buyers are often forest industry companies' special purchase organisations that also arrange the felling and transport of the timber. Buying is centralised, there are only a few large purchase organisations in Finland. There are a few independent wholesalers of timber in the industry but their share is small. In addition, some sawmills and other timber users may act as buyers. The basic price of timber in this trading form is the price at the stump.

Another way to sell wood is to deliver the timber to the buyer through purchase for delivery. In this case, the forest owner arranges the felling and short distance hauling to the roadside. Because the seller is responsible for the costs of felling and short distance hauling, a higher price is obtained on the timber than in standing sale. The basic price of timber in this trading form is the price at the side of the road.

In the third case, the seller delivers the timber from the stump directly to the factory. The seller organises the felling, forest hauling and long-distance hauling and receives a higher basic price for the timber. The basic price of timber in this trading form is the price delivered to the user. In Finland, the Natural Resources Institute Finland collects data on the volume of felling, stump and purchase prices. There is no actual independent timber (wholesale) trade in Finland, so the basic price is not

only the market price of felling and long-haul ready timber. There are three basic prices depending on how the timber is delivered.

3.7.1.3.2 Main data sources

3.7.1.3.2.1 Industry 021 Silviculture and other forestry activities

Statistics Finland

- Regional statistics on entrepreneurial activity (Section 10.1.3)
- Register of Enterprises and Establishments (Section 10.1.1)
- Statistics on finances and activities of municipalities and joint municipal authorities. (Section 10.1.1)
- Business taxation data (Section 10.1.4)
- Forestry taxation data (taxation form 2C)

3.7.1.3.2.2 Industry 022 Logging

Statistics Finland

- Regional statistics on entrepreneurial activity (Section 10.1.3)
- Register of Enterprises and Establishments (Section 10.1.1)
- Business taxation data (Section 10.1.4)

3.7.1.3.2.3 Industry 024 Forest industry support activities

Statistics Finland

- Regional statistics on entrepreneurial activity (Section 10.1.3)
- Register of Enterprises and Establishments (Section 10.1.1)
- Business taxation data (Section 10.1.4)
- Tax return of associations and foundations (forestry associations)

3.7.1.3.2.4 Industry 025 Net growth of forests

Natural Resources Institute Finland (LUKE)

- Separate analysis on the calculation of value changes in the timber reserve

3.7.1.3.3 Calculation process

3.7.1.3.3.1 Industry 021 Silviculture and other forestry activities

3.7.1.3.3.1.1 Output

The output of silviculture and other forestry activities include activities related to growing of forests and forestry, such as forest cultivation, prevention of forest damages, and income from fellings.

In the non-financial corporations sector (S11), the turnover of establishments engaged in forestry activities produced by the regional statistics on entrepreneurial activity has been utilised in the calculation of

output. Output has been calculated by multiplying the output of the previous year with the change in output according to the data sources.

The households sector (S14) includes both small enterprises and households. The data source for small enterprises is the regional statistics on entrepreneurial activity. For private forest owners (households), the output is calculated from tax form 2C, in which the income from wood sales is reported. Output has been calculated by multiplying the output of the previous year with the change in output obtained from the source data.

The output of the local government sector is derived from the statistics on finances and activities of municipalities and joint municipal authorities (basic price either at stump, price when delivered to roadside or when delivered to factory).

The statistical data produced by LUKE on felling volumes, forestry work and timber trade are used as comparison data.

3.7.1.3.3.1.2 Intermediate consumption

The intermediate consumption of forestry includes, for example, forestry work and costs of maintenance of forest roads. For enterprises, data on intermediate consumption are obtained through the regional statistics on entrepreneurial activity. For private forest owners (households), data are derived from the tax form 2C. Intermediate consumption has been calculated by multiplying the intermediate consumption of the previous year with the change in intermediate consumption obtained from the source data.

3.7.1.3.3.2 Industry 022 Logging

3.7.1.3.3.2.1 Output

Logging services and wood hauling belong to the production account of logging. The output of the industry is calculated by multiplying the output of the previous year with the change in the output of logging establishments obtained from the regional statistics on entrepreneurial activity.

3.7.1.3.3.2.2 Intermediate consumption

Regional statistics on entrepreneurial activity are the source for the intermediate consumption of logging services. Intermediate consumption has been calculated by multiplying the intermediate consumption of the previous year with the change in intermediate consumption of establishments engaged in logging.

3.7.1.3.3.3 Industry 024 Forest industry support activities

3.7.1.3.3.3.1 Output

The output of forest industry support activities includes the income of forestry societies and forestry centres. Regional statistics on entrepreneurial activity and the Tax Administration's form 6C with which forestry associations report their taxable income have been utilised in the calculation of data for establishments. Output has been calculated by

multiplying the output of the previous year with the change in establishments' output.

3.7.1.3.3.3.2 Intermediate consumption

Regional statistics on entrepreneurial activity and the Tax Administration's form 6C have also been utilised in calculating intermediate consumption. Intermediate consumption has been calculated by multiplying the intermediate consumption of the previous year with the change in the intermediate consumption of establishments.

3.7.1.3.3.4 Industry 025 Net growth of forests

3.7.1.3.3.4.1 Output

The output of net growth of forests is calculated from the annual change in inventory of timber by type of timber. The value of the change in inventory is calculated by multiplying the difference in timber type volumes in successive years with the stumpage price. Forest growth data derive from LUKE's special analysis and stumpage price data from LUKE's database.

Table 21: Forestry and logging, production and income formation account in 2018, EUR million

Industry	Transaction	Sectors total	Non-financial corporations (S11)	Households (S14)	Non-profit institutions (S15)	Local government (S1313)
Industry 021 Silviculture and other forestry activities	*P1 Output at basic prices*	3,305	805	2,397	34	69
	…P11 Market output	3,037	742	2,192	34	69
	…P12 Output for own final use	268	63	205		
	P2 Intermediate consumption at purchasers' price	801	235	530	10	26
	B1G Value added, gross at basic prices (P1-P2)	2,504	570	1,867	24	43
	P51C Consumption of fixed capital	327	83	235	3	6
	B1N Value added, net at basic prices (B1G-P51C)	2,177	487	1,632	21	37
	D11 Wages and salaries	*92*	76	9		7
	D12 Employers' social security contributions	*21*	17	2		2
	B13N Operating surplus + mixed income, net (B1N-D11-D12)	*2,063*	393	1,621	21	28
Industry 022 Logging	*P1 Output at basic prices*	1,398	1,203	195		
	…P11 Market output	1,398	1,203	195		
	…P12 Output for own final use					
	P2 Intermediate consumption at purchasers' price	509	415	94		
	B1G Value added, gross at basic prices (P1-P2)	889	788	101		
	P51C Consumption of fixed capital	159	139	20		
	B1N Value added, net at basic prices (B1G-P51C)	730	649	81		
	D11 Wages and salaries	*226*	219	7		

	D12 Employers' social security contributions	*50*	49	1		
	B13N Operating surplus + mixed income, net (B1N-D11-D12)	*449*	376	73		
Industry 024 Forest industry support activities	*P1 Output at basic prices*	340	317	23		
	…P11 Market output	340	317	23		
	…P12 Output for own final use					
	P2 Intermediate consumption at purchasers' price	301	292	9		
	B1G Value added, gross at basic prices (P1-P2)	39	25	14		
	P51C Consumption of fixed capital	10	10			
	B1N Value added, net at basic prices (B1G-P51C)	29	15	14		
	D11 Wages and salaries	*115*	114	1		
	D12 Employers' social security contributions	*24*	24			
	B13N Operating surplus + mixed income, net (B1N-D11-D12)	*-110*	-123	13		
Industry 025 Net growth of forests	*P1 Output at basic prices*	615	423	191		1
	…P11 Market output	615	423	191		1
	…P12 Output for own final use					
	P2 Intermediate consumption at purchasers' price					
	B1G Value added, gross at basic prices (P1-P2)	615	423	191		1
	P51C Consumption of fixed capital					
	B1N Value added, net at basic prices (B1G-P51C)	615	423	191		1
	D11 Wages and salaries					
	D12 Employers' social security contributions					
	B13N Operating surplus + mixed income, net (B1N-D11-D12)	*615*	423	191		1

3.7.1.3.4 Gathering of wild growing products (Industry 023)

The industry of *gathering of wild growing products* in Finland covers gathering of berries and mushrooms. The industry includes only actors classified in the households sector. A majority of the activities in the industry consists of households' output for own use. Market output includes, for example, sales in markets and direct sales to restaurants and bakeries.

The main data sources are a survey of the volume of berries and mushrooms (MARSI) bought annually by the Finnish Food Authority. The Finnish Food Authority publication also provides prices of berries and mushrooms, which are used in the calculation of the catch value of berries and mushrooms.

3.7.1.4 Fishing (Industry 03)

Fishing includes professional marine and freshwater fishing, aquaculture, as well as part-time and leisure fishing (NACE2008: 03110, 03120, 03210, 03220).

The market producers in professional fishing and aquaculture are enterprises classified in the non-financial corporations sector and the household sector.

Leisure fishing has, in its entirety, been classified as producers for own final use in the household sector. The output of leisure fishing is primarily production for own final use. Some of the catch is classified as market output as, for example, a large proportion of leisure fishers' crab catch is sold.

3.7.1.4.1 Data sources

Statistics of the Natural Resources Institute Finland

- Professional marine fishing
- Professional freshwater fishing
- Leisure fishing
- Fisher prices
- Aquaculture

Statistics Finland

- The databases of YTY data warehouse
- The service database of business structure statistics
- Register of Enterprises and Establishments

3.7.1.4.2 Calculation process

3.7.1.4.2.1 Output

The output of professional fishers and fish farmers operating in the non-financial corporations (S11) and households (S14) sectors acting as market producers is calculated similarly as other industries in the non-financial corporations sector, that is, based on the business structures statistics. The output is calculated based on the value of enterprises' turnover. The value of the entire turnover is classified as market output. The data are entered manually to the database.

A similar industry-specific Excel table is formed from the data of market producers in the non-financial corporations and households sectors for the fishing industry, where the calculation variables of the national accounts (data variables) and, if necessary, changes by enterprise are examined Excel is produced based on the SAS industry run. The variables required by the National Accounts are formed in the run and the data are edited into the form to be processed.

For leisure fishing, the source for the output has been the Natural Resources Institute Finland's statistics on leisure fishing. The statistics are compiled based on a questionnaire survey carried out every two years. In the intermediate years, the data from the previous year are used. The statistics on leisure fishing also act as the data source for the hour data

recorded for producers for own use in the households sector in the fishing industry.

In addition, an estimate of market output is calculated on the fishing output of the households sector for own final use. There is no secure data source for this calculation The majority of households' catches go to own final use. However, a household may sell part of its catches. The Natural Resources Institute Finland writes in its leisure fishing statistics (2012) as follows: "*The value of the catch is mainly indicative because the catch is not sold much but most of it is used in fishers' household-dwelling units or given free of charge to relatives or neighbours, for example. It has also been estimated that most of the crab catch is used by crab catchers' household-dwelling units or enterprises."* As a thumb rule, it has been estimated that around five per cent of the total output would be sold on the market and the rest would be output for own use.

3.7.1.4.2.2 Intermediate consumption

For market producers in the non-financial corporations and households sectors, intermediate consumption for the statistical reference year has been calculated based on the YTY database utilising the stocks of the structural statistics. The data on intermediate consumption by enterprise and its breakdown into sub-items can be derived from the YTY database. In the industry examination, enterprise-specific data are aggregated to the 2-digit industry level (NACE03). Data on intermediate consumption are entered manually into the database under "other intermediate consumption".

Intermediate consumption is not calculated for the households' own final use account.

Table 22: Hunting, Gathering of wild growing products and Fishing in 2018, EUR million

Industry	Transaction	S11	S14
017 Hunting	P1 output at basic prices	-	102
	P2 intermediate consumption at purchasers' price	-	0
	B1GPH Gross value added (P1-P2)	-	102
023 Gathering of wild growing products	P1 output at basic prices	-	62
	P2 intermediate consumption at purchasers' price	-	0
	B1GPH Gross value added (P1-P2)	-	62
03 Fishing	P1 output at basic prices	127	94
	P2 intermediate consumption at purchasers' price	87	15
	B1GPH Gross value added (P1-P2)	40	79

3.7.2 Secondary production and services (industries B to S)

3.7.2.1 *Data sources*

The Register of Enterprises and Establishments and the structural business statistics are the most commonly used data sources in the industry-specific output-based calculations concerning the non-financial corporations and households sectors. The Register of Enterprises and Establishments is a

statistical basic register that comprises all units involved in the production activities of the non-financial corporations and households sectors in Finland. At the start of the calculation round, the National Accounts unit prepares its own framework for each statistical year using the Register of Enterprises and Establishments as a basis. In the framework, each enterprise and establishment is provided with the required classifying variable, so the framework is known as the classification framework for the National Accounts. Using the framework as a basis, the units that should be included in the calculation of the National Accounts are taken from the business structures statistics. The business structures statistics contain data on individual establishments, most of which are derived from the structural business and financial statements statistics.

3.7.2.1.1 Register of Enterprises and Establishments

The Register of Enterprises and Establishments is maintained by Statistics Finland. The Register of Enterprises and Establishments comprises all enterprises, public and private corporations, private practitioners of trade, groups engaged in economic activities, bankruptcies and estates, and the establishments of the above-mentioned units.

The basic data for the Register of Enterprises and Establishments are obtained from administrative sources, the most important of which is the Finnish Tax Administration. The Register of Enterprises and Establishments also makes direct inquiries to enterprises on a continuous basis. Such matters as the industries in which the enterprises operate, the number of employees and details concerning the establishment structure are determined with the aid of the inquiries. Each year, inquiries are sent to most of the multi-establishment enterprises and to all single-establishment enterprises with more than 20 employees. The inquiry on establishment structure and personnel is carried out in combination with Statistics Finland’s employment statistics. New enterprises are requested to submit the information soon after they have started business activities. Enterprises falling outside the scope of these inquiries are asked to submit data less frequently, and these inquiries are conducted on the basis of rotation.

The Register of Enterprises and Establishments serves as the basic framework for the National Accounts. The most important classifying variables are the institutional sector, producer type, and the industries in which the enterprises and establishments operate. In addition to the classifying variables, the data include the number of entrepreneurs, and wage and salary earners as full-time equivalent and as the number of individuals. Classifying variables of the largest new enterprises are checked during the preparation of the National Accounts framework. The largest enterprises and establishments that have changed industry or sector are also reviewed.

Non-domestic corporations are not included in the National Accounts framework. International branches with personnel are included in the framework. The creation of the sector/industry combinations used in the calculation of the National Accounts concludes the process.

3.7.2.1.2 Structural business statistics

Structural business statistics combine Statistics Finland's structural business and financial statements statistics and regional statistics on entrepreneurial activity. Enterprise (legal unit) and the less frequently used enterprise unit are the statistical units used in the financial statements statistics. An establishment is the statistical unit used in the regional statistics on entrepreneurial activity, and most of the statistical data have been derived from the financial statements statistics (data on enterprises have been broken down into establishments). The financial statements section of the statistics contains the key data on profit and loss accounts and balance sheets, as well as economic key figures calculated from them. Data on personnel, production, production inputs, inventories and investments contained in the structural business statistics are used in the National Accounts calculations. Most of the data content of the structural business and financial statements statistics is derived from business taxation data, but the data are also supplemented with the financial statements inquiry for enterprises (TILKES) carried out by Statistics Finland. Structural business statistics also contain data collected in the inquiries directed to establishments. There is a separate inquiry for industrial establishments (T5). Data inquiries among service sector enterprises are made as part of the inquiries for kind-of-activity units (TILKES appendix). A kind-of-activity unit consists of more than one establishment of an enterprise that comprises an entity at the two-digit level of an industrial category. Examples include retail trade (TOL 47) and food and beverage service activities (TOL 56). Structural business statistics are described in more detail in Section 10.1.3.

3.7.2.2 *Borderline cases*

Non-profit corporations serving the business sector are included in the non-financial corporations sector (S11). The business taxation data on associations and foundations (6C) are the main source of data for non-profit corporations. The figures for production account output and intermediate consumption for sector S15 (Non-profit institutions serving households) are calculated from this data. The data on units belonging to the non-financial corporations sector (S11) are transferred from 6C data in the source data process. S15 units with sector/industry combinations incompatible with the S15 sector are also transferred to the non-financial corporations sector in the National Accounts framework. The calculation of sector S15 is described in more detail in Section 3.10.

Municipal water supply and waste management enterprises are included in the non-financial corporations sector (S11). These enterprises cover their expenses with sales revenue, and they are considered market operators. The statistics on local government finances, the main source of local government data (S1313), serve as the source of data on municipal enterprises. Output and intermediate consumption data on municipal enterprises are produced as part of the calculation of local government data. In the source data process, they are transferred to the calculation of the non-financial corporations sector.

The source data for the calculation of bus and coach transport (TOL 4931+4939) are the financial statement inquiry of bus and coach transport. Statistics Finland collects the financial statements data on bus and coach transport on behalf of the Finnish Transport and Communications Agency Traficom. Enterprises engaged in passenger road transport possessing a valid public transport licence constitute the target population of the inquiry. Statistics Finland processes the responses to the financial statements inquiry by comparing them with the enterprises' official financial statements and the statistical data from the previous year. The final data are added to the financial statements statistics of Statistics Finland. For a description of the financial statements inquiry of bus and coach transport, see Section 10.1.14.

3.7.2.3 Statistical unit

In the National Accounts, the establishment serves as the main unit, and data on individual enterprises are only used if no data on establishments are available. An establishment is an economic unit which, under one ownership or control, produces goods or services of mainly one particular type and usually at one location. An establishment may constitute an enterprise (single-establishment enterprise) or be a clearly definable part of an enterprise (multi-establishment enterprise). The regional unit for establishments is usually a municipality in the structural statistics.

In addition to manufacturing activities, an establishment may also house auxiliary activities. Auxiliary activities include the head office, central warehouse, sales office and repair shop. If the auxiliary activities are closely connected with the actual establishment and mainly serve the establishment in question, these activities are not always separated, as they can be incorporated into the manufacturing activities. If the auxiliary unit is separated from the actual establishment, or if the auxiliary unit serves more than one establishment of the same enterprise, it has usually been made into a separate unit.

3.7.2.4 Industry classification accuracy

The National Accounts calculations of the non-financial corporations and households sectors are mainly produced with the help of the structural business statistics. The structural statistics follows the TOL2008 Standard Industrial Classification and the statistics is compiled at the 5-digit level of the Standard Industrial Classification. In the National Accounts, the calculation level varies by industry. Quarrying, manufacturing, energy, water supply/waste (BCDE) is calculated at 3-digit level and service mainly at 2-digit level. The calculation methods are the same for all market production industries of the non-financial corporations and households sectors, except for primary production (TOL 01, 02), construction (TOL 412+432_439), and letting of dwellings (TOL 68201).

3.7.2.5 Output

Market output and output for own final use comprise the output of the non-financial corporations and households sectors. The market output consists of the change in inventories of finished products and work in progress. According to the calculation rules of the National Accounts, changes in inventories are valued at the average prices of the year (elimination of holding gain/losses) and an estimate of operating surplus (mark-up) is added to the inventory value of work in progress.

The calculation components of the market output of the National Accounts' production account are the structures statistics' variables: turnover from the sales of merchandise (sales margin), industrial turnover, turnover from construction activities, other turnover, and other operating income.

The turnover is generated from the sales income of the principal activity. Granted discounts, value added tax, and other taxes directly based on sales volumes are subtracted from sales income as sales adjustment items.

In addition to turnover from wholesale and retail trade, **turnover from trade** includes income from the sales of merchandise of other industries. For example, if a single-establishment manufacturing enterprise also carries out other business activities, the structural business statistics inquiry for enterprises (TILKES) can be used to determine the turnover from trade and to show it in the output of the manufacturing establishment. If a separate establishment has been set up for the business activities of a manufacturing enterprise, the turnover from trade is allocated to the establishment in question in the preparation of the structural business statistics.

Merchandise comprises the goods that have been purchased for resale without further processing. In the National Accounts, the output of business activities is calculated on a net basis (the output only includes the sales margin). The margin is calculated by subtracting purchases of merchandise from their sales and by adding the change in inventories to this total. As the change in inventories has been calculated at average prices, measures are taken to mitigate the impact of price increases and decreases taking place during the storage period (holding gains/losses). Calculation of inventories is described in more detail in Section 5.11.

The sales margin is determined on the basis of the structural business statistics inquiry for enterprises (TILKES). When figures for an industry are prepared, consideration is given to annual changes in the margin. If the margin is too high/low from the perspective of the industry, the need for correction must be examined (usually from the unit level upwards).

Resale of purchased electricity, heat (and gas) (agency activity) is processed as merchandise sales.

If the enterprise’s turnover includes sales of goods obtained in exchange it is shown in the turnover from trade. Purchases of goods obtained in exchange are reported in the purchases of merchandise.

Turnover from manufacturing activities can be broken down from the structural business statistics as follows:

- Deliveries of products manufactured or subcontracted by the enterprise (in Finland)
- Deliveries of electricity generated by the enterprise
- Deliveries of heat generated by the enterprise
- Network activities: turnover from the transmission and distribution of electricity, and from the distribution of natural gas
- Value of deliveries from industrial repair, installation and maintenance services; turnover from industrial services performed by the enterprise for external parties (including invoiced supplies)
- Paid labour: turnover is generated from paid work performed for other economic units. Most of the materials and supplies used are owned by the contractor. Turnover from other industrial service activities such as sewerage and wastewater management, and waste collection and treatment is also included in the paid labour.

In the structural statistics, **turnover from construction activities** is divided into three items: building construction, civil engineering and share trading in construction. Share trading in construction is not included in the output of the non-financial corporation and household sector. The main source of the civil engineering industry (TOL 42 +431) is the structural statistics, for other construction other data sources and calculation methods are used (in more detail in Section 3.7.3).

A breakdown of **other turnover** can be derived from the structural business statistics as follows:

- Commission trade: Turnover consists of the commissions that a commissions trade enterprise receives from agency activity between buyers and sellers
- Restaurant activities: Turnover from sales of meals, other food portions and beverages, and catering services
- Accommodation activities
- Advertising activities: Turnover from sales of advertising space. This includes the media (newspapers, magazines and printed catalogues) electronic advertising (television, radio, etc.), and outdoor and traffic advertising
- Other unspecified turnover: Includes turnover from other service activities (such as transport and business services).

The value of production is derived from the value of turnover by taking into account **changes in current asset inventories** (finished products and work in progress) during the calendar year. The structural statistics provide the values of current assets valued at purchaser's prices at the beginning and end of the year by type of current asset: materials and supplies, unfinished products, finished products, merchandise and other current

assets. In the National Accounts, the inventories of the non-financial corporations and households sectors includes all inventory types of the structural statistics, apart from the item other current assets. The calculation of changes in inventories is described in Section 5.11.

In the calculation of the production account of the National Accounts, **other operating income** includes rental income from fixed assets, income from patents and licences, as well as other income. Transfer losses from fixed assets, merger gains, received grants and subsidies, and other tax-free income are not included in other operating income.

Software produced by the enterprise itself, the output of own R&D activities and other production for own use are included in the item **output for own final use** of the non-financial corporations and households sectors. The first two components are on an imputed basis and derived from the centralised calculations of the National Accounts (Sections 5.10.3.8 and 5.10.3.10). The enterprise's other output for its own use can be derived from the structural business statistics. In bookkeeping, the item 'production for own use' is used to adjust the items that contain expenses arising from commodities taken by the enterprise for its own use.

3.7.2.5.1 Additional output data

3.7.2.5.1.1 Addition data applicable to all industries

Output includes **internal deliveries** between establishments of the same enterprise. They are valued in the same manner as external deliveries. If internal deliveries within the enterprise cannot be valued at market prices, they are valued at production costs. Questions about internal deliveries are asked in the inquiry for industrial establishments (T5) for structural business statistics and in the inquiry for service industries (TILKES appendix). Incomplete answers are supplemented methodologically as part of the compilation of the structural business statistics (internal deliveries of the enterprise = internal purchases).

Turnover from securities trading is not included in the output of the National Accounts, and intermediate consumption does not include purchases of securities. The turnover breakdown included in the inquiry for enterprises (TILKES) carried out for the structural business statistics contains the item 'Turnover from securities trading', while the itemisation of costs includes the item 'Purchases of securities'. These items are not included in the National Accounts calculation data.

Market output generated by the **shadow economy and VAT fraud** is added to the non-financial corporations and households sectors. The share of the shadow economy of the output outside the source data is estimated for individual industries using a number of different studies as the basis. Output is also considered inadequate as a result of irregularities arising from VAT payments. The shadow economy and VAT fraud are described in more detail in Section 7.1.1.6.

3.7.2.5.1.2 Additional data on specific industries

Calculations for mining and quarrying (B) are prepared in the same manner as for other industries. Structural business statistics serve as the main source of data, while the classification data for individual enterprises and establishments are obtained from the Register of Enterprises and Establishments. Production and raw materials data contained in the commodity statistics are used as comparison data in the output and intermediate consumption calculations. Changes in mining are compared with trends in the manufacture of basic precious and other non-ferrous metals (TOL 244). Useful information to support National Accounts calculations is also obtained from the report on the state and outlook of the mining industry regularly published by the Ministry of Economic Affairs and Employment. The asset type Mineral exploration and evaluation (N1172) is included in the investments of the industries. The data on the costs of mineral exploration obtained from the Finnish Safety and Chemicals Agency (Tukes) are used as the source for this type of asset. The investment asset is described in more detail in Section 5.10.3.9.

At the level of National Accounts calculations, trade (G) is divided into wholesale and retail trade and repair of motor vehicles and motorcycles (TOL 45), wholesale (TOL 46) and retail trade (TOL 47). The sales margins of the industries are based on the data obtained in the structural business statistics inquiry for enterprises (TILKES). Sales volume indices calculated on the basis of the sales inquiries carried out by Statistics Finland are used to convert the outputs of individual industries into fixed prices, and the resulting price data are residual. In the review of fixed-price figures, it is checked that changes in volumes and prices are at sensible levels, and slight corrections may therefore be made to the value data of the sales margin. Final values for the industries are derived from the supply and use tables when the supply is balanced with the demand.

The share of maintenance services of the output of the wholesale and retail trade and repair of motor vehicles and motorcycles (TOL 45) is derived from the structural business statistics. In the preparation of the supply and use tables, the supply of maintenance services is balanced with the demand.

Calculations for accommodation and catering services (I) are in gross amounts, which means that the output includes both the products sold and the margin. Structural business statistics are a comprehensive source of information in the calculations for the industry. The biannual cyclical reviews published by the Finnish Hospitality Association MaRa, the organisation representing the sector, are compared with the figures for the industry. In connection with fixed-price figures, the volume of the accommodation sector output is compared with the number of overnight stays entered in the accommodation statistics of Statistics Finland. The overall picture of the industry is supplemented with an examination of employment, wages and salaries. To produce the final figures, the output of the industry must still be compared with consumption expenditure calculations in the preparation of the supply and use tables. Import and export data for the industry are contained in the statistics on international trade in services (travel, Section 5.14).

Structural business statistics are used as the source of output and intermediate consumption in the information and communications industry (J). Import and export data for the industry are contained in the statistics on international trade in services. The VAT Mini One-Stop-Shop (MOSS) is not used in the preparation of the data.

Scientific research and development (TOL 72) includes units that are engaged in research and development (R&D) as a business activity for customers outside the enterprise. If the enterprise carries out R&D work to develop its own production and has notified the Register of Enterprises and Establishments of an establishment, the establishment is initiated, but the enterprise's main industry is specified as its industry, and the R&D industry is entered as its second industry (double coding). For the preparation of figures for R&D activities in the National Accounts, see Section 5.10.3.8.

In advertising and market research (TOL 73), the output of media agencies (mainly in industry 73111) includes the commission on advertising services (margin).

Only units that provide direct leasing services are included in rental and leasing activities (TOL 77). In direct leasing, leasing services are provided without the assistance of external finance companies. Financial leasing is included in the calculations of the financial sector (S12). According to the supply and use tables for 2018, the output of rental and leasing activities can be broken down as follows: car leasing (40%), machinery leasing (40%) and other service activities in the industry (20%). Most of the output of the industry is used as intermediate consumption in the non-finance corporations and households sectors (S11+S14). According to the supply and use tables for 2018, private consumption expenditure accounts for about one per cent of the entire use. Processing of direct leasing costs in intermediate consumption is described in more detail in Section 3.7.2.6.1.

In TOL 79, the output of travel agencies (TOL 79110) is measured as the value of the agencies' service fees (fees and commissions). The output of tour operator activities (TOL 79120) is based on the full expenses paid by travellers to the tour operator.

In education (TOL 80), and health and social services (TOL 86, 87_88), only the units that produce services for the markets at prices that can cover more than 50 per cent of the production costs are included in the calculations for non-financial corporations sector. If this condition is not met, the unit is classified as a non-market producer. Non-market service producers are included in the category of public-sector producers, and these figures are prepared as part of the calculation of general government (Section 3.9). The division of units into market/non-market units is carried out in the National Accounts classification framework, which means that there are no longer any non-market producers in the source data for the non-financial corporations sector, and no separate corrections for them are needed.

Creative, arts and entertainment activities (TOL 90) comprise the production of cultural and entertainment services: performances,

exhibitions, events and auxiliary activities, and the activities of cultural and entertainment institutions. The industry also includes the creation of original works by independent artists such as sculptors, graphic artists, composers, and writers of fiction and non-fiction (TOL 90030 Artistic creation). Structural business statistics are used as the source of figures for cultural and entertainment activities. Original works of art and entertainment are considered to meet the criteria for capital if the works are used for productive purposes for more than a year. The inclusion of original works in the gross formation of capital in the National Accounts is carried out using a separate calculation entity (Entertainment, literature and artistic originals 5.10.3.11).

As its name suggests, the repair of computers and personal and household goods (TOL 95) consists of the repairs of computers, telephones, entertainment electronics and other goods (mainly those used by households). The structural business statistics are used as the source for the figures. Changes in output and intermediate consumption are analysed against the background of employment and pay development when the figures are prepared. The final calculations are carried out in the supply and use table framework, in which the supply in the industry is compared with the demand (mainly with private consumption expenditure).

Output, intermediate consumption and value added on activities that are estimated to be created as a result of **illegal economic activities** are added to the households sector (S14), retail trade (TOL 47) and other personal service activities (TOL 96). The calculation of illegal economic activities is described in more detail in Section 7.1.3.1.1.

3.7.2.5.2 Global activities and project suppliers

With the introduction of ESA 2010, global trade and production phenomena prompted changes in the registration of data in the National Accounts. Manufacturing services abroad, manufacturing services in Finland, merchanting and factoryless production are classified as global activities. Under ESA 2010, global phenomena are recorded on the basis of ownership, regardless of the country in which the product is located. The classification of enterprises in the group of global activities is based on analyses of enterprise data compiled from various sources. The statistics on international trade in goods and services are the key source of data. In the National Accounts, analyses of global enterprises started in the statistical year 2012, when 15 particularly significant enterprises were analysed. In the statistical year 2018, the number had grown to 90 enterprises. The calculation method for the international production and trade phenomena is explained in more detail in Section 5.17.

In the National Accounts, enterprises that are classified as project suppliers are processed separately. The enterprises are located in Finland but deliver large turnkey-type projects abroad, for example, boilers, paper and pulp plants and power plants. In the National Accounts, wages and salaries paid abroad and inputs purchased abroad are subtracted from the turnover of project suppliers generated abroad. The remaining international turnover (margin) is considered production of machine and process planning, and

thus service exports from Finland. If inputs are delivered from Finland to a project site abroad, they are not subtracted from the expense report, as they are visible in the customs goods export.

3.7.2.6 Intermediate consumption

Intermediate consumption of the non-financial corporations and households sectors consists of four components: financial intermediation services indirectly measured (FISIM); change in stock of materials and supplies; materials and services purchased for operating activities; and other operating expenses.

FISIM costs are derived from the centralised calculation of the National Accounts (Section 3.8.1.7). Indirectly measured financial intermediation services related to loans and deposits are calculated as separate items.

Production inputs are valued at purchaser's price (purchase value delivered to the establishment exclusive of value added tax). Purchase adjustment items must be considered in valuing purchases. Such items include freight, forwarding, packaging and other similar costs. Purchase expenses should be reported inclusive of these accessory costs. In addition to value added tax, received discounts and sales at acquisition cost to employees are subtracted from purchases.

The intermediate consumption section of the non-financial corporations and households sectors in the calculation application of the National Accounts has been constructed so that is corresponds with the production input data of the structural statistics. In the structural business statistics, the expense division includes profit and loss account items: purchases during the accounting period; outside services; and other operating expenses.

The inquiries of the structural business statistics (T5, TILKES appendix) contain questions about the value of production inputs acquired by the establishment during the calendar year based on a rough classification. More detailed questions on production inputs are asked in the TILKES inquiry made to enterprises included in the structural business statistics. In the production process of the structural business statistics, these items are allocated to establishments. Acquisitions are reported without change in inventories. In the National Accounts, **materials and services** include the following production inputs:

- Acquisition of materials and supplies: Materials and supplies comprise goods immediately used as inputs in a production process (raw materials, semi-finished products, additives, parts, and small non-capitalised tools and devices). Materials and supplies also include ancillary materials (lubricants, water, etc.) but not office or other similar supplies.
- Acquisition of packaging materials: This item comprises materials and supplies used in the packaging of goods produced by the enterprise, or goods for which the enterprise is acting as an agent.
- Acquisition of fuels: Fuels comprise substances acquired as an energy source for the enterprise's production activity or its vehicles.

- Acquisition of electricity for own use: In addition to the electricity used in the production process, acquisition of electricity comprises the electricity used for lighting, ventilation, heating, etc. in the enterprise's premises.
- Acquisition of heat for own use: In addition to the heat used in the production process, acquisition of heat includes the heat used to heat the enterprise's premises.
- Contracted repair, maintenance and installation work: This item comprises the value of the repairs, maintenance and installation of the enterprise's own production machinery and buildings contracted from an external party. The expense also includes the value of invoiced materials.
- Subcontracting: Compensation paid to a subcontractor for the production of products or sales of services.
- Labour rental: This item comprises payments made by the enterprise for the use of labour to a labour rental company.

The value of other acquired production inputs primarily includes costs generated from acquiring supplies not belonging to current assets, and externally acquired non-industrial services during the calendar year. In the National Accounts, **other operating expenses** include the costs items of the structural business statistics:

- Research and development expenses: Research and development expenses refer to research and development services acquired from external enterprises.
- Transport and storage expenses: This item comprises transport and storage services purchased from outside the enterprise, as well as terminal and cargo handling services.
- Advertising, sales and marketing expenses: This item comprises expenses from the enterprise's externally acquired advertising, sales and marketing, including services provided by advertising agencies, costs arising from organising trade fairs and similar product demonstrations.
- Computer, design and programming expenses: This item comprises expenses from computer services acquired from external providers and paid by the customer. Repair and maintenance of computers is also included in this item.
- Expenses from patents and licences: Compensation paid for the permission to use patents and licences.
- Leasing rents: Rent expenses from fixed asset commodities rented by the enterprise with leasing contracts are reported under this item in the structural statistics. A leasing agreement can be based on financing or direct leasing.
- Other rents: The item comprises rental expenses paid for residential buildings and dwellings, as well as commercial, factory, office,

warehouse, and other such buildings, and rental expenses arising from machinery and equipment.

- Entertainment expenses
- Other expenses not mentioned above: This item comprises other operating expenses of the profit and loss account that have not been allocated to the above-mentioned items. Other expenses include provisions paid, postal and distribution costs, banking, legal, bookkeeping, insurance, organisational, and other service and travel expenses.

The value of used intermediate inputs can be derived from the above-mentioned acquired production inputs by taking into account the changes in **inventories of current assets** during the calendar year. In the National Accounts, intermediate consumption includes change in the inventories of materials and supplies. In the value of inventories, materials and supplies also include packaging materials and fuels immediately used as an energy source. A more detailed explanation on the calculation of inventories is found in Section 5.11.

3.7.2.6.1 Additional intermediate consumption data

Production inputs acquired from other establishments of the enterprise are valued as external purchases. If internal purchases within the enterprise cannot be valued at market prices, they are valued at production costs. Questions are asked about internal deliveries in the inquiry for industrial establishments (T5) for structural business statistics and in the inquiry for service industries (TILKES appendix). Incomplete answers are supplemented methodologically as part of the compilation of the structural business statistics (internal deliveries of the enterprise = internal purchases).

In the National Accounts, only direct leasing rents are included in intermediate consumption. The leasing rent expenses of the structural statistics include direct and financial lease expenses. Thus, the financial leasing rents paid by the non-financial corporations sector must be subtracted from the rental expenses of the structural business statistics, which only leaves direct leasing. The data on financial leasing contracts' rents of the non-financial corporations sector are derived from Statistics Finland's financial leasing statistics (10.1.9). Data on paid financial leasing rents are available by main industry (industries B to S). The division into the industries included in the calculations of the National Accounts is made using the industry-based division of leasing rents in the structural business statistics. The import of direct leasing services is used as comparison data for the direct leasing rent left for intermediate consumption. This rent can be derived from statistics on international trade in services (SJ33 Leasing rents for equipment without operator). The cost item entered for intermediate consumption must at least cover the corresponding import volumes by industry.

In the structural business statistics, R&D expenses are included in the expenses entered in the enterprise's profit and loss account. Enterprises

may also capitalise R&D expenditure in their balance sheet. In the National Accounts, capitalised R&D expenditure is added to the R&D expenditure of the profit and loss account, which generates the total R&D expenditure for the accounting period. According to ESA 2010, these expenses are increases in fixed assets that must be transferred to R&D investments. In the calculation of intermediate consumption, R&D expenditure is therefore subtracted, and the corresponding sum is transferred to investments by industry. However, this is not done if the R&D services purchased by the enterprise are inputs by the enterprise's own research unit. In that case, they are considered expenses and recorded in intermediate consumption in the National Accounts, and not transferred to investments. The intermediate consumption deductions of R&D activities are calculated in the centralised calculation of the National Accounts, which are discussed in more detail in Section 5.10.3.8.

In the National Accounts, software is included in immaterial fixed assets (gross fixed capital formation). In addition to purchased software, this includes software produced for the enterprise's own use involving substantial production costs. The software acquisition costs are partially included in the cost item IT, designing and programming expenses of the structural business statistics. Part of the acquisition costs has been capitalised directly in the balance sheet. The inquiry about fixed assets for structural business statistics contains questions on software investments as a sub-item of intangible assets. The total level of software investments in the non-financial corporations and households sectors has been compared with the findings of the structural business statistics inquiry, as a result of which 30 per cent by industry is subtracted from the IT, designing and programming expense item of intermediate consumption. The 30 per cent channelled to investments is expected to cover all investments in software and databases (N1173). The calculation of investments is described in more detail in Section 5.10.3.10.

Structural business statistics provide the data on items included in other expenses in the profit and loss account that are not considered part of the production process and are therefore not included in the National Accounts' intermediate consumption. These items include losses from the sales of fixed assets, donations made, reductions in value of accounts receivable, tax increases, fines, merger losses, mandatory provisions and other non-deductible expenses. In the source data run of the National Accounts, these items are subtracted from the other expenses item before the data are transferred to the calculation application.

After these subtractions, other expenses of the profit and loss account still contain a number of cost items that are not considered to belong to intermediate consumption. No data on the size of these cost items are available from the structural statistics, their value derives from the centralised calculation of the National Accounts. Items subtracted from other costs are vehicle tax and waste tax, real estate tax, social benefits in kind, and part of property insurance premiums. These adjustment items have their own source data process in the calculation application of the

production account through which the value can be subtracted from other costs.

3.7.2.7 Examination of the calculation

In the National Accounts' calculation round, industry-specific output and intermediate consumption **levels** of the non-financial corporations and households sectors are compiled, and revisions are made to the above-listed output and intermediate consumption **breakdowns**. These breakdowns act as input for the supply and use tables, in the compilation process of which the data variables are divided further into NACP products (section 6.1.2.1).

The figures of the National Accounts are reviewed with a cubic browser that contains **industry-specific analysing views**. This view is restrictive in the sense that it does not allow a more detailed examination of enterprise-level or establishment-level data. Software-creating standard-format Excel tables for the industries have therefore been developed as a calculation aid. The establishments belonging to the industry and the data needed for producing calculations on them (output and intermediate consumption breakdown) are printed in the tables. New establishments in the industry and establishments closed down are also shown in a separate table.

It is often necessary to move from industry-specific to **enterprise-specific examinations**. An enterprise-specific (legal unit) excel table package is produced for enterprise-specific examination that contains the data from the business structures statistics divided by industry and establishment. The package also contains the data on enterprises taken from main sources for checks and revisions. These data comprise commodities produced by the enterprise and raw materials used (inquiry on production of commodities), the distribution of the enterprise's sales to Finland and abroad, and sales from abroad to abroad (sales inquiry), the enterprise's service exports and imports (international trade in services), the enterprise's goods exports and imports (customs data), and periodic tax return data. The focus in the enterprise-specific examination is on total activities from the perspective of supply and demand. What the enterprise purchases (raw materials, services, domestic/imports), how the enterprise manufactures (its own production, subcontracting, production abroad), what the enterprise manufactures (goods, services), and where the production goes (domestic demand, exports, inventories, the enterprise's own use). Comparisons are made between source data to check that they are congruent and provide a uniform picture of the enterprise's activities (consistency analysis). If there are revision needs, for example, in the breakdown of the output, the revision is made in the revision column of the National Accounts' calculation application and, if necessary, the revision is communicated to the source data.

The calculation application of the National Accounts has six revision columns for data revisions, one for each revision type. Section 7.1.1. explains what types of revision are made to the data, and to which revision column they are allocated. A brief description of the correction needs is entered in the correction metadata.

In the final stages of the calculations, each industry in the non-financial corporations and households sectors is discussed in a summary meeting. The following matters are reviewed in the first round of meetings: changes in value of figures at current prices compared to the previous year and the industry's congruence in terms of output; intermediate consumption; value added; wages and salaries; and employed persons. Every effort is made to find and correct any ambiguities concerning the figures for individual industries. The next stage is the calculation of figures at constant prices, which is carried out in a centralised fashion in the National Accounts. The second round of summary meetings focuses on the changes in volume and prices of industry-specific figures at constant prices from the year before. The calculation round for the industries of the non-financial corporations and households sectors can be concluded when all industries have been approved.

3.7.3 Building construction (industry 412+432_439)

Building construction includes the following TOL2008 industries:

Table 23: Industries included in building construction

Industry	Label
41200	Construction of residential and non-residential buildings
43210	Electrical installation
43220	Installation of plumbing, heat and air-conditioning
43291	Installation of thermal and sound insulation and vibration isolation
43292	Installation of lifts and escalators
43299	Other construction installation N.E.C.
43310	Plastering
43320	Joinery installation
43330	Floor and wall covering
43341	Painting
43342	Glazing
43390	Other building completion and finishing
43910	Roofing activities
43991	Renting of construction equipment with operator
43999	Other specialised construction activities N.E.C.

3.7.3.1 *Data sources*

The main sources for calculations are Statistics Finland *statistics on building and dwelling production, statistics and surveys on renovation building, structural statistics, the Labour Force Survey, statistics on finances of municipalities* and *exports of services statistics*.

The statistics on building and dwelling production describe the volume of construction subject to building permits and the volume of production. The statistics on building production provides monthly the current and fixed price value of newbuilding construction by owner and building category. Newbuilding also covers expansions of existing buildings.

Calculation of the value of newbuilding is based on register data collected from municipal building supervision authorities, building project and stage notifications, and on cubic price data by purpose of use categories estimated based on tenders.

In Finland, all new building construction is subject to building permits, so the value of newbuilding comprises professional and own-account construction, as well as construction subject to building permit of the underground economy. The price index for newbuilding is derived implicitly as the ratio between current price and fixed price production.

The level of **renovation building** has mainly been examined with regularly produced cross-sectional surveys. The latest total survey was made in 2014. In addition, less exhaustive renovation building surveys have been carried out. Renovation building of residential buildings has been examined for the statistical reference years 2013–2018, renovation building of public service buildings for 2013 and 2016, renovation building of office and commercial buildings for 2014 and 2017 and renovation building of industrial buildings and warehouses for 2015. Data on renovation building are also derived through an inquiry directed at enterprises in the industry and the number of hours spent on renovation building inquired in the Labour Force Survey.

Structural statistics and **the Labour Force Survey** are used in compiling the production account of enterprises and own-account workers. The production account on building construction for the sector "S1313 Local government" is based on the data from the statistics on finances of municipalities.

3.7.3.2 *General solution for calculation*

The production account for building construction is formed in two separate stages. The combined output of all calculation sectors in building construction is calculated as the sum of the output of newbuilding, renovation buildings and export of building construction services.

In the second stage, the above-calculated joint output is distributed to the sectors with the help of various sources.

The main production of building construction is recorded for the industry "412+432_439 Building construction". Building construction of the sectors "S11 Non-financial corporations" and "S14 Households" is main production. By contrast, part of the building construction production of the sector "S1313 Local government" is recorded to other industries as their secondary production.

International trade in construction services is recorded into imports and exports of services. Imports and exports of construction services do not affect the output of building construction. Imports of construction services are included in the intermediate consumption of building construction.

3.7.3.3 *Production of building construction services*

The output of building construction is calculated as the sum of values of newbuilding and renovation building. For investment calculations, the output of building construction is divided by building type and type of construction into six parts as follows:

Table 24: Output of building construction in 2018, EUR million at current prices

Type of construction	Residential construction	Other building construction	All building construction
Newbuilding	7,707	8,162	**15,869**
Renovation building	8,075	4,660	**12,735**
…Annual repairs	1,698	1,771	**3,469**
…Refurbishment	6,377	2,889	**9,266**
Total	**15,782**	**12,822**	**28,604**

The current priced values of **newbuilding** for residential buildings and other building construction derive from Statistics Finland's statistics on building production that contains the new price values of newbuilding by owner and building type. The new price refers to the amount of money needed for constructing a new building with desired characteristics. The new price covers construction (area, building and three-dimensional structures), building technology (HEPAC and information systems, house equipment), project services (construction, development and planning services) and connections to networks.

Newbuilding covers all newbuilding subject to permit taking place in Finland. An estimated 4.5 per cent of the value of newbuilding is foundation engineering that according to the Standard Industrial Classification should belong to civil engineering but is in Finland recoded in building construction.

Table 25: Determining the output of building construction (A: sources)

	VOLUME OF NEWBUILDING	PRICE DATA	VOLUME OF RENOVATION BUILDING
Source	Municipal building supervisors	Database for Construction Cost Estimation (*Haahtela Kehitys Oy*)	Statistics Finland
Entity	* Newbuilding	* Prices of newbuilding	* Renovation building surveys * Building permit applications * Turnover of renovation building * Working hours from the Labour Force Survey
Data Content (e.g.)	* Purpose of use of the building * Investor (owner category) * Building volume (m3) * Standard classifications * Number of floors * Construction method	* Purpose of use of the building * Building volume (m3) * Number of floors * Construction method * Prices by region * Construction method	* Value and volume of renovation building * Renovation building by building type

Table 26: Determining the output of building construction (B: output)

	OUTPUT OF NEWBUILDING AT BASIC PRICE	OUTPUT OF RENOVATION BUILDING AT BASIC PRICE
Data Content	* At current and fixed prices * Includes the profit margin of the builder * 14 owner categories → breakdown by sector * Own-account/professional newbuilding * 14 purpose of use categories → residential /other newbuilding	* At current and fixed prices * Includes the profit margin of the builder * Professional and own-account renovation building

The output of renovation building is based on data on the level of renovation building produced by regular surveys. The surveys have been carried out, for example, by the building production laboratory of VTT Technical Research Centre of Finland in 1990 (KORVO90), 1995 (KORVO95) and 2000 (REMO2000). The latest total survey concerning the statistical reference year 2013 was carried out by the consultancy firm *Rakennustutkimus RTS* specialised on renovation building. In sample surveys, the value of renovation building has been examined by reparation measure and type of building, and at basic and purchaser's prices. The division of renovation building into annual repairs and renovations are based on RTS's survey for the latest years.

The level of renovation building can be examined with smaller sample surveys carried out annually. In 2014–2018 Statistics Finland carried out a renovation building survey on residential buildings. In terms of renovation building of other building construction, sample surveys concerning public service buildings was carried out in 2014 and 2016, concerning commercial and office buildings in 2015 and 2017. In 2015 renovation building survey targeted industrial buildings and warehouses.

The exhaustiveness of Statistics Finland's sample surveys can be estimated in two ways. An obvious indicator of exhaustiveness is how well the sample frame covers the entire building stock. In this respect, there are coverage problems in particular in terms of renovation building of other building construction, where the annual samples cover only part of the building stock.

Another indicator of exhaustiveness is to estimate how well different types of repair works related to renovation building are reached with the inquiry. In terms of residential buildings, renovations of free-time residences and the value of the residents' own work, or around 35 per cent of the value of renovation building of residential buildings are excluded from Statistics Finland's own sample surveys. The estimate on the development in time of the share excluded from this sample survey is based on expert estimates. This exhaustiveness viewpoint is not relevant for other than residential buildings.

Due to coverage problems, the total level of renovation building must partly be estimated with the help of price and volume changes. The turnover data of renovation building and the work hours of professional builders in building construction are used as help in the estimation.

It is difficult to draw a line between renovation and annual repairs. Renovation or conversion is often defined as renovation building, where the building is changed to suit better its purpose and as a result of which the previously achieved quality or value of the building is exceeded. Annual repair or maintenance is defined as usual, regular activities, where the purpose is to maintain the building at most at a quality corresponding with the original level. In the National Accounts, renovations are recorded as investments on the demand side and annual repairs as intermediate consumption.

The relationship between renovation and annual repairs has mainly been examined in connection with the total survey carried out at specific intervals. In practice, the division into annual repairs and renovation is based on expert estimates.

3.7.3.4 *Calculation of the production account of building construction by sector*

3.7.3.4.1 Non-financial corporations (S11)

Non-financial corporations' **market output (P11)** is determined as the difference between the total level of building construction services (newbuilding + renovation building + export of building construction services) and the production of other sectors ("S14 Households", "S1313 Local government"). In other words, non-financial corporations produce the share of building construction services that are not produced in other sectors.

Non-financial corporations' **output for own final use (P12)** consists of R&D services produced for own use. The item derives from centralised calculations.

Non-financial corporations' income ratio of **intermediate consumption (P22)** is calculated as a share of output from the structural statistics. In the structural statistics data, output is determined as the sum of turnover (excl. subcontracting), change in inventory of finished products, the production for own use item and other operating income. Intermediate consumption is defined as the sum of change in inventories, external services (excl. subcontracting), leasing rents (excl. financial leasing), other rents and other expenses. Imports of construction services are included in intermediate consumption of building construction.

Non-financial corporations' **FISIM (P119)** derive from centralised calculations (see Chapter 3.8.1.7).

Non-financial corporations' **consumption of fixed capital (P51C)** derives from centralised capital stock calculations.

Non-financial corporations' **employee stock options (D111)** derive from centralised calculations.

The basic source for non-financial **corporations' other wages and salaries (D112)** is the structural statistics. In addition, hidden wages are recorded for non-financial corporations. The level of hidden wages is based on expert estimate and is connected to the number of the employed in building construction companies.

Employers' social security contributions (D12) are estimated based on the percentage shares of general social security contributions.

The number of employed (E11, E12) is estimated with the help of the Labour Force Survey and structural statistics. Grey entrepreneurs and wage and salary earners are also recorded in the employed of non-financial corporations.

3.7.3.4.2 Households, market producers (S14 / T10)

Market producers (T10) of the households sector (S14) are entrepreneurs and grey builders. The production of both is calculated as **market production (P11)**. Entrepreneur households are all employers and own-account workers, whose personnel in staff-years is under two. Their market output (P11) is calculated from the structural statistics data as the sum of the output items turnover (excl. subcontracting), change in inventory of finished products, the production for own use item, and other operating income. The output of grey house builders is estimated together with grey employment. In practice, reconciliation means that the annual changes in grey output and grey employment are reasonable compared to one another. The value of grey production is based on expert estimates.

Intermediate consumption (P22) of entrepreneur households is calculated as the sum of intermediate consumption items change in inventories, external services (excl. subcontracting), leasing rents (excl. financial leasing), other rents and other expenses. The intermediate consumption of grey builders has been assumed as 25 per cent. The assumption is based on an estimate that grey entrepreneurs mainly perform work for households who themselves acquire the building materials needed for the work.

Entrepreneur households' **FISIM (P119)** derive from centralised calculations (see Chapter 3.8.1.7).

Entrepreneur households' **wages and salaries (D11)** derive from the structural statistics. No paid wages and salaries are recorded for grey builders. Hidden wages are primarily examined at industry level, so wages and salaries paid to grey employees are recorded in the wages and salaries paid by the non-financial corporations sector and entrepreneur households.

Entrepreneur households' **employers' social security contributions (D12)** are estimated based on the percentage shares of general social security contributions. No social security contributions are calculated for grey builders.

The number of entrepreneur households **employed (E11, E12)** is estimated with the help of the structural statistics.

No extensive studies have been carried out on the number of grey builders. The employment of grey builders is based on expert estimates.

3.7.3.4.3 Households, producers for own final use (S14 / T20)

In own-account construction, newbuilding and renovation are included in output for own final use (P12), and annual repairs are included in market output (P11). Recording annual repairs as market output is justified based on the fact that the production of annual repairs is used as intermediate consumption in another industry ("68202 Operation of dwellings").

There is no unambiguous data on the development of own-account building construction. Therefore, the development of the output of own-account building construction is based on annual change indicators. The development of market output (P11) is linked to the development of annual repairs of residential buildings. Output for own final use (P12) is assumed to develop in line with non-professional newbuilding of detached houses and free-time residences. Both the market output and output for own final use include an estimate on the share of the households' own work.

The share of intermediate consumption (P22) of own-account building construction has been estimated as 65 per cent of the output.

3.7.3.4.4 Local government (S1313)

The building construction industry of local government i.e. municipalities and joint municipal authorities, "412+432_439 building construction" includes the volume of building construction services produced by the municipalities themselves. Data on the volume come from the economic statistics on municipalities, where the volume of municipalities' self-directed construction by type of products and division of costs into wages and salaries, social security contributions and goods and services are broken down.

The volume of the industry's output is the amount of self-produced building construction investments reported by municipalities. Expenses on materials and supplies of self-directed construction from the statistics on

local government finances are recorded as intermediate consumption of the industry. The number of employed persons is estimated with the help of the amount of wages and salaries recorded in the statistics on local government finances.

Table 27: Output of building construction, intermediate consumption and value added by sector in 2018, EUR million at current prices

Transaction	**S1 Total**	S11	S14	…S14_T10	…S14_T20	S1313
P1 Output, total	**28,623**	24,503	4,053	1,984	2,069	67
P11	**27,855**	24,484	3,304	1,984	1,320	67
P12	**768**	19	749	0	749	0
P2 intermediate consumption, total	**17,171**	14,952	2,180	830	1,350	39
FISIM	**42**	39	3	0	3	0
P22	**17,129**	14,913	2,177	830	1,347	39
B1GPH Value added, gross	**11,452**	9,551	1,873	1,154	719	28

3.7.4 Housing (industries 68201 and 68202)

Housing has been divided into two industries in Finland. The industry "68201 Letting of dwellings" covers renting activities of dwellings and free-time residences. The industry "68202 Operation of dwellings", in turn, describes activities related to owning dwellings and free-time residences.

The production of sectors "S1311 Central government", "S1313 Local government" and “S13141 Employment pension schemes”, i.e. dwelling rents received are described as secondary production. Secondary production is included in the production of other industries of the mentioned sectors and is thus not separately recorded in the production of the industry "68201 Letting of dwellings".

3.7.4.1 *Sources*

The sources for calculation are the dwelling stock, the rent statistics, statistics on the finances of housing companies, and the Household Budget Survey.

The dwelling stock statistics describe the building stock of the entire country classified by use purpose. In the statistics, all individual dwellings in Finland are classified by type of dwelling based on the building's purpose of use, year of construction, dwelling size and type, tenure status, equipment and equipment level, occupancy rate and location. The dwelling stock statistics are produced annually from the Population Register Centre’s Building and Dwelling Register.

The Rent statistics describe the rent level of the entire rental dwelling stock and the change in the rent level from the previous year. The Rent

statistics cover rents of building types “blocks of flats” and “terraced houses”. The rent information concerning “detached houses” is not available. The concept of rent includes separately paid water charges and heating costs. The rent statistics are produced quarterly and annually.

The rent statistics are produced as a combination of a register and sample survey. The data for the quarterly statistics is based on the interview data collected monthly in connection with the Labour Force Survey. Around 1,500 persons are interviewed monthly. The sample for one survey month consists of five rotation groups, which have taken part in the Labour Force Survey at different points of time. The target population of the survey month changes gradually so that one third of the respondents change monthly. In the compilation of the annual statistics, use is made of the above-mentioned interview data and the rent data of the Social Insurance Institution's register of housing allowances. In addition, Statistics Finland's data on housing stock, migration and population structure are used in the compilation of the statistics.

The statistics on the finances of housing companies measure the housing costs of housing companies. The statistics also show how housing companies finance their expenses, i.e. what their income consists of and what the inhabitant has to pay for housing.

Data of housing companies are based on an inquiry sent annually to around 3,000 housing companies. One-third of the sample changes annually. Fifty-eight per cent of the companies included in the inquiry are block of flats companies and 42 per cent are terraced house companies.

The Household Budget Survey produces information on changes in the consumption expenditure of households and on differences in consumption by population group. The Survey also studies households’ housing conditions, possession of durable goods and income. In addition, the survey produces data on the benefit gained from the use of social services and the amounts of food bought home.

The Household Budget survey is a sample survey, for which data were collected in 2016 from households with telephone interviews and diaries filled in by them, and from purchase receipts and administrative registers. From 1966 until 1990, the survey was conducted regularly at five-year intervals. From 1994 to 1996 the survey was carried out annually. Since then, Household Budget Surveys have been conducted in 1998, 2001, 2006, 2012 and 2016.

3.7.4.2 *General solution for calculation*

The output of housing industries consists of the actual and computational rents of dwellings and free-time residences. The actual rents of dwellings (excl. free-time residences) are the rents of rented dwellings. The computational rents of owner-occupied dwellings are estimated with the help of the market rents of similar rented dwellings. When calculating the output of dwellings, a classification or so-called stratification method based on actual rents is used. The actual and computational rents of free-time

residences are based on actual housing costs that are calculated based on the data from the Household Budget Survey.

The dwelling output produced by the stratification method is revised based on the data of the Household Budget Survey, if necessary.

The intermediate consumption of dwellings in blocks of flats and terraced houses is calculated with the help of square metre specific cost items and square metre data of the dwelling stock that derive from the statistics on financial statements of housing corporations. The intermediate consumption of detached houses and free-time residences is calculated with the help of data from the Household Budget Survey. In the intermediate years of the Household Budget Survey, the calculation is based on price and volume changes.

The production of housing is calculated in three parts. First, output and intermediate consumption is calculated using rents, which include heating ("warm rents"). What comes to detached houses, terraced houses and blocks of flats, stratified regional rents are used in this stage. Secondly, heating costs are estimated at an aggregated "whole Finland" level. Finally, heating costs are subtracted from output and intermediate consumption. The practise of using "cold rents" is chosen as a general European approach to housing production.

3.7.4.3 *Output: dwelling rents of residential buildings*

The calculation of the output of residential buildings is based on stratified dwelling rents and square metres of dwellings for base year 2016. Annual time series are formed with the help of the annual changes in regional rent indices of the rent statistics.

The basis for the base year rent data is municipality. The following classifications are considered in municipality-specific rents per square metre:

- Building type:
  - detached houses
  - terraced houses and block of flats (also includes building type "others").
- Tenure status:
  - market rented dwelling
  - government-subsidised rented dwelling
- Number of rooms, by building type
  - detached houses
    - 3+
  - terraced houses and blocks of flats
    - 1, 2, 3+

The used rents are based on market rents. Lowered rents (e.g. dwellings provided by employers) are not considered in the housing calculations.

According to the rent concept of the rent statistics, separately paid water charges and heating costs are considered part of the rent. Rents do not include other possible usage charges of dwellings, such as sauna, laundry or other such charges or electricity and telephone charges. These "heated rents" are applied to dwellings in blocks of flats and terraced houses.

For blocks of flats, the price data are available by number of rooms and region, and separately for government-subsidised dwellings and other rented dwellings. Only one room size is applied for terraced houses.

The market rents of detached houses are created in two phases. First, a regional ratio of square metre prices of attached houses to square metre prices of blocks of flats is constructed with the help of regional dwelling prices data. Second, the regional rents of attached houses are calculated using the price share from first phase and the rents of blocks of flats from the second phase. For example, in case where the price share of detached houses to blocks of flats in a certain area is 0.9 and the square metre rent of a blocks of flats in this same area is 10 EUR/month, then the square metre rent of detached houses in this area is 9 EUR/month (10 EUR/month * 0.9 = 9 EUR/month).

The rent used for owner-occupied dwellings for all building types is the market rent of corresponding rented dwellings.

Square metre data by building type come from the dwelling stock register. They are stratified annually to correspond with the rent categories.

Municipality-specifically stratified rents per square metre are not estimated annually. Annual time series are formed with the help of the annual changes in regional rent indices of the rent statistics. The regional rent indices take into consideration the following classified factors:

- Building type: terraced houses and blocks of flats as one category
- Tenure status: market rented dwelling, government-subsidised rented dwelling
- Number of rooms: 1, 2 or 3 rooms
- Area:
    - 24 large cities (several sub-areas for largest cities)
    - 18 provinces (effect of large cities removed)

The gross rents of owner-occupied dwellings are production for own final use. Gross rents of rented dwellings are market output.

The output of dwellings includes the output of dwellings located in Finland. The output of dwellings owned by foreigners in Finland and by Finns abroad is discussed in Section 5.14 Exports of services.

3.7.4.4 *Output: Other rental income from residential buildings*

For detached houses, the rent of garages and parking spaces is assumed to be included in the rent. The assessment is based on expert estimates. In terms of blocks of flats and terraced houses, other rental income rents are estimated based on the square metre specific data and square metre data of the dwelling stock from the statistics on the finances of housing corporations.

Other rental income of block of flats and terraced houses include rents received from commercial and office spaces, garages and parking spaces. Other rents are recorded in market output both for market producers (T10) and producers for own final use (T20).

Table 28: Dwelling output by building type in 2018, EUR million at current prices

NACE	House type	freq[20]	million m^2	P1, total	…P1, dwellings	…P1, rens[21]	P2	…P22	…FISIM	B1GPH
6820	**Total**	**3,255**	**245.8**	**27,639**	**27,421**	**218**	**6,033**	**4,593**	**1,440**	**21,606**
6820	detached houses	1,052	120.2	**12,667**	12,667	0	**408**	408	0	**12,259**
6820	attached houses	368	26.8	**3,138**	3,138	0	**964**	964	0	**2,174**
6820	blocks of flats	1,286	72.5	**10,623**	10,405	218	**2,544**	544	0	**8,079**
6820	free-time residences	549	26.3	**1,211**	1,211	0	**676**	676	0	**535**
68201	**Total**	**999**	**170.0**	**7,190**	**7,089**	**101**	**2,283**	**812**	**471**	**4,907**
68201	detached houses	35	117.3	**336**	336		**64**	64		**272**
68201	attached houses	131	19.1	**869**	869		**526**	526		**343**
68201	blocks of flats	801	32.2	**5,825**	724	101	**1,164**	1,164		**4,661**
68201	free-time residences	32	1.5	**160**	160		**58**	58		**102**
68202	**Total**	**2,256**	**75.7**	**20,449**	**20,332**	**117**	**3,749**	**2,780**	**969**	**16,700**
68202	detached houses	1,017	2.9	**12,331**	12,331		**344**	344		**11,987**
68202	attached houses	238	7.7	**2,269**	2,269		**438**	438		**1,831**
68202	blocks of flats	485	40.4	**4,798**	4,681	117	**1,380**	1,380		**3,418**
68202	free-time residences	517	24.8	**1,051**	1,051		**618**	618		**433**

3.7.4.5 *Output: Output of free-time residences*

The output of free-time residences is calculated with the help of data from the Household Budget Survey (HBS). The output of rented free-time residences, or the market output consists of the items rent, interest rates and plot rent.

The output of owner-occupied free-time residences is calculated through the costs.

[20] Building types expressed in thousands
[21] Other rental income of housing companies

Most of the output of owner-occupied free-time residences derives as the sum of the items repair costs, water and wastewater, fire insurance (share of service fee), waste charges, chimney sweeping, energy, plot rent from the Household Budget Survey.

The second part of the output of owner-occupied free-time residences is estimated as a share of consumption of fixed capital of housing industries. The consumption of fixed capital of free-time residences is estimated as a share of the consumption of fixed capital of the entire industry (dwellings and free-time residences). The estimate of the consumption of fixed capital share is, in addition to square meter share of free-time residences, also based on the estimated square meter specific investment expenses of free-time residences. The standard of equipment (electricity, water supply and sewerage) of the vacation home stock was considered so deficient that a square metre in a vacation home was valued to be only around 30 per cent of the value of a square meter in a dwelling.

Third, a mark-up is added to the output of owner-occupied free-time residencies. The mark-up is assessed to be 10 per cent of the combined sum of the HBS output and consumption of fixed capital addition.

In 2018, the output of owner-occupied free-time residences was EUR 1051 million. Of this, EUR 618 million was based on the intermediate product costs of the Household Budget Survey,EUR 325 million on consumption of fixed capital and EUR 108 million on mark-up.

The Household Budget Survey has been carried out every five to six years. In the years when the data from the Household Budget Survey are not available, the output of free-time residences is estimated with the help of price and volume changes. The price changes derive from the consumer price index. The indicator used for volume changes is the development in the square metres of free-time residences in the building stock.

The output of free-time residences includes the output of free-time residences located in Finland. The output of free-time residences owned by foreigners in Finland and by Finns abroad is discussed in Section 5.14 Exports of services.

3.7.4.6 *Intermediate consumption: residential buildings*

The intermediate consumption of dwellings in blocks of flats and terraced houses is determined with the help of square metre data of the dwelling stock and square metre specific cost items from the statistics on the finances of housing corporations. The following items are included in intermediate consumption: administration, use and maintenance, maintenance of outdoor areas, cleaning, heating, water supply and sewerage, electricity, waste management, insurance, rent expenses, costs of small repairs and other maintenance costs.

Intermediate consumption items of detached houses are chimney sweeping, waste, insurance (fire insurance charges of detached houses and a share of home insurance, share of service fee) and other payments calculated with the help of the data from the Household Budget Survey. Water supply,

sewerage and heating costs of detached houses are not included in intermediate consumption because they are not recorded in the output either.

The calculation of the **annual repairs of residential buildings** has multiple stages. The total level of annual repairs of residential buildings is calculated from the basic price value of annual repairs of dwellings in the industry ’412+431_439 Building construction’ by adding the value added tax to it. The value of annual repairs includes all activities that improve the condition of the building. The calculation of annual repairs is explained in Section 3.7.3 Building construction.

The total level of annual repairs is divided into the building types as follows: The annual repairs of blocks of flats and terraced houses are calculated with the help of square metres and square metre specific repair cost data of housing companies. The annual repairs of free-time residences are calculated from the data of the Household Budget Survey. Small repairs of dwellings made by tenants and owners included in private consumption also derive from the Household Budget Survey. The remaining share is recorded as annual repair costs of detached houses.

3.7.4.7 *Intermediate consumption: free-time residences*

For market producers (T10), there are no direct sources for intermediate consumption, so the level of intermediate consumption is based on an estimate. The structure of market producers' intermediate consumption is assumed to follow the intermediate consumption structure of producers for own final use. The level of intermediate consumption of market producers is taken forward with the help of price changes and estimated volume changes.

The intermediate consumption of producers for own final use (T20) is calculated from the following items of the Household Budget Survey: annual repair costs, water supply and sewerage, fire insurance (less the share that remains at the insurance company), waste charges, chimney sweeping, and so on, and energy.

3.7.4.8 *Intermediate consumption: FISIM*

The FISIM related to the intermediate consumption of housing is calculated centrally. The calculation of FISIM is explained in Section 3.8.1.7 FISIM.

3.7.4.9 *Compensation of employees and employment*

The source for compensation of employees is the structural statistics. The employment of the industry is calculated using the estimated average pay.

3.7.4.10 *Calculation of heating costs*

As told earlier in “general solution of housing calculation”, the housing production is calculated in different phases. In first phase, calculation rests on “warm rents”. In the second phase, the estimated heating costs are

extracted from output and intermediate consumption of housing production. In Finnish National accounts the housing production in NACE “68201 Letting of dwellings” and “68202 Operation of dwellings” are recorded without heating costs. The estimated heating costs of all dwelling types are included in energy costs in Households’ private consumption (see chapter “5.7.3.4 Housing, water, electricity, gas and other fuels”)

The heating costs are estimated separately for all dwelling types at an aggregated “whole Finland” level. This is justified for two reasons. First, in Finland there are regional information concerning only “warm rentals”. Second, reliable estimation of heating costs at regional level proved to be difficult.

The heating costs of terraced houses and blocks of flats are estimated with the help of square metre cost information from The Finance of housing companies and square metre information from Housing stock.

The heating costs of detached houses and free-time residencies are based on Household Budget Survey information. In years that Household Budget Survey is not conducted, the heating costs are estimated using volume information from The Energy statistics and price information from The Consumer Price Index.

3.7.5 Domestic services (industry T)

The value of domestic services equals wages and salaries and social insurance contributions that households pay to cooks, servants, nannies, nurses, tutors, drivers and other employees they have hired.

The industry has no intermediate consumption or investments because the intermediate products needed in the work are considered direct consumption expenditure of the household, and thus the output and gross value added are as big as the compensation of employees.

Wages and salaries for domestic services in sector S14 are calculated from two sources. Municipalities’ substitute fees are derived from the Business Register (a municipality can act as a substitute payer when it pays, for example, the pay of a personal assistant directly to an assistant who does not have an employment relationship with the municipality). The data on other cases derive from the Tax Administration's annual tax return data. In these cases, the paymaster does not have a Business ID, but the payer's ID code is a personal identity code.

Wages and salaries also include benefits in kind. Benefits in kind or fringe benefits include meals, employer-provided accommodation, meal allowance and telephone. Finally, an estimated share of payments according to the grey economy in the industry is added to wages and salaries.

Social contributions for the industry are calculated in accordance with Section 4.7.2.

3.8 Financial and insurance corporations (sector S12)

3.8.1 Financial corporations and financial auxiliaries (S121–S127)

The sector data are compiled from the following sources:

1) Control data collected by the Financial Supervision Authority. The data cover all financial institutions, investment service companies and mutual funds located in Finland. Data are also collected from branches of foreign institutions located in Finland involved in financial intermediation. In addition, the activities of foreign branches of Finnish units can be separated from the data. The data collection asks for financial institutions' financial statements data and other data related to the Financial Supervision Authority's supervision tasks. The source is used to calculate sectors S122 and S126.
2) Structural statistics data. The data of the structural statistics are principally based on corporation tax data from the Tax Administration. The material includes data on some financial intermediation and financial auxiliaries' units, even though the data concerning these units are often insufficient. Many items of the tax data, like turnover or purchases may contain items in industries 64 and 66 that are not included in output or intermediate consumption in the National Accounts. Thus, only units that have been verified as having correct information, for example, from the enterprises' financial statements are used from the material. The source is used to calculate sectors S125, S126 and S127.
3) Enterprises' financial statements that derive from the Board of Patents and Registration or directly from publicly available sources. The source is used to calculate sectors S121 and S125.
4) The Financial Supervision Authority's insurance brokers statistics. The data on insurance brokers for sector S126 derive from this source.

3.8.1.1 *Central bank (S121)*

The data for the sector derive from the financial statements of the Bank of Finland. The output of the central bank is calculated through the costs. The calculation formula for the output is:

$$P1R = P2U + K1U + D1U$$

Output for own final use (P12R) is based on expert estimates and mainly consist of software investments.

The following financial statement items are included in intermediate consumption (P2U): Commission expenses, procurement of banknotes, rents, real estate expenses, other administrative expenses, supervision and inspection fees and membership fees, and other expenses.

Consumption of fixed capital (K1U) derives from centralised calculation (Section 4.12).

Compensation of employees derives from the item wages and salaries in the profit and loss account.

The central bank's output which is not sold (equals P11R) is moved to the intermediate consumption (P22U) of sector S122, as instructed in Section 14.16 of ESA 2010.

No FISIM output or intermediate consumption is calculated for the central bank.

3.8.1.2 *Other monetary financial institutions (S122)*

The data for other monetary financial institutions derive exhaustively from the Financial Supervision Authority's FINREP data collection that covers all monetary financial institutions (MFI).

3.8.1.2.1 Output

The output of monetary financial institutions consists of the following items: Fee and commission income (financial services offered against immediate payment), Other operating income, FISIM, financial services related to acquisition and conveyance of financial assets and liabilities on the financial markets.

a) Financial services offered against immediate payment (ESA 2010 3.69) derive from the item fee and commission income in the financial statements. The item is collected from the FINREP data collection.

b) Other operating income derive directly from financial statements. The item is collected from the FINREP data collection.

c) FISIM derives from the centralised calculation (3.8.1.7)

d) There are no direct source data for the calculation of financial services related to acquisition and conveyance of financial assets and liabilities on the financial markets (ESA 2010 3.73). The size of the item is estimated with the calculation formula:

$$Indirect\ income\ =\ Commission\ income\ *\ 0.1$$

Output for own use (P12/R) derives from the centralised R&D calculation (Section 5.10.3.8). In addition, an estimate of the output for own final use formed based on previous years is added to the output for own use.

Table 29: S122 Distribution of output in 2018, EUR million

Transaction	Value
Output P1R	6,559
…Of which commission income (a)	2,440
…Of which FISIM (b)	2,988
…Of which other operating income (c)	711
…Of which indirect income (e)	144
…Of which output for own final use	176

3.8.1.2.2 Intermediate consumption

Intermediate consumption (P22/U) comes from the source data items: Commission expenses, administrative expenses and other operating expenses. Sales losses and merger losses have been subtracted from other operating expenses. The central bank's market output (P11/R) is added to the intermediate consumption (P22/U) of sector S122, as instructed in Section 14.16 of ESA 2010.

FISIM as intermediate consumption comes from the centralised calculation (Section 3.8.1.7).

3.8.1.3 *Funds (S123–S124)*

No output, intermediate consumption or other financial transactions that produce gross value added are calculated for funds.

3.8.1.4 *Other financial intermediaries (S125)*

The data for other financial intermediaries are calculated from the public financial statements of the five main actors. The data cover only part of the value added of the industry.

Data on the biggest units in the sector derive from the Business Register. The sector includes a very diversified group of enterprises. The volume of operations that generate value added is small for a large share of the enterprises in the sector, and their main source of income is property income. Financial statement data and data of structural statistics cannot be used for these units as items reported in financial statements that are normally compared to output often contain property income. Therefore, the figures for the sector are retrieved from the public financial statements of the largest units, and the data are not expanded to the whole population. The units included in the 2018 calculations covered some 50 per cent of the sector's personnel.

The output of the sector is derived by including the commission income and other operating income from the profit and loss accounts of the selected units. Only commission income and other operating income from financial leasing operations are calculated in the output.

Intermediate consumption is achieved by calculating the commission expenses, rent expenses, real estate expenses and other administrative expenses from the profit and loss accounts of the selected units.

No FISIM output (P119R) is calculated for the sector. FISIM as intermediate consumption comes from the centralised calculation (Section 3.8.1.7).

3.8.1.5 *Financial auxiliaries (S126)*

Financial auxiliaries are formed from several data sources. Data on mutual funds and investment service companies (FINREP) come from the supervision material collected by the Financial Supervision Authority. The

data of the Financial Supervision Authority are exhaustive in terms of these enterprises.

Another data source is the material of structural statistics. Sector S126 has around 3,000 enterprises (incl. mutual funds, insurance brokers and investment service companies) in the Business Register, of which some 20 largest are included in the calculations. In terms of S126, the data of structural statistics have been used nearly as such for the selected enterprises, but some unit-level revisions are made to certain enterprises. The sample is expanded to represent the whole population by using the coefficient derived from wages and salaries. The coefficient is calculated from 3,000 small enterprises' wages and salaries divided by the sum of the subsector's wages and salaries (excluding FINREP data).

The third, but clearly smaller group, is insurance brokers, whose data are taken from the Financial Supervision Authority's insurance brokers statistics.

Table 30: S126 Distribution of output in 2018, EUR million

Transaction	Value
Output (P1R)	3,075
… Market output (P11R)	3,011
…… Enterprises from the structural business statistics	1,542
…… Investment service companies	1,428
…… Insurance brokers	41
… Output for own final use (P12R)	64

The output for investment service companies and mutual funds is formed from the item commission income. Intermediate consumption is calculated from the items commission expenses and administrative expenses.

For the biggest units picked from the structural statistics, output comes from the items turnover and other operating income. P12/R comes directly from the item producers for own use. Intermediate consumption is summed from the items purchases of goods and services and other operating expenses.

The output of insurance brokers includes commission income, and intermediate consumption includes purchases of goods and services and other operating expenses.

Output for own use derives from the centralised R&D calculation.

3.8.1.6 *Captive financial institutions and money lenders (S127)*

The sector consists of holding companies, small loan companies and pawnbrokers. No production account items have been formed for holding companies. The production account of the sector thus consists of data concerning small loan companies and pawnbrokers that are formed from

the material of structural statistics. In 2018, the value added of the sector was EUR 54 million.

3.8.1.7 *FISIM*

FISIM, or *Financial Intermediation Services Indirectly Measured*, refer to the services of financial corporations for which they make no direct charge. In Finland, monetary financial institutions producing FISIM are only units belonging to MFI sectors S1221 and S1222. The units of sector S125 are excluded from producers of FISIM. On the one hand, reliable quarterly data have not been available, and, on the other hand, their significance has been estimated to be very low based on the available data. The situation has changed for the source data of sector S125 and probably also for the effect for FISIM output. The Bank of Finland started the Mura data collection for other monetary financial institutions in the early part of 2021, which covers the balance sheet by quarter and the profit and loss account. The first statistical reference period is 2020Q4. Implementation of the data must be investigated.

FISIM are divided between the user sectors, whereby the intermediate consumption of each activity will go up by the extent of these services it uses. Households are a special case. There FISIM use is divided into intermediate consumption (ic) and final consumption (fc). Households are divided into three groups in loans:

- Entrepreneur households (ic)
- Households with housing loans (ic)
- Consumer households (fc).

In deposits, households are divided into two groups:

- Entrepreneur households (ic) and
- Consumer households (fc).

Both in loans and deposits, consumer households' share of FISIM included in interests is allocated to households' consumption expenditure, i.e. to final consumption. The shares of entrepreneurs and those with housing loans are allocated to intermediate consumption. The Regulation of the EU concerning the allocation of FISIM in the National Accounts defines financial intermediation services indirectly measured as interest margins on loans and deposits.

The value of financial services indirectly measured is calculated by using two different reference interest rates depending on whether it is a purely domestic activity or an activity taking place between Finland and a foreign country (exports and imports). An internal reference interest rate, which is the average interest rate of domestic FISIM producers or loans between credit institutions, is applied to sector-specific interest flow and stock data that derive from credit institutions.

FISIM by sector are calculated as follows (domestic use/imports):

$$FISIM\ on\ the\ loans = interest\ receivable\ on\ loans - (loan\ stocks * internal\ reference\ rate/external\ reference\ rate)$$

$$FISIM\ on\ the\ deposits = (deposit\ stocks * internal\ reference\ rate/external\ reference\ rate) - interest\ payable\ on\ deposits$$

In the calculation of FISIM between domestic and foreign countries (exports and imports), the internal reference interest rate is replaced by an external reference rate, which is the average interest rate of loans and deposits between domestic and foreign monetary financial institutions.

Within sectors, FISIM is distributed to user sectors either relative to the loan and deposit stocks from the business statistics system (S11 and S14 entrepreneur households) or based on the total output of the industry. The actual industry-specific stock data of the business statistics system are clearly a more reliable source. Distribution based on output is recommended by Eurostat if no other source is available, i.e. as a second-best method. The central bank does not produce financial services indirectly measured so its output is calculated through expenses.

Table 31: Main items of the production account of financial intermediation (S12, NACE 64) in 2018, EUR million.

Transaction	Value
Output total (P1R)	7,177
…Market output (P11R)	4,012
…Output for own final use (P12R)	177
…Financial services indirectly measured (P119R)	2,988

In the past, prior to 2005, financial intermediation services indirectly measured have not influenced GDP in the National Accounts, because they have been entered as intermediate consumption of the sector undivided. Now, financial intermediation services indirectly measured will be divided between the user sectors, whereby the intermediate consumption of each sector/activity will go up by the degree of these services it uses. The FISIM included in the interests of households' consumer credits and in interests of bank deposits by consumer households will be allocated to households' consumption expenditure, i.e. final consumption. Because a portion of the financial intermediation services indirectly measured is now recorded under final consumption instead of intermediate consumption, GDP will grow.

Exports and imports are also recorded under FISIM, which means that imports for intermediate consumption lower GDP while exports raise it. All in all, gross domestic product will grow by the difference between increase in final consumption (consumption expenditure + exports) and increase in imports for intermediate consumption. Gross national income will go up only by the amount of domestic final consumption (consumption

expenditure), because interests paid to and received from the rest of the world are adjusted in FISIM by the amounts of imports and exports.

Table 32: Supply and use of FISIM in 2018 at current prices, EUR million

SUPPLY OF FISIM		
Domestic output	S12 Financial corporations	2,988
Imports	S2 Rest of the world	372
Supply total	S0 Total	3,360
USE OF FISIM		
Intermediate consumption	S1 Total economy	2,844
	…S11 Non-financial corporations	1,326
	…S12 Financial corporations	76
	…S13 General government	161
	…S14 Households	1,259
	…S15 Non-profit institutions serving households	22
Final consumption	S1 Total economy	440
	…S13 General government (*)	*161*
	…S14 Households (private consumption)	440
	…S15 Non-profit institutions serving households (*)	*22*
Exports	S2 Rest of the world	76
Use total	S0 Total	3,360
GDP EFFECT		
GDP effect = S13+S14+S15 final consumption + exports - imports		327

* FISIM in S13 and S15 final consumption are displayed only for presentation of GDP effect

The value of financial intermediation services indirectly measured is calculated using a reference interest rate, which is the mean interest rate of producers of FISIM, or loans and deposits between credit institutions. The reference interest rate is applied to the data on interest flows and stocks by sector, which are obtained from credit institutions. Within sectors, FISIM are divided among user industries pro rata to their total output. The exports and imports of FISIM are calculated using an external reference interest rate, which is the mean interest rate of loans and deposits between domestic and foreign credit institutions.

The allocation of financial intermediation services indirectly measured also influences sector account interests (D41). The interest received from user sectors (D41R) grows, because the FISIM of deposits are added to the interest on deposits. The interests paid by user sectors (D41K) diminish by the amount of the FISIM of loans. Thus, the use of financial intermediation services indirectly measured, in other words loan and deposit margins, move from the sector accounts' property income and expenditure to intermediate or final consumption, where the use of all other services is also shown in the National Accounts.

In the producer sectors of FISIM (S122), the impact on interests is reversed, that is, received interests diminish and paid interests grow. The

revision makes the interests of sector accounts into theoretical ones, complying with the reference interest rate stock and “adjusted” of FISIM. The actual interest rates received and paid are shown as separate notes to the sector accounts in the account system.

In the sector rest of the world (S2), exports and imports go up when financial intermediation services indirectly measured are added to them. In addition, exports of FISIM from deposits (FISIM of deposits made by customers from the rest of the world into domestic credit institutions) are added to and imports of FISIM relating to loans (FISIM of loans taken by domestic customers from foreign credit institutions) are subtracted from received interests. Imports of FISIM from deposits (FISIM of deposits made by domestic customers into foreign credit institutions) are added to and exports of FISIM relating to loans (FISIM of loans taken by foreign customers from domestic credit institutions) are subtracted from paid interests.

Table 33: Effect of 2018 FISIM allocation on GDP and GNI

Information	Value
Effect on GDP	327
+ Compensation of employees received from abroad	0
- Compensation of employees paid to abroad	0
+ Property income from abroad	285
- Property expenses to abroad	-10
= GNI effect	622

3.8.1.7.1 FISIM sources by sector

The *Bank of Finland’s system for credit institutions’* reporting to the authorities (RATI) for sector S122 includes stocks of loans and deposits and interest flows by counterpart sector, from which the following FISIM components can be calculated:

- Internal and external reference rates
- Domestic production and domestic use of FISIM by user sectors
- Exports of FISIM
- FISIM price indexes
- Households' loan stock divided by:
    - entrepreneur households (ic),
    - households with housing loans (ic) and
    - consumer households (fc).

The RATI data collection covers exhaustively the requirements of Section 14 of the ESA 2010 FISIM calculation.

Balance of payment statistics of Statistics Finland (FISIM imports) the stocks and the interest flows of deposit and loan by non-resident counterpart sectors.

The business statistics system's statistics on financial statements (YTY) of Statistics Finland contains loan and deposit stocks of non-financial corporations S111 and entrepreneur households S14 by industry.

3.8.2 Insurance corporations and voluntary pension funds (S.128–S.129)

The Insurance corporations sector (S.125) in accordance with ESA 1995 was divided into two as a result of the Classification of Sectors 2010 and ESA 2010, to insurance corporations (S.128) and voluntary pension funds (S.129).

The insurance corporations sector (S.128) includes life insurance and non-life insurance companies, insurance associations and some smaller insurance units (the Finnish Motor Insurers' Centre, Patient Insurance Centre and the Finnish Mutual Insurance Company for Pharmaceutical Injury Indemnities). In 2019’s benchmark revisions, branches of foreign insurance companies operating in Finland were added to compilation. The voluntary pension funds sector (S.129) covers only the A departments and defined contribution parts of pension funds and foundations. Voluntary pension insurance offered by life insurance companies belongs to the insurance corporations sector (S.128).

The activities of both sectors (S.128, S.129) are classified in insurance activities, in industry 65 (Standard Industrial Classification TOL 2008). Real estate investment activities by insurance corporations form an exception, which are classified under buying and selling of own real estate, letting of other real estate, in industry 68209 (Standard Industrial Classification TOL 2008). It is characteristic of insurance activities that the insurance provider carries the risk related to a coincidental occurrence of the insured event on behalf of the insured against payment.

Finnish statutory employment pension security is handled by pension insurance corporations, pension foundations and pension funds that in the National Accounts have been separated from insurance corporations (S.128) and voluntary pension funds (S.129). They are classified under the employment pension schemes sector (S.13141) and compulsory social security, industry 843 (Standard Industrial Classification TOL 2008).

3.8.2.1 Data sources

Insurance activities are supervised by the Financial Supervisory Authority that collects data on insurance corporations, as well as pension funds and foundations. Data collected by the Financial Supervisory Authority (FSA's insurance reporting) are the main data source used in the calculation of insurance corporations (S.128) and voluntary pension funds (S.129). Other data sources are the Finance Finland (FA) and Solvency II. Data from foreign branches is based on Solvency II. Due to international cooperation, FSA offers data on transactions between rest of the world and domestic

sectors (S.14, S.11). This data covers mainly information on premiums earned and claims paid.

Some items, like financial intermediation services indirectly measured (FISIM), consumption of fixed capital and R&D (research and development) investments are calculated as separate calculation entities for the entire national economy. The figures of insurance corporations are also based on centralised calculations for these economic transactions.

3.8.2.2 Calculation process

The production account items (see Table 16) of both sectors (S.128, S.129) are classified under insurance activities in industry 65 (Standard Industrial Classification TOL 2008). Real estate investment activities by insurance corporations form an exception, which are classified under buying and selling of own real estate, letting of other real estate, in industry 68209 (Standard Industrial Classification TOL 2008). Market output (P.11) and intermediate consumption (P.22) is recorded in the production account from real estate investment activities.

Table 34: The production account items of insurance corporations (S.128) and voluntary pension funds (S.129) in 2018, industries 65+68209, EUR million. The value added is formed by the production account items.

Transaction	Label	Value
P.11 (+)	Market output	3,236
P.12 (+)	Output for own final use	110
P.119 (-)	Financial intermediation services indirectly measured (FISIM)	11
P.22 (-)	Other intermediate consumption	1,613
B.1GPH (=)	Value added, gross at basic prices	1,722
P.51C (-)	Consumption of fixed capital	171
B.1NPH (=)	Value added, net at basic prices	1,551
D.1	Compensation of employees	543

Insurance and its impact on GDP are presented in the following Table 37. The use of insurance services or taxes paid on insurance products are not separated in the Finnish national accounts calculation system. But the information can be found from the supply and use tables.

Table 35: Calculation process of insurance (industry 65 including sectors S.128 and S.129) and its impact on GDP, EUR million

	Insurance Total *	**Share of total economy**	**Total Economy**
GDP PRODUCTION APPROACH			
Output of goods and services (at basic prices)	3,175	0.73 %	436,210
Intermediate consumption (at purchasers' prices)	1,140	0.00 %	234,896
Gross value added (at basic prices)	2,035	1.58 %	201,314
Taxes on products	783	2.38 %	32,855
Subsidies on products	0	0.00 %	701
Gross domestic product	**2,818**	**1.70 %**	**233,468**
GDP EXPENDITURE APPROACH			

Total final consumption expenditure	2,731	1.54 %	177,429
Gross capital formation	110	0.19 %	58,968
Exports of goods and services	135	0.15 %	89,810
goods	58	0.09 %	62,926
services	77	0.29 %	26,884
Imports of goods and services	160	0.17 %	92,739
goods	-205	-0.33 %	62,663
services	365	1.21 %	30,076
Gross domestic product	**2,816**	**1.21 %**	**233,468**
Gross national income	**		**234,406**

* The figures in this column are generated by extracting and combining the data from the Insurance and Insurance Allocation columns of the process table (Annex 1).
** The share of insurance in foreign property income flows cannot be separated, so its GNI effect cannot be presented.

3.8.2.2.1 Market output (P.11)

Both ESA 1995 and ESA 2010 enable two alternative methods for calculating the market output of life and pension insurance activities (industry 65). The first option is based on insurance premiums, change in the provision for unearned premiums, indemnities paid, change in outstanding claims, investment income attributed to insurance policyholders and investment income based on pension entitlements. The other option is based on the sum of business expenses (total business expenses and consumption of fixed capital) and normal profits.

In connection with the ESA 2010 review, the calculation method of the market output of non-life insurance (including reinsurance) remained unchanged. The calculation method of the market output of life and pension insurance (including reinsurance) was changed to the sum of costs (total business expenses excluding compensation of employees and consumption of fixed capital) and normal profits. Normal profits are estimated as the eleven-year moving average of the profit/loss for the period. Changing the method caused a more even time series of insurance activities' market output, value added and private consumption expenditure used on insurance activities than before. The previous system produced time series that fluctuated along with value changes in investment activities and holding gains that was inconsistent. The output of insurance activities must describe the service produced by insurance institutions for other sectors and the relatively even service fee levied from it, so it must not be directly influenced by fluctuations in investment activities as such.

The market output (P.11) of non-life insurance (industry 65) is still calculated with the traditional method, i.e. based on insurance premiums, change in the provision for unearned premiums, indemnities paid, change in outstanding claims, change in equalization amount, and investment income attributed to insurance policyholders including reinsurance.

- Indemnities paid do not include claims handling expenses. They are included in intermediate consumption (P.22) and not in market

output (P.11). In the calculation of market output (P.11), realised and unrealised holding gains and losses are excluded from the change in the provision for unearned premiums.

- Investment income attributable to policyholders is an imputed item that helps transfer the income from investing the technical reserves from the insurance corporations to the policyholders. The investment income is calculated based on the following production and sector accounts of non-life insurance companies: other income from real estate investment activities (other than interest and dividend income), real estate maintenance costs, interest income and expenses, dividend income, dividends and interests of investment funds belonging to shareholders, received reinvested earnings on direct foreign investment. Part of the investment income is transferred to the policyholder as investment income attributed to insurance policyholders and the rest remains with the insurance corporation. The relative share of equity (relative to debt capital) describes computationally the share that remains with the insurance corporation, so it is subtracted from the investment income.
- A majority of the data used to calculate the investment income attributed to insurance policyholders comes from the Financial Supervision Authority's material. Only dividends and interests of investment funds belonging to shareholders and reinvested earnings on direct foreign investment come from the centralised calculations of the National Accounts.

Other income than dividend and interest income from real estate investment activities of both life and non-life insurance corporations are recorded as market output (P.11) in the industry of buying and selling of own real estate, letting of other real estate 68209.

3.8.2.2.2 Output for own final use (P.12)

R&D (research and development) investments are included in output for own final use (P.12). They are calculated as a separate calculation entity for the entire national economy and the figures of insurance activities (industry 65) are also based on this centralised calculation. The description of R&D calculations can be found in Section 5.10.3.8.

In addition to R&D investments, output for own final use (P.12) includes software development for the insurance institution's own use. The figure is estimated based on the previous time series.

3.8.2.2.3 Intermediate consumption (P.2)

Financial intermediation services indirectly measured (FISIM) are calculated as a separate calculation entity for the entire national economy. The figures of insurance activities (industry 65) are also based on centralised calculations for FISIM. The description of FISIM calculations can be found in Section 3.8.1.7.

Other intermediate consumption (P.22) of insurance activities (industry 65) is based on total business expenses of insurance corporations, pension funds and foundations excluding compensation of employees. Total business expenses include, for example, claims handling expenses and management expenses of investment activity, as well as other administrative expenses.

The net value of reinvestment services, i.e. the share of reinvestment in premium income, indemnities and changes in insurance premiums and outstanding claims are added to intermediate consumption. In addition, intermediate consumption includes reinsurance (ceded) related investment income attributable to the policyholders (D.441).

Real estate maintenance costs generated from real estate investment activities are recorded as intermediate consumption in buying and selling of own real estate, letting of other real estate, industry 68209.

3.8.2.2.4 Compensation of employees (D.1)

Employee stock options and stock bonuses (D.111) are calculated as a separate calculation entity for the entire national economy. The figures of insurance activities (industry 65) are also based on this centralised calculation. A description of the centralised calculation can be found in Section 4.7.1 Wages and salaries.

Wages and salaries (D.112) of insurance activities (industry 65) contain the wages and salaries in accordance with the separate calculation. However, Finance Finland’s data from insurance companies is used as a reference data.

Social insurance contributions (D.12) are calculated as a separate calculation entity for the entire national economy based on the wages and salaries (D.112). The figures of insurance activities (industry 65) are also based on the centralised calculation. A description of the centralised calculation can be found in Section 4.7.2 Employer's social insurance contributions.

3.8.2.2.5 Gross fixed capital formation and consumption (P.51G + P.51C)

Gross fixed capital consumption (P.51C) comes from the perpetual inventory method that is described in Section 4.12.

Gross fixed capital formation (P.51G) is also called investments. R&D (research and development) investments (acquisitions minus sellings) are calculated as a separate calculation entity for the entire national economy. The figures of insurance activities (industry 65) are also based on this centralised calculation. A description of R&D calculations can be found in Section 5.10.3.8. Rest of the gross fixed capital formation (buildings, software, other acquisitions) is estimated based on the previous time series and information gathered from cash flow statements of major insurance corporations.

3.8.2.2.6 Allocation of the insurance output

The insurance output is distributed to different products based on distribution of insurance premium income of different insurance classes. However, the allocation of the insurance output is made in Supply and Use Tables' compilation. Sectors S.1311 and S.1313 have source data of paid insurance premiums that is used for allocation. Other S.13 sub-sectors' use is estimated based on data from other sectors, as well as the sectors S.12 and S.15. The use of the sectors S.11 and S.14 are calculated as other sectors' residual use. Allocation of insurance output is shown in the following table.

Table 36: Allocation of the insurance output to use (industry 65 including sectors S.128 and S.129), EUR million

Allocation of insurance output	Value in basic prices
Supply, total	4,118
Output	**3,175**
Taxes	**783**
Import	**160**
Use, total	4,116
Intermediate consumption total	**1,140**
S.11 Non-financial corporations	477
S.121 Central bank	0.3
S.1221 Deposit banks	27
S.1222 Other credit institutions	4
S.125 Other financial intermediaries	1
S.126 Financial auxiliaries	40
S.127 Captive financial institutions and money lenders	1
S.128 Insurance corporations	92
S.129 Pension funds	1
S.1311 Central government	39
S.1313 Local government	146
S.13141 Employment pension schemes	20
S.13149 Other social security funds	4
S.14 Households	252
S.15 Non-profit institutions serving households	36
Investments	**110**
Individual consumption expenditure	**2,731**
Export	**135**

3.9 General government (sector S13)

The Finnish General government sector comprises central government, local government and social security funds. The sub-sector of social security funds has been further divided into employment pension schemes and other social security funds.

Units are classified inside or outside general government following the sector delimitation rules of ESA 2010 and the more specific guidance given in MGDD manual (holding companies, etc.). The market/non-market criterion is considered the most decisive and it is applied to government controlled units.

In the education, human health and social work activities industries public producers are divided into market producers and non-market producers as follows:

- **P Education**

Units producing education services are divided into market producers and non-market producers based on ESA 2010 rules (§ 3.27–3.41 and 20.05–20.55). For example, basic education, and polytechnics and universities controlled by general government belong to general government. Polytechnics controlled by private actors belong to sector S.15 (Non-profit institutions serving households).

- **Q Human health and social work activities**

Units that produce human health and social work activities are divided into market producers and non-market producers based on ESA 2010 rules (Sections 3.27–3.41 and 20.05–20.55). Non-market producers controlled by general government are classified as belonging to general government and market producers as belonging to the non-financial corporations sector. For example, enterprises producing human health services owned by local government are classified in local government when they mainly produce services for their owners. If they produce services for the markets, they are classified as belonging to the non-financial corporations sector.
Statistics Finland maintains a register of the general government units, which is part of the Business register. The register covers enterprises, private and public corporations, private practitioners of trade, and units engaged in economic activities and bankrupt’s estates and estates, as well as the establishments of these. In addition, the register includes public quasi-corporations owned directly by government units, that are not incorporated and carry out business activities, such as state and municipal enterprises. The register also includes information on legal status, sector, NACE class and ownership of units. Ownership information is used as background information when determining the sector class.

The main administrative data source for the register is the Tax Administration's customer database and other Tax Administration data files. Administrative data is supplemented with Statistics Finland’s own

inquiries. The data are updated with a delay of one to ten months depending on the type of information. A more detailed description of the Business register can be found in CHAPTER 10.

The implementation of sector classification is structured at Statistics Finland as outlined in section 3.1.2.1. Statistics Finland publishes an updated list of general government units at: https://www.stat.fi/meta/luokitukset/_linkki/soveltamisp.html (only in Finnish). There is a tradition to publish sector classification decisions for the major individual cases on the same website.

3.9.1 Central government (sector S1311)

3.9.1.1 *General description of central government calculations*

The following units belonged to central government in 2018:

- Government offices and agencies
- Funds outside the government budget (excl. the State Pension Fund)
- 14 universities
- Four universities of applied sciences
- Aalto University Campus & Real Estate (incl. affiliates)
- Helsingin Yliopistokiinteistöt Oy (incl. affiliates)
- University Properties of Finland Ltd (incl. affiliates)
- Governia Oy
- HAUS Finnish Institute of Public Management Ltd
- Leijona Catering Oy
- Senate Properties (incl. affiliates)
- Solidium Oy
- Business Finland Ltd
- Gasonia Oy
- Hansel Ltd
- Aalto Holding Ltd
- University of Helsinki Funds
- University of Helsinki Research Foundation
- University of Helsinki Property Services Ltd
- Hetli Ltd
- Itla Children’s Foundation
- National Gallery
- Property company Helsinki Mannerheimintie 13a

- Property company Arctic Centre
- Property company Äänekoski Torikatu 4
- SoteDigi Ltd
- Finnish Industry Investment Ltd
- Tapio Ltd
- Finnish Institute of Occupational Health
- Business Finland Venture Capital Ltd
- Finnish Minerals Group
- State Business Development Company Vake
- VTS Fund
- Vimana Ltd
- VTT Technical Research Centre of Finland
- Finnish Broadcasting Company
- Finrail Ltd
- Finlogic Ltd

In addition to so-called basic units (agencies, institutions, funds), the central government sector includes non-market producers controlled by central government. For example, Senate Properties is such a non-market producer that produces only services for central government. Universities also belong to the sector.

In 2018, there were two state-owned enterprises, Senate Properties and the Finnish Forest and Park Service. Senate Properties is classified in the central government sector and the Finnish Forest and Park Service as a market producer in the non-financial corporations sector.

In 2018, the production of central government was divided into accounting categories. All industries in central government are other non-market producers. Central government has no market producer industries.

Table 37: Central government data by industry in 2018, EUR million

Industry	Production P1R (+)	Intermediate consumption P2K (-)	Gross value added B1G (=)
Industries, total	**17,758**	**6,683**	**11,075**
H Transport	33	4	29
522 Support activities for transportation	33	4	29
I Accommodation and food services activities	66	50	16
56 Food and beverage service activities	66	50	16
J Information and communication	574	177	397
59_60 Audiovisual activities	574	177	397
L Real estate activities	696	391	305
681+68209 Buying and selling of own real estate, letting of other real estate	696	391	305

M Professional, scientific and technical activities	1,669	493	1,176
71 Technical services	319	122	197
72 Scientific research and development	1,350	371	979
N Administrative and support service activities	370	201	169
78 Employment activities	182	61	121
81 Services to buildings and landscape activities	188	140	48
O Public administration and social security	10,186	4,279	5,907
841_842 Public administration	7,401	3,304	4,097
844 Defence equipment and conscripts	604	24	580
845 Maintenance of rail network	709	349	360
846 Maintenance of road network	1,472	602	870
P Education	3,974	1,010	2964
85 Education	3,974	1,010	2964
Q Human health and social work activities	100	26	74
86 Human health activities	76	18	58
87_88 Social services	24	8	16
R Arts, entertainment and recreation	90	52	38
90_91 Cultural activities	90	52	38

3.9.1.2 *Source data*

In the compilation of the central government sector in the National Accounts the main source is the central bookkeeping data in accordance with the State's business and budget bookkeeping (see Chapter 10.1.13). Other main data sources are:

- Universities' financial statement material (from the Ministry of Education and Culture)
- Business structural statistics
- Data collection from certain public corporations
- Enterprises' financial statements

Data on the state's personnel from the Office for the Government as Employer is utilised in the calculation of employment data and the Labour Force Survey are used as comparison data.

3.9.1.3 *Calculation process*

The methods are the same for various industries in general outlines. Below, we describe the common calculation methods for all industries. Any exceptions are pointed out separately.

The calculation is carried out "from bottom to top". The sum of wages and salaries and employers' social contributions is total compensation of employees which equals the net value added. When gross fixed capital consumption is added to the net value added, the gross value added is generated. When intermediate consumption is added to the gross value added the production of the industry at basic prices is achieved.

When sales items (market output P11 and sales of non-market products P131) and output for own final use (P12) are subtracted from the output, other non-market output (P132) is generated as the residual of the production and income formation accounts. Other non-market output together with social transfers in kind (purchased market output, D632K) describe the public consumption expenditure (P3K) of the state.

3.9.1.3.1 Output

The output of central government is achieved by adding up the compensation of employees paid by the sector, consumption of fixed capital and intermediate consumption. The output is further divided into market output, sales of non-market products, output for own final use and other non-market output. Market output mainly consists of income from business output, rents, various charges for consumption, or average-priced changes in inventories. Sales of non-market products consist mainly of income from output under public law. Output for own final use includes R&D services produced for own use, software and costs related to services related to the upkeep of conscripts. Other non-market output is derived by subtracting the above-mentioned items from total output.

3.9.1.3.2 Intermediate consumption

The main items calculated as intermediate consumption are materials, supplies and goods, rents, purchases of various services, various payments, paid value added tax added to these, and average-priced changes in inventories. The amount of software investments purchased separately by each industry is subtracted from intermediate consumption as it is included in investments.

3.9.1.3.3 Value added

Wages and salaries mainly consist of civil servant or employee wages. In addition, in the industry of defence equipment and conscripts, wages include the wages and salaries in kind received by conscripts and those in non-military service that consist of food and travel benefits.

Employers' social contributions come directly from each social security cost account in State bookkeeping. The exception is the account "accident and occupational safety payments" that is divided into accident and group life insurance payments.

Consumption of fixed capital for central government derives from the perpetual inventory method.

3.9.1.3.4 Wages and salaries

The source for calculating the wagebill of the budget economy of the state and funds outside the budget economy is the central bookkeeping data in accordance with the state's business and budget bookkeeping. The following accounts of State bookkeeping are recorded as wages and salaries: civil servant salaries and wages, employee salaries and wages, reimbursements in accordance with the Sickness Insurance Act, other wages, salaries and fees, and change in holiday pay liabilities. Wages and salaries mainly consist of civil servant or employee wages. In addition, in

the industry of defence equipment and conscripts, wages include the wages and salaries in kind received by conscripts and those in non-military service: provisioning and travel benefits.

Wages and salaries paid by universities come from universities' financial statement material (item "Wages, salaries and fees").

The wages and salaries of Solidium, Leijona Catering, Technical Research Centre of Finland and Finnish Broadcasting Company come from their own data collections. The source for the wages and salaries of other central government units is the business structures statistics and financial statements.

3.9.1.3.5 Employer's social insurance contributions

The sources for employer's social insurance contributions paid by central government are the same as for wages and salaries (see 4.7.1). Social insurance contributions can be divided into pension contributions and other contributions based on the source data.

3.9.1.3.6 Borderline cases

Research and product development: Central government's output for own final use (P12) and gross fixed capital formation (P51g) include considerable amounts of self-produced R&D services. The data derive from the centralised R&D calculations of the National Accounts (Section 5.10.3.8).

Consolidation of intra-sector purchases and sales: Part of the intra-sector purchases and sales are consolidated. This is done, for example, for rents paid between Senate Properties (TOL 681+68209) and the State, and rents between university property companies (TOL 681+68209) and universities. The market output for industry 681+68209 is thus the sales outside the sector. In addition, sales and purchases between Leijona Catering Oy (industry 56) and the Defence Forces are consolidated.

3.9.2 Local government (sector S1313)

3.9.2.1 *General description of local government calculations*

Non-market activities of municipalities, joint municipal authorities, the Regional Government of Åland (excluding the Pension Fund of the Regional Government), the Association of Finnish Local and Regional Authorities, Local government employers, the Municipal Guarantee Board and several enterprises serving the actors in the sector are included in local government. Activities, whose costs are covered with income financing from the private sector, are considered non-market activities. This means that, for example, enterprises operating in electricity, water supply and harbour activities are not included in the local government sector.

The production activity of the institutional units (e.g. enterprise, municipality, state) that belong to the sector is divided into establishments. Establishments, in turn, are either market or non-market producers, and their producer type is defined based on the main output of the production

unit. Market producers cover at least 50 per cent of production costs with sales revenue. Non-market producers are either producers for own final use or other non-market producers. The output of other non-market producers are mainly financed with tax revenue (service production of central and local government) or with income transfers/membership fees.

The establishments of local government are divided into the following industries based on the Standard Industrial Classification (TOL2008).

Table 38: Local government data by industry in 2018

	P1REC	P2PAY	B1G	P51C	D1PAY	D29PAY	E1
Industry	EUR million						100 persons
Sector S1313, industries total	42,374	17,264	25,110	3,642	21,443	5	4,860
A Agriculture, Forestry and Fishery	70	26	44	6	9		4
021 Silviculture and other forestry activities	69	26	43	6	9		4
025 Net growth of forests	1		1				
382 Waste treatment and disposal activities	49	43	6	6	7	1	2
F Construction	1,133	921	212	15	198		52
411 Building development	159	140	19	3	16		3
412+432_439 Building construction, etc. excl. building development.	67	39	28		29		7
42+431 Civil engineering, etc.	907	742	165	12	153		42
H Transport	193	110	83		83		17
49 Land transport and transport via pipelines	175	92	83		83		16
50 Water transport	18	18					1
I Accommodation and food services activities	111	58	53	1	52		17
56 Food and beverage service activities	111	58	53	1	52		17
J Information and communication	345	224	121	32	89		12
62_63 Computer programming, consultancy and related activities	345	224	121	32	89		12
L Real estate activities	159	116	43	41	2		
681+68209 Buying and selling of own real estate, letting of other real estate	159	116	43	41	2		
M Professional, scientific and technical activities	95	56	39		39		8
69 Legal and accounting activities	34	17	17		17		4
71 Architectural and engineering activities; technical testing and analysis	22	20	2		2		
75 Veterinary activities	39	19	20		20		4
N Administrative and support service activities	382	152	230		230		89
78 Employment activities	136	7	129		129		60
81 Services to buildings and landscape activities	165	110	55		55		17
82 Office administrative, office support and other business support activities	81	35	46		46		12

O Public administration and social security	9,878	5,160	4,718	1,470	3,244	4	719
841_842 Public administration	9,221	5,159	4,062	816	3,242	4	719
845 Maintenance of rail network	45	1	44	42	2		
846 Maintenance of road network	612		612	612			
P Education	8,050	2,132	5,918	,911	5,007		1,030
85 Education	8,050	2,132	5,918	911	5,007		1,030
Q Human health and social work activities	20,281	7,575	12,706	852	11,854		2,747
86 Human health activities	12,353	5,339	7,014	579	6,435		1,392
87_88 Social services	7,928	2,236	5,692	273	5,419		1,355
R Arts, entertainment and recreation	1,542	644	898	303	595		152
90_91 Cultural activities	631	219	412	73	339		91
93 Sports activities and amusement and recreation activities	911	425	486	230	256		61
S Other service activities	86	47	39	5	34		11
9601 Washing and (dry-)cleaning of textile and fur products	86	47	39	5	34		11

In many industries, like human health and social services, local government is responsible for a majority of the entire value added in the industry. The share of local government in the value added of the entire economy is around 12.5 per cent.

Table 39: The share of local government in the value added of the entire economy by industry

Industry	**Share of the industry's value added**
Sector S1313, industries total	**12.5 %**
A Agriculture, Forestry and Fishery	**0.8 %**
021 Silviculture and other forestry activities	1.7 %
025 Net growth of forests	0.2 %
382 Waste treatment and disposal activities	1.5 %
F Construction	**1.4 %**
411 Building development	13.4 %
412+432_439 Building construction, etc. excl. building development.	0.2 %
42+431 Civil engineering, etc.	4.9 %
H Transport	**0.9 %**
49 Land transport and transport via pipelines	11.2 %
I Accommodation and food services activities	**1.4 %**
56 Food and beverage service activities	1.8 %
J Information and communication	**1.0 %**
62_63 Computer programming, consultancy and related activities	2.0 %
L Real estate activities	**0.2 %**
681+68209 Buying and selling of own real estate, letting of other real estate	0.4 %
M Professional, scientific and technical activities	**0.4 %**
69 Legal and accounting activities	0.9 %

71 Architectural and engineering activities	0.1 %
75 Veterinary activities	12.2 %
N Administrative and support service activities	**3.1 %**
78 Employment activities	5.1 %
81 Services to buildings and landscape activities	2.3 %
82 Office administrative, office support and other business support activities	5.9 %
O Public administration and social security	**41.5 %**
841_842 Public administration	49.8 %
845 Maintenance of rail network	10.9 %
846 Maintenance of road network	41.0 %
P Education	**58.1 %**
85 Education	58.1 %
Q Human health and social work activities	**67.5 %**
86 Human health activities	70.3 %
87_88 Social services	64.3 %
R Arts, entertainment and recreation	**35.7 %**
90_91 Cultural activities	39.3 %
93 Sports activities and amusement and recreation activities	36.3 %
S Other service activities	**1.2 %**
9601 Washing and (dry-)cleaning of textile and fur products	19.7 %

3.9.2.2 *Source data*

The source data for the local government sector are the following:

a. Statistics on local government finances
b. Accounts and financial statements of the Regional Government of Åland (calculation by ÅSUB)
c. Financial statements of the Association of Finnish Local and Regional Authorities
d. Financial statements of the Municipal Guarantee Board
e. Financial statements of enterprises classified as belonging to the local government sector from the enterprise database and financial statements
f. Statistics on financial leasing
g. R&D statistics

The main data in the calculation are the statistics on local government finances (a) that includes the annual data of all municipalities and joint municipal authorities in the sector. The second most important data are the data on enterprises classified as belonging to the local government sector from the enterprise database (e).

3.9.2.3 *Forming of production and generation of income accounts*

The production of other non-market producers in local government is calculated based on expenses. Output at basic prices is determined to be as large as the value of inputs used. The production and income formation account describes what types of inputs are used in the production of public sector products and how production is divided into public consumption (P132R other non-market output) and income from the sales of products (P11R market output, P131R sales of non-market products) and goods and services produced for own use (P12R output for own final use). No operating surplus is considered to be generated from the production activities of other non-market producers.

Part of the goods and services produced by local government are sold on the market for a price that covers production costs. Based on this, they are determined as market products and the sales proceeds gained from them are recorded as market output (P11R) in the production account. Part of the production is sold as so-called non-market products, whose sales proceeds are not supposed to cover their production costs. These products are recoded as sales of non-market products (P131R). When these sales proceeds received from different products and output for own final use (P12R) are subtracted from the output (P1R) calculated as a sum of expenses, the residual is other non-market output (P132R). Other non-market output and social benefits in kind form the consumption expenditure of the local government sector (in P3PAY sector account).

In local government, the component of gross value added of other non-market producers are wages and salaries, employer's social insurance contributions, consumption of fixed capital and other taxes on production. Output at basic prices is the sum of gross value added and intermediate consumption.

3.9.2.4 *Calculation*

The production of industries *021 forestry, 382 waste treatment,_49 Land transport and transport via pipelines, 75 veterinary services, 82 office administrative, office support and other business support activities, 841_842 public administration, 85 education, 86 human health services, 845 maintenance of road network, 87_88 social services, 90_91 cultural activities,* and *93 sports activities and amusement and recreation activities* are mainly calculated with the help of operational economy data of the statistics on local government finances.

Industries *411 construction, 56 restaurant activities, 62_63 computer programming, consultancy and related activities, 68 real estate activities, 69 legal and accounting activities, 71 Architectural and engineering activities, 78 employment activities, 81 services to buildings and landscape activities, 845 maintenance of rail network, 85 education, 86 human health services, 87_88 social services,* and *9601 washing and (dry-)cleaning of textile and fur products* are units with corporate form, whose data derive from the enterprise database and the annual reports of enterprises.

The data of the industry *50 water transport* consist of data reported by the Regional Government of Åland. The Regional Government of Åland also provides data for other industries.

Industry *841_842 public administration* contains the activities of the Association of Finnish Local and Regional Authorities and the Municipal Guarantee Board.

The industries of building construction and civil engineering are calculated based on the data of the statistics on local government finances.

The industry maintenance of road network covers only road investments and their consumption. The output of construction and maintenance are shown in the production industries of services.

3.9.2.5 *Value added*

Wages and salaries (D11PAY) include the cost item "wages and salaries" of the statistics on local government finances. The wages of the statistics on local government finances are expressed as net, i.e. the staff compensation used to adjust the wages and salaries in the profit and loss account of the municipalities/joint municipal authorities is subtracted. In the calculations of the National Accounts, the benefits in kind received as money are added to wages and salaries and removed from intermediate consumption.

In addition, wages and salaries include the wages and salaries in accordance with the profit and loss account of the enterprises classified into the sector.

The wages and related social insurance contributions of farm relief workers are registered in the National Accounts in the production account of the agriculture industry. These are subtracted from the wages and salaries of the statistics on local government finances when calculating the production account of joint municipal authorities.

Employer's social insurance contributions are mandatory, voluntary and imputed social security contributions paid by employers.

Employer's social insurance contributions include employer's national pension insurance contributions, employment pension insurance contributions, statutory accident insurance payments, unemployment insurance contributions and group life insurance contributions. The data on the payments derived from the operating economy part of the statistics on local government finances. Other social security payments are divided into more detailed sub-items based on the wage shares of the payments.

Municipalities and joint municipal authorities have paid consolidated pension contributions since 1988. However, the state has still paid the pensions of comprehensive school and upper secondary school teachers working in municipalities directly from the budget. In local government calculations, the imputed pension provision of such teachers has been recorded in employer's imputed social security contributions (D122K), so that the income formation of different producer types would be

comparable. Until 1997, pension provisions of comprehensive school and upper secondary school teachers were imputed. Starting from 1998, future pension payments of these teachers have also gradually been reserved. The payment share of municipalities is raised annually. Therefore, the imputed social insurance payments have been decreasing since 1998 and their reserved shares have been transferred to employment pension insurance payments. Imputed social insurance contributions have been calculated from the wage bill of the comprehensive school and upper secondary school teachers using the imputed employment pension insurance payment share. From 2001 onwards, imputed social insurance contributions no longer exist because the state's employment pension contribution percentage rose above the imputed pension contribution percentage.

Employers' social contributions of enterprises classified in the sector contain the employee pension expenses and other social security contributions from their profit and loss accounts that are divided with the help of social contribution percentages into separate sub-transactions.

Other taxes on production (D29PAY) include use charges of vehicles paid by joint municipal authorities and waste tax paid by municipalities (starting from 1996). The first mentioned data are based on the centralised calculation of the National Accounts and the latter on data from the financial statements of the state.

The calculations on **consumption of fixed capital** are based on the perpetual inventory method of the National Accounts that is described in Section 4.12.

3.9.2.6 *Intermediate consumption*

The following expenditure types of the statistics on local government finances are included in intermediate consumption: "purchases of customer services: - from central government, - from municipalities, - from joint municipal authorities, - from others", "purchases of other services", "materials, supplies and goods", "other expenses" and "external rent expenditure" and similar rows from the profit and loss accounts of municipal companies. In 1997 to 1999, external and internal rent expenses were not separated in the statistics on local government finances, they were both included in the item "rent expenditure" of the statistics of finances. Because only external rent expenses are included in the local government calculations of the National Accounts, the share of external rent expenses for these years has been estimated with the distribution of the 2000 statistics of finances.

Intermediate consumption contains internal expenses of municipalities and joint municipal authorities and, correspondingly, internal income between the function groups of the statistics. The expense and income items of the same function are eliminated in the statistics.

Municipalities use state subsidies to finance part of the service production of joint municipal authorities' health and social service industries. This financing is visible in the statistics on finances in these industries as purchases of customer services from joint municipal authorities. These

money transfers between municipalities and joint municipal authorities provided by the state are removed from intermediate consumption. In sector accounts, the money flow is included in the transaction "central government's current transfers to local government".

Purchases of customer services by municipalities and joint municipal authorities from others contain services purchased directly from enterprises, foundations, associations, parishes, etc. for residents without the residents having to pay for them. These purchases are processed as social transfers in kind and not intermediate consumption because they are not own service production by the municipalities and joint municipal authorities. These social transfers in kind are thus recorded directly in public consumption.

The amount of value added tax paid by municipalities comes from data reported by municipalities to the Tax Administration and is divided into intermediate consumption with a share that corresponds with item "value added tax of the rebate system" of the statistics on local government finances, which describes the value added tax pertaining to intermediate products returned by central government to municipalities. This paid and returned value added tax is added to intermediate consumption, social benefits in kind and investments with the help of data from the statistics on local government finances.

Financial leasing rents are removed from intermediate consumption with the help of data from the statistics on financial leasing. Financial leasing acquisitions are also added to investments with the help of data from the statistics.

Intermediate consumption of units with corporate form classified in the sector is calculated with the help of profit and loss account data and breakdowns from the enterprise data warehouse. Purchased services and goods, as well as other operating expenses are recorded in intermediate consumption.

3.9.2.7 *Local government market producers*

The local government industries *021 forestry, 025 net growth of forests, 382 waste treatment, 412+432_439 building construction, 82 office administrative, office support and other business support activities,* and *85 education* (in the time series until 2007) are considered market producers.

Market producers cover at least 50 per cent of costs with sales revenue. Their output is primarily market output (P11R) but they can also have production for own final use (P12R).

The production account of market producers is calculated "from top to bottom" starting from the output. When intermediate consumption is subtracted from the output, the result is gross value added. When consumption of fixed capital is subtracted from this, the result is net value added. When compensation of employees and other taxes on production are subtracted and other subsidies on production are added to the net value

added, the result is the operating surplus that is shown in the sector account.

When calculating the production account of industry *021 forestry*, the main source is the statistics on local government finances. Market output (P11R, intermediate consumption (P2K) and compensation of employees (D1K) of the industry derive directly from the statistics on local government finances. Forestry and forest improvement work produced for own final use (P12R) are added to the calculations.

Industries 382 and 82 contain enterprises classified as belonging to the local government sector. The statistics on local government finances are used as the source for calculating the production account of the industries.

The net growth of forests is calculated centrally and a description of this can be found in Section 3.7.1.3.

3.9.2.8 *Industry 42+431 civil engineering and 846 maintenance of road network*

At the level of the whole economy, a majority of the production of industries *42+431 civil engineering* and *846 maintenance of road network* is produced by market producers in the non-financial enterprises sector. However, these industries have also non-market production that is produced, for example, by local and central government. The task of local government's public activities from the viewpoint of the national economy is newbuilding and maintenance of roads and streets, as well as building and maintenance of other land and water structures (e.g. sports grounds, yard and parking areas, airports, etc.).

New building investments concerning the road network and consumption of the road network are shown in the local government's industry maintenance of road network (846). The maintenance of the road network industry in local government is considered a demand industry, whose demand for newbuilding of the road network is produced by the industry of civil engineering in the non-financial corporation sector. In other words, municipalities buy goods and services related to the construction of roads from the markets. In the production account of local government, only consumption of fixed capital (P51C) is thus shown in the industry maintenance of road network, which affects value added and consumption expenditure. The data source for road investments asked by municipalities and produced by the non-financial corporation sector is function 460 "transport infrastructure" of table 02 of the statistics on local government finances. Data on consumption of fixed capital, or consumption of the road network derives from the perpetual inventory method of the National Accounts.

3.9.2.9 *Industry 412+432_439 building construction*

Industry ”412+432_439 building construction" of local government includes the amount of building construction services produced by the municipalities themselves. Data on the amount comes from the economic statistics on municipalities, where the amount of municipalities' self-

directed construction by type of products and division of costs into wages and salaries, social security contributions and goods and services are separated.

The volume of the industry's output is the amount of self-produced building construction investments reported by municipalities. Expenses on materials and supplies of self-directed construction from the statistics on local government finances are recorded as intermediate consumption of the industry. The number of employed persons is estimated with the help of the amount of wages and salaries recorded in the statistics on local government finances.

3.9.2.10 *Compensation of employees*

3.9.2.10.1 Wages and salaries and employer's social security contributions

The main data sources in the calculations of the local government sector are the statistics on local government finances, financial statements of the Regional Government of Åland, the operating report of the Association of Finnish Local and Regional Authorities, financial statements data from the system for business data, and collected financial statement data.

Wages and salaries include the cost item "wages and salaries" of the statistics on local government finances. Wages and salaries are expressed in the statistics of finances less the staff compensation used to adjust the wages and salaries in the profit and loss account of the municipalities/joint municipal authorities. In the local government calculations of the National Accounts, benefits in kind received as money are added to wages and salaries. Wages and salaries of enterprises classified as belonging to the sector include the wage expenses of the profit and loss accounts.

Correspondingly, employer's social security contributions are recorded in accordance with the statistics on local government finances and enterprises' profit and loss accounts and the sum is divided into more detailed transactions with the help of the social contribution percentages.

Enterprises are excluded from the calculation of local government as they are included in the non-financial corporations sector. In addition, the wages of farm relief workers are recorded in the production and income formation account of the agriculture industry in the National Accounts. These are subtracted from the wages and salaries of the statistics on local government finances.

3.9.3 Social security funds (sector S1314)

3.9.3.1 *Employment pension schemes (sector S1314)*

The social security funds sector (S.1314) consists of employment pension schemes (S1.3141) and other social security funds (S.13149). The employment pension schemes sector (S.13141) includes employment pension insurance specialised in statutory pension insurance, statutory B departments of pension foundations and funds, the Farmers' Social Insurance Institution, the Seafarer's Pension Fund, Keva (pension

institution for local government employees), the State Pension Fund, the Church Pension Fund, Åland's Pension Fund, the Social Insurance Institution's pension liability fund, the Finnish Centre for Pensions, and the Finnish Pension Alliance TELA.

The activities of the employment pension schemes sector (S.13141) are classified in industry 843, compulsory social security (Standard Industrial Classification TOL 2008). The exception is real estate investment activities of employment pension schemes, which is classified in industry 68209, buying and selling of own real estate, letting of other real estate (Standard Industrial Classification TOL 2008).

In practice, employees' pension accrues from all work performed by persons aged 17 to 70 as an employee or entrepreneur that is insured under some pension act. Part of the accrued pensions are funded in advance. The remaining share is financed with the pay-as-you-go scheme. Even though there are several pension acts, the determination bases of pension benefits are mainly uniform: Employees Pensions Act (TyEL), supplementary pension provision under the Employees' Pensions Act (TEL-L) (finished at the end of 2016), Self-Employed Persons' Pensions Act (YEL), Seamen's Pensions Act (MEL), Farmers' Pensions Act (MYEL), act on farmers' closure compensation (LUTUL) (finished at the end of 2018). The Public Sector Pensions Act (JuEL) came into force in the public sector in 2017. The Local Government Pensions Act (KuEL), the State Employees' Pension Act (VaEL) and the Evangelical-Lutheran Church Pensions Act (KiEL) were combined to the Public Sector Pensions Act. The act also concerns the personnel of the Social Insurance Institution. The public sector also includes the Act on the Act on the Orthodox Church (OrtKL), the pensions of the Bank of Finland's employees and the pensions of the Government of Åland. The public sector also includes the pensions of Members of Parliament, members of the Government and Members of the European Parliament.

3.9.3.1.1 Data sources

In the first release of the annual preliminary data of the National Accounts in March, the data from the preliminary annual inquiry of employment pension schemes are used. The preliminary inquiry is Statistics Finland's own data collection and covers nearly all units belonging to the employment pension schemes (S.13141) sector. Only the Social Insurance Institution's pension liability fund, Åland's Pension Fund, the Finnish Centre for Pensions, and the Finnish Pension Alliance TELA are excluded from the preliminary inquiry. The data for the Social Insurance Institution's pension liability fund come from the monthly data of the Social Insurance Institution and the data for Åland's Pension Fund come from financial statement data at the end of the current year.

In the second release of the annual preliminary data of the National Accounts in July, the main data source used in the calculation of employment pension schemes' production account items (see Table 28) is the financial statement data collected by the Financial Supervisory

Authority. For example, data concerning 2018 were available for the July 2019 release.

The data from the Financial Supervisory Authority do not cover the State Pension Fund, Keva (pension institution for local government employees), the Social Insurance Institution's pension liability fund, the Church Pension Fund, Åland's Pension Fund, the Finnish Centre for Pensions and the Finnish Pension Alliance TELA. For these units, financial statements are used as the data source.

Some items, like financial intermediation services indirectly measured (FISIM), R&D (research and development) investments and compensation of employees are calculated as separate calculation entities for the entire national economy. The figures of employment pension schemes are based also on centralised calculations for these economic transactions.

Table 40: Production account items of employment pension schemes (S.13141, Industries 843+68209) in 2018

Transaction	Transaction label	EUR mil.
P.11 (+)	Market output	779
P.12 (+)	Output for own final use	17
P.132 (+)	Other non-market output	665
P.119 (-)	Financial intermediation services indirectly measured (FISIM)	35
P.22 (-)	Other intermediate consumption	845
B.1GPH (=)	Value added, gross at basic prices	581
P.51C (-)	Consumption of fixed capital	111
B.1NPH (=)	Value added, net at basic prices	470
D.1	Compensation of employees	277

3.9.3.1.2 Production (P.1) and intermediate consumption (P.2)

The activities of the employment pension schemes sector (S.13141) are primarily classified in industry 843, compulsory social security (Standard Industrial Classification TOL 2008). The exception is real estate investment activities of employment pension schemes, which is classified in industry 68209, buying and selling of own real estate, letting of other real estate (Standard Industrial Classification TOL 2008). Only market output (P.11) and other intermediate consumption (P.22) are recorded for employment pension schemes in industry 68209.

The output of employment pension schemes (S.13141) in industry 68209 (buying and selling of own real estate, letting of other real estate) is recorded as market output (P.11). It includes other income than dividend and interest income from real estate investment activities.

The output of employment pension schemes (S.13141) in industry 843 (compulsory social security) is recorded as non-market output (P.13), which is the sum of compensation of employees, consumption of fixed

capital and intermediate consumption. So, non-market output (P.13) is calculated through expenses, like usually for general government.

The output for own final use (P.12) of the employment pension schemes (S.13141) is recorded in industry 843 (compulsory social security). Output for own final use (P.12) consists of R&D investments, which are calculated as a separate calculation entity for the entire national economy. The description of the calculation entity can be found in Section 5.10.3.8. In addition to R&D investments, output for own final use (P.12) includes software development for the employment pension schemes' own use. The figure is estimated based on the previous time series.

Financial intermediation services indirectly measured (FISIM) are calculated as a separate calculation entity for the entire national economy. The figures of employment pension schemes are also based on centralised calculations for FISIM. The description of FISIM calculations can be found in Section 3.8.1.7.

Other intermediate consumption (P.22) of employment pension schemes in industry 843 (compulsory social security) is calculated based on employment pension schemes' total business expenses and handling expenses, excluding compensation of employees. Total business expenses include, for example, claims handling expenses and management expenses of investment activity, as well as other administrative expenses. Real estate maintenance costs generated from real estate investment activities are recorded as other intermediate consumption (P.22) in industry 68209 (buying and selling of other real estate).

3.9.3.1.3 Compensation of employees (D.1)

Wages and salaries (D.11) derive from the centralised calculation, which is based on Statistics Finland's enterprise database. Social security contributions (D.12) derive from the centralised calculation of the National Accounts based on wages and salaries and social contribution percentages. The description of centralised calculation can be found in Section 4.7.2 Compensation of employees.

3.9.3.1.4 Gross fixed capital formation and consumption (P.51G + P.51C)

Gross fixed capital consumption (P.51C) comes from the perpetual inventory method that is described in Section 4.12.

Gross fixed capital formation (P.51G) is also called investments. R&D (research and development) investments are calculated as a separate calculation entity for the entire national economy. The figures of employment pension schemes are based on this centralised calculation, the description of which can be found in Section 5.10.3.8.

Construction investments (acquisitions minus sales) derive from the Employment Pension Scheme Quarterly Survey (EPSQ) data. The source data for other investments, such as computer equipment and software are the annual preliminary inquiry of employment pension schemes.

3.9.3.1.5 Employment pension insurance contributions

The source data for accrual data on employment pension insurance contributions are the financial statement data collected by the Financial Supervisory Authority, which are the main data source used in the calculation of employment pension schemes (S.13141). The Financial Supervision Authority's data cover a majority of employment pension schemes. The data do not include the State Pension Fund, Keva (pension institution for local government employees), the Social Insurance Institution's pension liability fund, Åland's Pension Fund and the Church Pension Fund. Financial statements are used as source data for these units.

3.9.3.2 *Other social security funds (sector S13149)*

3.9.3.2.1 General description of the calculation of other social security funds

In Finland, the following units belong to the Other social security funds sector:

- Social Insurance Institution of Finland (Kela)
- Unemployment funds
- Unemployment Insurance Fund (until 2018)
- Education Fund (until 2018)
- Employment Fund (starting from 2019).
- Sickness funds and sickness funds that only grant additional benefits (so-called supplementary funds) that grant compensations in accordance with the Sickness Insurance Act
- Funeral and redundancy allowance funds

The activities of the entire subsector belong to the industry *O Public administration and defence; compulsory social security*, sub-industry *843 Compulsory social security.* The share of the other social security funds sector in Finland's GDP is around 0.2 per cent.

The main activity of the sector's units is to produce social benefits and they fulfil both of the following criteria:

a) By virtue of an act or degree, certain population groups are obliged to participate in the system or pay social security contributions;

b) General government is responsible – independently of their task as a supervisory body or employer – for the management of the institution in decisions and approvals concerning payments or benefits.

There is usually no direct connection between the payments made by an individual person and the risk he or she is subjected to.

The units in the sector also pay social assistance which comprise social benefits that are not paid from the social insurance scheme.

The Social Insurance Institution of Finland (Kela) is the biggest unit in the sector and it looks after basic social security for all people living in Finland through different stages of their lives. The Social Insurance Institution pays a variety of social security benefits and social assistance. The majority of funding for the Social Insurance Institution consists of current transfers from central government. In addition, the activities of the Social Insurance Institution are financed with social insurance contributions and with current transfers from local government.

Table 41: Some activity data of the Social Insurance Institution of Finland (Source: Kela Annual Report 2018)

	2016	2017	2018
Total expenses, EUR billion	14.8	15.3	15.4
…of which benefit expenses, EUR billion	14.3	14.8	14.9
Personnel at the end of the year, persons	6,686	7,226	7,732

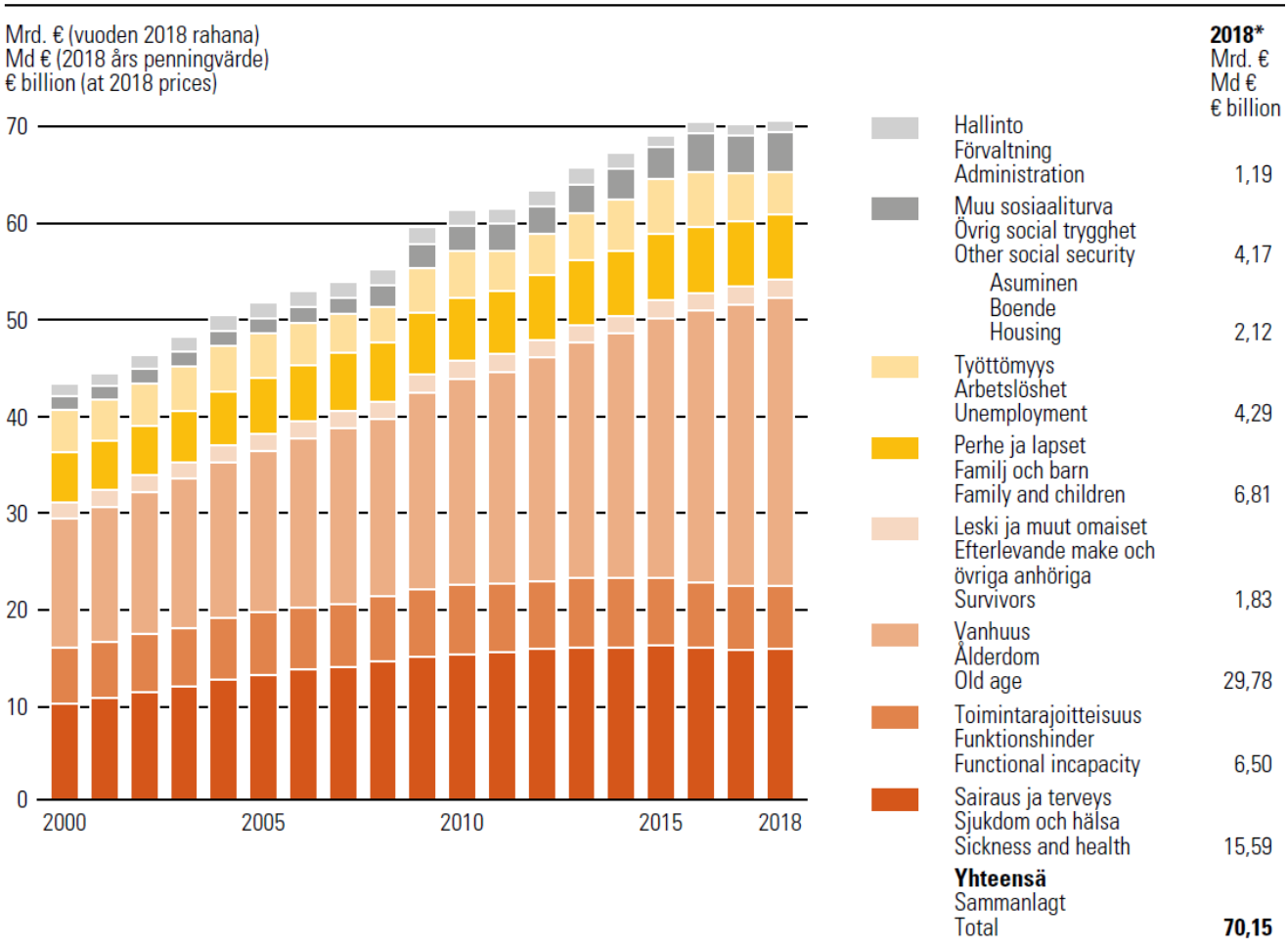

Figure 11: Social protection expenditure, 2000-2018 (Source: Statistical Yearbook of the Social Insurance Institution (Kela), 2018)

Unemployment funds are corporations operating on the mutual liability principle for the purpose of organising for their members the compensation

for loss of earnings referred to in the Unemployment Security Act. Unemployment funds pay earnings-related unemployment allowance to their members who become unemployed. In addition, unemployment funds pay commuting and relocation allowance and job alternation compensation. The activities of unemployment funds are financed with unemployment insurance contributions collected by the Employment Fund (until 2018, the Unemployment Insurance Fund), current transfers from central government and membership fees of unemployment funds. At the end of 2018, there were 26 unemployment funds in Finland.

The Employment Fund collects statutory unemployment insurance contributions from wage and salary earners and employers, which it disburses to unemployment funds to finance the benefits they pay. With the income from unemployment insurance contributions, the Employment Fund finances unemployment benefits paid by the Social Insurance Institution and earnings-related employment pensions accumulated during earnings-related unemployment allowance. In addition, the Employment Fund pays adult education allowance and scholarships for qualified employees. The Employment Fund was founded on 1 January 2019 when **the Unemployment Insurance Fund** and **the Education Fund** were merged. Before that, the Unemployment Insurance Fund was responsible for collecting unemployment insurance contributions and the Education Fund for adult education benefits.

Sickness funds are insurance funds whose main purpose is to grant compensation in case of sickness. They complement the sickness insurance. Members of the funds are usually persons employed by a particular employer or belonging to a particular occupational group. Sickness funds can grant their members and their family members statutory sickness insurance benefits and complementing additional benefits. At the end of 2018, there were 125 sickness funds. Members of a fund that pay additional benefits usually pay membership fees that are used to fund most of the benefits. Employers can also participate in the costs.

Funeral and redundancy allowance funds are insurance funds whose members are persons employed by a particular employer or belonging to a particular occupational group. In 2018, there were two such funds.

Table 42: Benefits paid by the Social Insurance Institution of Finland, EUR million, Source: Annual reports of the Social Insurance Institution of Finland (Kela), 2017 and 2018

	2016	2017	2018
Pension benefits	2,470	2,391	2,357
Disability benefits	581	555	557
Health insurance benefits	4146	4,045	4,163
Rehabilitation	456	453	482
Unemployment benefits	2,170	2,126	1,965
Benefits for families with children	1,970	1,936	1,918
Student benefits	844	679	519
Housing allowance for pensioners	559	581	600

General housing allowance	1,081	1,261	1,489
Basic social assistance	-	722	716
Other benefits	63	96	104
Total benefit expenses	**14,339**	**14,844**	**14,872**

3.9.3.2.2 Source data

The financial statements data of social security funds, specifying separate inquiries and some other publications are used as source data. For the annual preliminary release of the national accounts in March, the sector's data are mainly based on separate inquiries and later releases on financial statement data. In the preliminary round of March some smaller figures have to be estimated with the help of the previous year's data and secondary data sources, but the final data sources of later calculation rounds are very exhaustive.

- Social Insurance Institution of Finland: monthly accounting data, financial statements, operating report and separate inquiries, R&D statistics, the statistical database Kelasto and the Statistical Yearbook of the Social Insurance Institution of Finland and other publications.
- Unemployment funds: The financial statement data collected by the Financial Supervision Authority and other summaries of the bookkeeping of unemployment funds.
- Employment Fund: financial statements, operating report and separate inquiries.
- Unemployment Insurance Fund: financial statements, operating report and separate inquiries.
- Education Fund: financial statements and operating report.
- Sickness funds: The financial statements data collected by the Financial Supervisory Authority.
- Funeral and redundancy allowance funds: financial statements.

3.9.3.2.3 Output

The output of the other social security funds sector is calculated through expenses. The output of the sector is the sum of value added and intermediate consumption. So, the output is achieved by adding up the compensation of employees paid by the sector, consumption of fixed capital and intermediate consumption. The output is divided into market output, output for own final use, sales of non-market products, and other non-market output. The Social Insurance Institution's bookkeeping data and estimation are used in dividing the output into sub-items. The value of R&D investments produced by the sector that derive from the joint R&D calculations are added to the item output for own final use. Other non-market output is calculated as the residual of the output and other sub-items. The sub-items of the output of other social security funds are described in more detail in Section 5.9.3.2.

The Social Insurance Institution of Finland's share in the output of the other compulsory social security industry was around 82 per cent in 2018, the share of the unemployment funds was around 14 per cent, and that of the remaining funds was some four per cent.

3.9.3.2.4 Intermediate consumption

The intermediate consumption of the sector is calculated directly from unit-level profit and loss account data and breakdowns. Outsourced services, other operating and maintenance expenses and IT expenses are recorded in intermediate consumption.

3.9.3.2.5 Value added

Value added of other social security funds is calculated by summing up wages and salaries, employers' social contributions and consumption of fixed capital.

Consumption of fixed capital derives from the capital stock calculations of the National Accounts that are described in Section 4.12.

3.9.3.2.6 Compensation of employees

Wages and salaries (D11K) paid by other social security funds are accordant with unit-specific profit and loss accounts. Change in the annual holiday pay liabilities and meals benefits are included in the wages and salaries sum.

Data on **employers' social contributions (D12K)** paid by other social security funds come from the source data of the Social Insurance Institution of Finland. Data of other units belonging to the sector are estimated based on these data and unit-specific wagebill data. For example, in 2018, EUR 61 million of the employers' social contributions came from the source data of the Social Insurance Institution of Finland and EUR 12 million was estimated based on the D12 breakdown that derived from the Social Insurance Institution of Finland's data and unit-specific wagebill data. A majority of the employers' social contributions are employer's actual statutory pension contributions (D12111). The social insurance contributions of the sector other employers are employer's sickness insurance contributions, statutory accident insurance payments and unemployment insurance contributions.

3.9.3.2.7 Gross fixed capital formation

Investment data derive from the Social Insurance Institution of Finland for gross fixed capital formation of other social security funds. The data are separated into acquisitions and decreases by type of investment. In 2018 investments totalled EUR 31 million. The sector's R&D investments derive from the centralised calculation described in Section 5.10.3.8.

3.10 Non-profit institutions serving households (sector S15)

This Section presents the methodological description of the calculation of the output and intermediate consumption (excl. FISIM) of the production account of sector S15. The calculation entity includes the industries of

sector S15 excluding primary production (industry class A) and real estate activities (industry class L). At the character level, the calculation entity covers the industry categories M (professional, scientific and technical activities), O (public administration and social security), P (education), Q (human health and social work activities), R (arts, entertainment and recreation activities) and S (other service activities). The methodological description of this Section applies to industry categories M to S.

In Finland, the calculation level industries in sector S15 under industry categories M to S are *NACE 72 scientific research and development, NACE 846 maintenance of road network, NACE 85 education, NACE 86 human health services, NACE 87_88 social services, NACE 90_91 cultural activities, NACE 92 gambling and betting activities, NACE 93 sports activities and amusement and recreation activities, NACE 942 trade unions, NACE 9491 religious bodies,* and *NACE 9492_9499 other associations*.

The gross value added of sector S15 consists of the sum of compensation of employees and consumption of fixed capital in accordance with non-market activities. Net value added corresponds to compensation of employees. The operating surplus is by definition zero in non-market activities.

Output P1 is calculated as the sum of other intermediate consumption, FISIM, compensation of employees and consumption of fixed capital. Other non-market output P132 is calculated as the residual value of output, when market output P11, sales of non-market products P131 and output for own final use P12 have been subtracted from the output. Output for own final use consists of research and development activities that thus decreases the value of other non-market output.

The main source data of the sector are the business taxation data of associations and foundations 6C that are administrative data. The 6C data have around 16,000 legal units, of which around 13,500 are classified into sector S15. Associations or non-profit institutions serving the economy are classified in the non-financial corporations sector. In addition, the units whose industry account corresponding to the industry category is not open in the structure of the national accounts are moved to sector S11. Classification data for the units of 6C data are retrieved from the copy of the Business Register of the National Accounts.

In sector S15, the calculation level is the legal unit when the data source for the calculation unit is 6C data. The producer type for industries belonging to the calculation entity of sector S15 is non-market producer apart from the industry account of gambling and betting activities (NACE 92) under industry category R, the producer type of which is market producer.

The variables sales revenue of goods and services and rent income of 6C data are calculated as market output P11 of non-profit institutions. Since 2017 there has been not a source from the basic data for sales of non-

market products P131 and their level is estimated for the industry based on the value of the previous year. Associations' entertainment expenses and expenses other than wage expenses are calculated as intermediate consumption P22. The share of financial expenses is estimated and subtracted from other expenses.

The Business Register is the second source data for the calculation of the output and intermediate consumption of sector S15. Data on legal units by establishment are available from the Business Register. If the legal unit of an establishment in sector S15 is not found in 6C data, the establishment is included in the sector calculation. There were around 14,000 such establishments in S15 calculations in 2018.

Classification data and the wages and salaries sum of the establishment exist for the S15 establishments taken from the Business Register. Their intermediate consumption and sales of non-market products are calculated with statistical methods. First, an industry-specific multiplier for intermediate consumption is calculated from 6C data which is the ratio of the wages and salaries sum of the units in the industry and intermediate consumption. The wages and salaries sum is formed from the wages and salaries sum derived from the personnel costs of 6C data from which indirect costs have been removed for the units that are only in 6C data, and for 6C units that are found in the Business Register, the wage and salary data of the Business Register is used. Based on the industry-specific multiplier for intermediate consumption, the value of intermediate consumption is formed for the establishments taken from the Business Register.

In the process table, the market output, other intermediate consumption and other non-market output from the 6C data and the Business Register are recorded in the column Administrative records for industries M to S.

For the maintenance of road network industry (NACE 846) under character level industry O, the output and intermediate consumption caused by the maintenance of private roads is calculated. The intermediate consumption of the industry is calculated by moving the old time series forward with the change in the CPI. Other non-market output is calculated from the subsidies granted to general and local government's private roads and transport infrastructure. These data come from state bookkeeping and Statistics Finland's statistics on municipalities. Sales of non-market products is calculated as intermediate consumption minus other non-market output. The output and intermediate consumption of maintenance of road network is presented in the column Other of industry O.

Separate calculations must be made for Gambling and betting activities (NACE 92) in order for the market output to cover intermediate consumption and compensation of employees. The industry only has market producers and 6C source data are not suitable for calculating its income. Compensation of employees and intermediate consumption derive

as the actual level from the source data and the market output of the production account is calculated on top of them so that the operating surplus is not negative. The output and intermediate consumption of gambling and betting activities are presented in the column Other of industry R in the process table.

In the industry of religious organisations (NACE 9491), the data of Evangelical Lutheran congregations come from the profit and loss account and balance sheet of the church. For Evangelical Lutheran congregations, sales revenues, compensations and rent income from operating income are considered market output, premium revenue and other operating income are considered sales of non-market products, and purchases of services, rents, materials, supplies and goods, subsidies given and other operating costs are considered intermediate consumption. The corresponding transactions of Orthodox congregations are calculated as relative shares of the values of Evangelical Lutheran congregations through the ratio of the wages and salaries sum. Only religious organisations other than Evangelical Lutheran parishes and Orthodox congregations are calculated for the industry from the 6C data and the Business Register. The output and intermediate consumption of state churches is presented in the column Other of industry S in the process table.

The inventory accounts of sector S15 include immature cultivated biological assets in the forestry industry, the background of which is explained in Section 3.7.1.3 on the calculation of forestry. The inventory stock of industry S includes valuables (antiques and other art objects) to the value of EUR two million.

Sector S15 output for own final use P12 consists of output of research and development activities. The centralised calculation of research and development activities is described in Section 5.10.3.8.

The consumption expenditure of non-profit institutions consists of other non-market output and purchased market output. The consumption expenditure of non-profit institutions serving households is presented in Section 5.8. The compensation of employees is comprised of wages and salaries and employer's social security contributions. Their calculation is presented in Section 4.7. The calculation of consumption of fixed capital is presented in Section 4.12.

Table 43: Transactions of sector S15 character level industries, 2018, EUR million

Industry	Market output P11	Output for own final use P12	Sales of non-market products P131	Other non-market output P132	Financial intermediation services indirectly measured FISIM P119	Other intermediate consumption P22	Value added B1GPH
M Professional, scientific and technical activities	14	27	9	26	0	22	54
O Public administration and social security			78	51	0	117	12
P Education	407	2	65	839	4	491	818
Q Human health and social work activities	1,123	11	147	702	4	751	1,228
R Arts, entertainment and recreation	251		158	856	4	760	501
S Other service activities	498	9	337	2,779	10	1,939	1,674

3.11 Taxes on products, including VAT

3.11.1 Taxes on products, excluding VAT

Taxes on products (D21) consist of value added tax (D211), import duties (D2121), other import taxes (D2122), and other taxes on products (D214). Other import taxes existed in Finland until 1994.

Value added taxes are presented in their own subsection. In addition to the actual duties, **import duties** also include import payments on agricultural products. **Other taxes on products** include excise duty on energy, excise duty on alcoholic beverages, excise duty on motor cars, excise duties on sweets, ice cream and soft drinks (from 2017 on excise duty on soft drinks), excise duty on tobacco, excise duty on certain beverage packages, oil damage levy, oil waste levy, penalties for late payments of taxes, pharmacy levy, repayments, stock-building levies on liquid fuels, transfer tax, registration fee of vehicles, tax on lottery prizes, tax on fire insurance, tax on insurance premiums, rail tax, sugar levy and other tax revenues. In 2017 Fintoto Oy, Raha-automaattiyhdistys (RAY) and Oy Veikkaus Ab were consolidated into one state-owned gaming company which was named Oy Veikkaus Ab. A new tax was added using only this name and the two earlier taxes were discontinued.

Concerning taxes on products, the largest revenues in 2018 were seen in value added tax (EUR 21.4 billion, see own subsection later), excise duty on energy (EUR 4.4 billion), excise duty on alcoholic beverages (EUR 1.5 billion), central governments share of Oy Veikkaus Ab’s profit (EUR 1.1 billion) and excise duty on tobacco (EUR 1.1 billion).

Import duties have been settled to the EU since 1995. These amounted EUR 174 million in 2018. In addition, sugar levy of the size of EUR 1 million was accounted for the EU.

All taxes on products are presented in the following table.

Table 44: Income from various taxes on products, EUR million

Sector	ESA code	Name	2014	2015	2016	2017	2018
S0	D21	Taxes on production and imports	29,259	29,625	30,970	31,465	32,855
S.1311	D211	Value added / turnover tax	18,948	18,974	19,694	20,404	21,364
S.212	D2121	Import taxes settled to the EU	170	166	163	174	174
S.212	D214A	Sugar levy	1	1	1	1	1
S.1311	D214A	Excise duty on alcoholic beverages	1,381	1,356	1,344	1,340	1,475
S.1311	D214A	Excise duty on energy	3,846	4,054	4,407	4,324	4,395
S.1311	D214A	Excise duty on motor cars	916	882	959	972	995
S.1311	D214A	Excise duties on sweets, ice cream and soft drinks	257	250	255	151	154
S.1311	D214A	Excise duty on tobacco	788	885	983	962	1,048
S.1311	D214A	Excise duty on certain beverage packages	14	15	15	16	15
S.1311	D214A	Oil damage levy	25	24	10	8	12
S.1311	D214A	Oil waste levy	3	4	4	4	4
S.1311	D214A	Penalties for late payment of taxes	2	3	5	1	0
S.1311	D214A	Pharmacy levy	157	164	173	181	179
S.1313	D214A	Pharmacy levy	1	1	1	1	1
S.1311	D214A	Repayments	0	-2	0	0	0
S.1311	D214A	Stock-building levies on liquid fuels	43	43	44	43	45
S.1311	D214C	Transfer tax	708	783	874	776	844
S.1311	D214D	Registration fee of vehicles	36	36	36	31	27
S.1311	D214F	Tax on lottery prizes	218	222	231	228	226
S.1311	D214G	Tax on fire insurance	11	11	11	11	11
S.1311	D214G	Tax on insurance premiums	750	777	785	768	772
S.1311	D214H	Rail tax	18	6	6	5	2
S.1311	D214J	Central governments share of Oy Veikkaus Ab's profit				1,060	1,109
S.1311	D214J	Central governments share of Oy Veikkaus Ab's and money-lotteries' profit	541	541	539		
S.1311	D214J	Revenue from RAY (The Finnish Slot Machine Association)	422	426	427		
S.1311	D214L	Other taxes	3	3	3	4	2

Borderline cases might appear between taxes and payable charges/fees. The Act on Criteria for Charges Payable to the State contains provisions on the general criteria for charging for performances by state authorities and for the size of the charges. In principle, charges are to be made for goods produced by a state authority, services produced to order or otherwise commissioned, decisions made upon application, temporary transfer of

rights of use (usufruct) and other rights and other operations when the production of a performance is consequent upon action by the recipient. However, the Act does not apply to state public enterprises or state funds, unless otherwise provided in the case of funds. Likewise, the Act does not apply to state agencies and bodies whose chargeable operations were required by law before this Act came into effect to be arranged on commercial criteria. Outputs, whose production cannot be directly deemed as directed at an individual person, enterprise or other clearly defined group are considered free of charge. Outputs, whose purpose is to ensure livelihood and various forms of guidance, information, and communication provided by state authorities if they only result in small costs are considered free of charge.

For example, passports and ID-cards granted by the police authority and driving licences granted by the Finnish Transport Safety Agency are included in service fees. In addition, the public sector has income that comes from the sales of non-market products (P131).

The tables below show examples of service fees collected by the central and local government. The fees shown for central government share some common features with D2 taxes. However, the largest P11 items for central government consist of different type of payments, such as Government ICT Centre Valtori's income from other central government agencies (EUR 319 million in 2018) or sales income of universities (EUR 235 million).

Income of the National Police Board of Finland from payments governed by public law consists mainly of abovementioned granting of passports and ID-cards and that of the Finnish Transport Safety Agency of driving licences. However, registration fee of vehicles is treated as D214 tax. Additionally, the Finnish Transport Safety Agency has some monitoring fees, i.e., those of vehicle inspection, air traffic and town railway traffic (income is used for each monitoring activity), and a fee for traffic safety the amount of which is meant to correspond the expenses of promoting traffic safety. The sum of these payments was EUR 29 million in 2018.

Fairway dues collected by Finnis Customs could be considered tax-like. They are collected based on the ship's size, ice class, and number of visits. The income is part of central government's budget, but the unit prices are set in such a way that the collected sum corresponds the caused expenses, the largest of which arise from providing ice breaking services. Fairway dues belong to transaction P11 and the amount in 2018 was EUR 40 million.

It can also be mentioned that the Security of Supply Fund obtains revenue both from the stock-building levy on liquid fuels seen among the D214 taxes and from selling items (P11) when circulating stocks.

Concerning the local government sector, there are less such transactions that would resemble D2 taxes. Table 3 presents largest external sales items of P11 and P131 categories.

Table 45: Central government's largest P11 and P131 service sales items that share features with D2 taxes in 2018, EUR million

Item	Industry	P11	P131
Income of the National Police Board of Finland from payments governed by public law	841_842	57	
Income of the Finnish Transport Safety Agency from payments governed by public law	841_842	51	
Fairway dues collected by Finnish customs	841_842	49	
Sum		157	
P11 of S1311 in total		2,090	
Execution fees	841_842		54
Payments received by the National Land Survey from S14 sector	71		29
Court incomes	841_842		9
Sum			92
P131 of S1311 in total			105

Table 46: Largest P11 and P131 items of externally sold services of the local government sector, EUR million in 2018

Task	Item	Industry	P11	P131
260 Specialized medical treatment	Turnover	86	678	
253 Out-patient treatment of basic health care	Turnover	86	183	
221 24-hour housing care of the elderly	Turnover	87	133	
Sum			994	
P11 of S1313 in total			7,910	
221 24-hour housing care of the elderly	Payments	87		354
260 Specialized medical treatment	Payments	86		348
302 Child daycare	Payments	88		275
Sum				977
P131 of S1313 in total				2,289

The timing adjustment that moves the tax revenue of January to the previous year is carried out for excise duty on alcoholic beverages, excise duty on energy, asset transfer tax and lottery tax (value added tax is presented in the next subsection). Concerning excise duty on tobacco, there is a stock-piling phenomenon observable due to rises in tax rate, which have occurred semi-annually since year 2016. This is taken into account in the time adjustment. The variation or amounts of other D21 taxes is minor and hence, no adjustments are carried out.

The main data source is the data on financial statements of the state that cover the entire budget economy of the state. Central government's tax revenues and income from charged activities can be separated using the account division of business bookkeeping. In business bookkeeping, tax revenues are recoded into separate tax accounts by the type of tax, while

various sales proceeds are recorded into income accounts of charge activities based on the account scheme.

Figures concerning **import duties** are obtained from Finnish Customs. These have been accounted to the EU since 1995.

Other taxes on products have their own subsections in the financial statements of the state apart from the vehicle registration fee, the data on which come from Finnish Transport Safety Agency Trafi (nowadays Finnish Transport and Communication Agency Traficom), and sugar levy, which is obtained from the database of the European Commission. Recordings for most subsections are directed at the account group "901 other taxes and tax like payments" of business bookkeeping but for other tax revenue (11.19.09) only the items belonging to the account group other taxes on products are selected. In addition, part of late payment penalties on taxes (12.39.02) are recorded under this transaction. Of the income from funds outside the state's budget bookkeeping fire protection fees, stockpiling fees and oil protection fees are recoded as other taxes on products.

Taxes on products collected by the Regional Government of Åland (pharmacy fees and lottery taxes until 2006) are recorded as other taxes on products collected by local government.

Time-adjusted cash results in net amounts that do not include taxes accrued but not paid (tax debt, errors in paid sums, omissions). Part of these sums are paid later, and it is assumed that the lagging sums flow in evenly over time.

3.11.2 Value added tax (VAT)

Accumulated value added tax is reached by adding up the accrued value added tax (11.04.01) from the central government's financial statements and the value added tax of the rebate system paid by municipalities, which the central government returns to the municipalities, and which is not included in the above-mentioned VAT subsection of the central government's financial statements.

A timing adjustment is made in the central government's value added tax accumulation (subsection 11.04.01) that allocates the value added tax income accumulated in January and February to the previous calendar year.

The data source for value added tax paid by municipalities is the amount of VAT returns paid by the central government that comes from the Tax Administration. Prior to 2002, central government recovered the VAT return from municipalities, so the VAT paid by municipalities was true income for the central government. The recovery was abolished in 2002. In accordance with the Commission Decision 1999/622, the return in question is not, however, deductible in the National Accounts. In this case, the return is recorded as value added tax and a current transfer the size of the VAT return flow (D7) is shown from the central government to the municipalities.

Concerning unpaid taxes, we refer to previous chapter and CHAPTER 7.

Mini One-Stop-Shop (MOSS) and the OSS system following it in July 2021 are treated at the Tax Administration in such a way that the VAT amounts of Finnish central government include only tax on transactions where the customers' member state is Finland. Those transactions, where sellers' member state is Finland, are not included in the VAT of Finnish central government.

3.12 Product subsidies

There are no import-related product subsidies (D.311) in Finland, only other product subsidies (D.319). They are paid by Finland's central government, some municipalities and the EU. The data source for product subsidies paid by Finland's central government and the EU is central government's bookkeeping and financial statement material. The data source for product subsidies paid by municipalities is their financial statements. The data source for product subsidies paid by municipalities is the statistics on local government finances.

The subsidies paid by the EU in practice circulate through Finland's central government budget but in the National Accounts, the subsidies related to agricultural policy are processed as paid by the EU. The total amount of subsidies paid by the EU and Finland's central government derives from central government's financial statement material from which the share of the EU and Finland's central government are separated.

Product subsidies in accordance with central government's financial statement material contain part of the national subsidies and EU support for agriculture and horticulture. The rest of the subsidies in these subsections is classified as other subsidies on production (D.39, see Section 4.9.2). The separation into different subsidies groups is carried out based on a separate study from the Agency for Rural Affairs. The differences between the cash and accrual basis of agricultural product subsidies are also based on this data.

Acquisition and development of public transport services and price subsidies for piloting and the bonus for vehicle scrapping are also considered product subsidies. Only items recorded in the account "8230 operational economy expenses to the business world" of business bookkeeping are handled as product subsidies from the mentioned subsections. If necessary, timing revisions are made in the product subsidies recorded on cash basis in the financial statement data.

Of these product subsidies, EU support is recorded as paid by the EU.

The scrapping bonus for vehicles, which is based on Act 961/2018, is paid only once for one end-of-life passenger car and only to natural persons, that is, it is directed to a car acquired by the household. The buyer of the car received compensation for purchasing a new, previously unregistered low or zero-emission car. The scrapping bonus is paid in such a way that the dealer who sells the car gives the buyer a discount on the sale price of the car. The scrapping bonus is conditional to purchasing a new car, it is directed at the product and does not have any individual final beneficiary.

Product subsidies paid by municipalities are mainly tariff support for tickets in municipal public transport. The item includes also transport subsidies paid by the Regional Government of Åland to enterprises.

Table 47: Product subsidies paid in 2018, EUR million

Name	Subsection	EUR million
National support for agriculture and horticulture	302040	257
Acquisition and development of public transport services	316063	55
Price subsidies for piloting	313051	3
Car scrap scheme	312040	7
Others		1
Recording differences (cash - accrual basis):		
National support for agriculture and horticulture	302040	0
Other national subsidies (from different subsections)		0
Recording differences total		0
CENTRAL GOVERNMENT: PRODUCT SUBSIDIES TOTAL		323
MUNICIPALITIES: SUPPORT FOR PUBLIC TRANSPORT		274
REST OF THE WORLD: CAP subsidies (excl. fallowing)		104
PRODUCT SUBSIDIES TOTAL		701

CHAPTER 4 THE INCOME APPROACH

4.0 GDP according to the income approach

The compilation and the organisation of the annual accounts are described in more detail in Section 1.1. The calculation of the output approach is integrated with other calculation and cannot be organisationally separated from the income and expenditure approaches. The compilation of the National Accounts is organised by sector into transaction-specific task entities for which various teams and calculation groups are responsible. For example, one team is responsible for the calculation of the output and intermediate consumption of the non-financial corporations sector, another for financial and insurance corporations, and one for calculating the corresponding items for general government.

The table below shows Finland's GDP divided into income items. Compensation of employees forms one-half of Finland's GDP. The gross operating surplus represents around 40 per cent of the GDP.

Table 48: GDP according to the income approach in 2018

Transaction	EUR Million	%
1 Wages and salaries	90,067	38.6
2 Employers' social contributions	18,566	8.0
3 Operating surplus / mixed income	51,590	22.1
4 Taxes on production and imports	33,251	14.2
5 Subsidies	3,353	1.4
6 Consumption of fixed capital	43,347	18.6
7 Gross domestic product at market price (1+2+3+4-5+6)	**233,468**	**100.0**

Table 49: Gross national income by industry according to the income approach, statistical reference year 2018

Industry	1 Compensation of employees	2 Other taxes on production	3 Other subsidies on production	4 Gross operating surplus + Mixed income	5 Taxes on products	6 Subsidies on products	GDP (1+2-3+4+5-6)
Industries total	108,633	396	2,652	94,937	32,855	701	233,468
A Primary production	952	11	1,552	6,161			
B-F Secondary production	28,578	186	483	27,741			
G-T Services	79,103	199	617	61,035			
A Agriculture, Forestry and Fishery	952	11	1,552	6,161			
B Mining and quarrying	340	2	6	655			
C Manufacturing	17,323	30	402	17,121			
D Electricity, gas, steam and air conditioning supply	822	103	25	3,240			

E Water supply; sewerage, waste management and remediation activities	616	8	5	1,225			
F Construction	9,477	43	45	5,500			
G Wholesale and retail trade; repair of motor vehicles and motorcycles	11,167	42	75	6,909			
H Transportation and storage	5,876	57	101	3,523			
I Accommodation and food services activities	2,568	3	22	1,107			
J Information and communication	6,661	4	86	5,272			
K Financial and insurance activities	2,923	52		3,550			
L Real estate activities	1,101	3	57	24,768			
…68202 Operation of dwellings and residential real estate				16,700			
M Professional, scientific and technical activities	7,191	7	122	3,448			
N Administrative and support service activities	5,587	17	33	1,958			
O Public administration and defence; compulsory social security	7,796	4		3,557			
P Education	7,779	3	38	2,437			
Q Human health and social work activities	16,382	4	25	2,471			
R Arts, entertainment and recreation	1,713	1	29	827			
S Other service activities	2,105	2	29	1,128			
T Activities of households as employers	254			80			

Table 50: Gross domestic product by sector according to the income approach, statistical reference year 2018

Sector	1 Compensation of employees	2 Other taxes on production	3 Other subsidies on production	4 Gross operating surplus + Mixed income	5 Taxes on products	6 Subsidies on products	GDP (1+2-3+4+5-6)
S1 Total economy (resident sectors total)	108,633	396	2,652	94,937	32,855	701	233,468
S11 Non-financial corporations	71,458	334	1,218	54,446			
S12 Financial and insurance corporations	2,923	52		3,574			
S13 General government	28,942	5		8,228			
S14 Households	1,433	5	1,434	28,019			
S15 Non-profit institutions serving households	3,877			670			

4.1 The reference framework

The income approach refers to calculating the gross domestic product by summing up the various income components of the GDP. They are compensation of employees, gross operating surplus (incl. consumption of fixed capital), and other taxes on production minus other subsidies on production.

In the Finnish National Accounts, the gross domestic product is not calculated with the income approach because there is not a reliable enough independent estimate of the gross operating surplus. Thus, the gross operating surplus is calculated as a residual in market production when other income components are deducted from the gross value added.

This Section presents the calculation of various income components in the gross domestic product. They are calculated with the same sector, industry category and producer type classifications as gross value added in the output approach.

4.2 Borderline cases

An independent estimate is not made of the operating surplus/mixed income, but it is derived as a residual (value added minus compensation of employees minus other taxes on production plus other subsidies on production).

Benefits in kind are included in other operating expenses, that is, in intermediate consumption and wages and salaries. They are subtracted from intermediate consumption in the same amount as they have been recorded in wages and salaries since they would otherwise be calculated twice.

In practice, part of these expenses are investments (e.g. the employer has purchased or leased a car or dwelling through financial leasing. We still consider them employer's investments and consumption of fixed capital because that is what they are. In order for double expenses (wages and consumption) not to distort the operating surplus, we add a share corresponding with consumption to market output as secondary production (product: renting of cars).

If the item is a product generated as the result of the employer's own production process, received for free or at a discount (e.g. a free trip in traffic or a product from own factory), the value of the benefit in kind is added to the market output of the industry if it is not already included in it, in order for the operating surplus not to become distorted due to the increase in wages and salaries.

In the case of non-market producers, output does usually not change (output is intermediate consumption plus value added) but benefits in kind must be recorded in market output so that they are not included in public consumption expenditure (because they are included in private consumption expenditure).

Daily allowances paid for work-related travel are treated in full as enterprises' intermediate consumption. They do not include payments used on food and drink that are part of compensation of employees. These data are specified in the source data.

Borderline cases related to wages and salaries are discussed in more detail in Section 4.7.1 and in respect of operating surplus and intermediate consumption in Sections 3.7 to 3.10 in connection with the output approach.

Table 51: Benefits in kind (only in sector S11), EUR mil, year 2018

Industry	value
Industries total	809
A Agriculture, Forestry and Fishery	1
B Mining and quarrying	3
C Manufacturing	160
D Electricity, gas, steam and air conditioning supply	6
E Water supply; sewerage, waste management and remediation activities	3
F Construction	15
G Wholesale and retail trade; repair of motor vehicles and motorcycles	222
H Transportation and storage	44
I Accommodation and food services activities	18
J Information and communication	108
L Real estate activities	22
M Professional, scientific and technical activities	110
N Administrative and support service activities	38
P Education	3
Q Human health and social work activities	41
R Arts, entertainment and recreation	9
S Other service activities	6

4.3 Valuation

Transactions are recorded on accrual basis. Paid wages and salaries and employer's social insurance contributions are recorded for the period when the work is done and the obligation to pay compensation of employees is generated. Employee stock options and stock bonuses are recoded when the option is redeemed because that is when it becomes visible in the Tax Administration's data, which here act as the source.

Benefits in kind are also received directly from the Tax Administration's data. Ensuring the accrual basis of tax data and subsidies is described in more detail in Sections 4.8 and 4.9.

4.4 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts

Moving from business bookkeeping and administrative concepts to the ESA 2010 concepts of the National Accounts is described in Section 3.4.

4.5 The roles of direct and indirect estimation methods and of benchmarks and extrapolations

In the Finnish National Accounts, compensation of employees is in industries primarily estimated with the direct estimation method, i.e. total data are available. Such total data are, for example, Tax Administration's annual tax return data (replaced by the Incomes Register in 2020), structural statistics, the Register of Enterprises and Establishments, statistics on finances of municipalities and joint municipal authorities, central government's bookkeeping and financial statement material, bank statistics (Finrep), and insurance company statistics (Fiva). In construction, hidden wages are also added to the wages and salaries of non-financial corporations and households.

Employer's social insurance contributions by industry and payment type are usually calculated with the so-called payment per cent method that can be seen as an indirect method, but total social insurance contributions are calculated with the direct method. The use of direct and indirect estimation methods, and benchmarks and extrapolations in terms of compensation of employees are explained in more detail in Section 4.7.

Consumption of fixed capital is calculated with the Perpetual Inventory Method, which is an indirect method.

Other taxes on production and other subsidies on production are derived from total data, i.e. the calculation method is direct.

	Basis for NA Figures											
				Extrapolation and Models								
	Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Total Extrap+Models	Other	Total (sources)
GDP INCOME APPROACH													
Compensation of employees	**2592**	**4809**	**80351**	**0**	**0**			**0**	**0**	**12519**	**12510**	**8030**	**108292**
Non-Financial Corporations	0	193	53330	0	0	0	0	0	0	11293	11293	6875	71691
Financial Corporations	0	8	2423	0	0	0	0	0	0	486	486	49	2964
General Government	2592	4552	21168	0	0	0	0	0	0	48	48	389	28749
Households	0	58	309	0	0	0	0	0	0	149	149	579	1095
NPISH	0	0	3121	0	0	0	0	0	0	534	534	138	3793
Gross operating surplus (1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Non-Financial Corporations	0	0	0	0	0	0	0	0	0	0	0	0	0
Financial Corporations	0	0	0	0	0	0	0	0	0	0	0	0	0
General Government	0	0	0	0	0	0	0	0	0	0	0	0	0
Households	0	0	0	0	0	0	0	0	0	0	0	0	0
NPISH	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed income	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Taxes on production and imports	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33251**	**33251**
Subsidies	**0**	**3069**	**796**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**472**	**4337**
Gross domestic product	**2592**	**1740**	**79555**	**0**	**0**	**0**	**0**	**0**	**0**	**12510**	**12510**	**40809**	**137206**

Figure 12: Use of sources and estimation methods in the income approach according to the process tables

4.6 The main approaches taken with respect to exhaustiveness

4.6.1 Wages and salaries

Wages and salaries can be obtained in Finland very comprehensively from various administrative registers. The Tax Administration's annual tax return data, which previously constituted the main data source, were replaced by the national Incomes Register in 2020.

The Incomes Register is a national online database. It contains exhaustive data on wages and salaries and earned income on individual level, as well as the Tax Administration's annual tax return data. Data producers report

individuals' earnings to the Incomes Register in real time, whenever a payment is made.

From the perspective of compiling statistics in accordance with the national accounts, the challenge is primarily wages and salaries on which no tax is paid and which are thus not found in administrative registers. Such are so-called hidden wages and tax-free benefits offered by employers, which should be included in wages and salaries according to the national accounts. Hidden wages are estimated to be included in certain industries where the grey economy is believed to occur. The hidden wages of each industry are derived by multiplying the wages and salaries of that industry by a percentage assessing the extent of the grey economy. There is no proper data source for tax-free benefits, so they are not estimated at all.

4.6.2 Gross operating surplus and mixed income

Additions to an enterprise's income are one of the most important data of the Tax Administration's tax auditing unit for the National Accounts. Hidden income decreases the output and thus the value added and the gross operating surplus/mixed income.

In 2013, the working group "Development of estimation methods of the tax gap" was launched and it delivered its final report in 2014. As part of the work, the group tried to estimate the value added tax gap by industry. These results were utilised as applicable in the National Accounts as well.

Part of the income in the underground economy are included in the mixed income received by households (see Section 4.11).

	Adjustments															
		Conceptual				Exhaustiveness										
	Data validation	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness	Balancing	Total (adjustments)
GDP INCOME APPROACH															
Compensation of employees	**-140**	**0**	**0**	**-31**	**-31**	**0**	**0**	**0**	**0**	**0**	**1291**	**23**	**1314**	**-802**	**341**
Non-Financial Corporations	18	0	0	-206	-206	0	0	0	0	0	856	-50	806	-851	-233
Financial Corporations	-45	0	0	0	0	0	0	0	0	0	0	0	0	4	-41
General Government	80	0	0	83	83	0	0	0	0	0	0	29	29	1	193
Households	-193	0	0	92	92	0	0	0	0	0	435	0	435	4	338
NPISH	0	0	0	0	0	0	0	0	0	0	0	44	44	40	84
Gross operating surplus (1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**83619**	**83619**
Non-Financial Corporations	0	0	0	0	0	0	0	0	0	0	0	0	0	54445	54445
Financial Corporations	0	0	0	0	0	0	0	0	0	0	0	0	0	3575	3575
General Government	0	0	0	0	0	0	0	0	0	0	0	0	0	8228	8228
Households	0	0	0	0	0	0	0	0	0	0	0	0	0	16701	16701
NPISH	0	0	0	0	0	0	0	0	0	0	0	0	0	670	670
Mixed income	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11318**	**11318**
Taxes on production and imports	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Subsidies	**-822**	**0**	**0**	**-162**	**-162**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-984**
Gross domestic product	**682**	**0**	**0**	**131**	**131**	**0**	**0**	**0**	**0**	**0**	**1291**	**23**	**1314**	**94135**	**96262**

Figure 13: Adjustments in the income approach according to the process tables

4.7 Compensation of employees

Table 52: Components of compensation of employees (D1K) by year, EUR million

Transaction	2014	2015	2016	2017	2018
D1K Compensation of employees	100,938	102,084	103,757	104,558	108,633
D11K Wages and salaries	82,054	82,861	84,053	86,073	90,067
D111K Incentive stock option income and stock bonuses	140	170	184	312	199
D112K Wages and salaries other than incentive stock option income	81,914	82,691	83,869	85,761	89,868
D12K Employer's social security contributions	18,884	19,223	19,704	18,485	18,566
D121K Employers' actual social contributions	18,884	19,223	19,704	18,485	18,566
D122K Employers' imputed social contributions	-	-	-	-	-

Table 53: Components of compensation of employees (D1K) by institutional sector in 2018, EUR million

Transaction	S1	...S11	...S12	...S13	...S14	...S15
D1K Compensation of employees	**108,633**	71,458	2,923	28,942	1,433	3,877
D11K Wages and salaries	**90,067**	59,839	2,423	23,390	1,253	3,162
D111K Incentive stock option income and stock bonuses	**199**	193	6	0	0	0
D112K Wages and salaries other than incentive stock option income	**89,868**	59,646	2,417	23,390	1,253	3,162
D12K Employer's social security contributions	**18,566**	11,619	500	5,552	180	715
D121K Employers' actual social contributions	**18,566**	11,619	500	5,552	180	715
D122K Employers' imputed social contributions	**-**	-	-	-	-	-

4.7.1 Wages and salaries

The sources for wages and salaries vary in the National Accounts by sector and industry. For most industries and sectors, the Business Register can be used as the source, but there seem to be more reliable sources for sector S13. In the calculation of sectors S11, S12, S14 and S15, the Business Register is the main source for wage and salary data, except for the industries of primary production and construction (industries A, 412+432_439, 68202). In addition, the wages and salaries of municipal companies are calculated for sector S11 from the statistics on finances of municipalities, so data on municipal companies are not drawn from the Business Register to avoid double counting. For sector S11, supplementary data derive from municipalities, joint municipal authorities, municipal companies, joint local authority companies and joint municipal authorities of company form.

The wage and salary calculation of primary production is described in more detail in Section 3.7.1 and the calculation of construction in Sections 3.7.3 and 3.7.4. The wage and salary calculation of sector S12 is explained in Section 3.8 and that of sector S13 in Section 3.9.

The Tax Administration's annual tax return data, which have been the main data source for a long time, were replaced by the national Incomes Register in 2020 and it has been used to calculate most wages and salaries starting from the statistical reference year 2019. The Incomes Register is a national online database. It contains exhaustive data on wages and salaries and benefits in kind on individual level, but on more detailed level than the Tax Administration's annual tax return data. Data producers report individuals' earnings to the Incomes Register in real time, whenever a payment is made.

Table 54: D112 sources by sector

Source	S11	S121	S1221	S1222	S1223	S123	S124	S125	S126	S127	S128	S129	S1311	S1313	S13141	S13149	S14	S15
Structural statistics														x				
Statistics on local government finances														x				
Financial statements of the Association of Finnish Local and Regional Authorities + Confederation of Finnish Industries														x				
Financial statements of the Regional Government of Åland														x				
Machine revisions to municipal data														x				
State's business bookkeeping													x					
Business Register	x		x	x				x	x	x					x		x	x
Market/Non-market project results, financial statement reports of units and YTY financial statements data													x	x				
Data of the Finnish Broadcasting company and VTT Technical Research Centre of Finland													x					
Financial statements data, Social Insurance Institution's bookkeeping data																x		
FIVA's insurance reports											x					x		
Other source	x	x										x		x			x	x
Conceptual changes	x																x	
Adjustments of errors in data	x																	
The grey economy	x																x	

The main data source for wages and salaries in the Business Register in the statistical reference year 2018 is the Tax Administration's annual tax return data. The data in question are exhaustive national total data where enterprises and other payers report wages and salaries paid. The data also include taxable fringe benefits paid, incentive stock options and stock bonuses. Wage and salary data are summed up to the Business Register at enterprise level. Their division into establishments in the Business Register is done based on the staff-years of the establishments.

The annual tax return data provide the majority of the wagebill of the non-financial corporations sector. The wages and salaries calculated from the annual return data have been formed to correspond as well as possible to the definitions in the ESA 2010 national accounts manual, Sections 4.03 and 4.05. The formation rules are reviewed annually.

Whenever possible, the aim was to exclude items from wages and salaries that are not included in wages and salaries defined in accordance with ESA 2010, Section 4.07. Wages and salaries include, however, the amounts of wages and salaries temporarily paid by employers to wage and salary earners during sickness, maternity leave, work disability, incapacity, etc. These wages and salaries cannot be separated from the Tax Administration's annual tax return data.

The following pay items are picked from the Tax Administration’s annual tax return data for wages and salaries: pay from main occupation, pay from secondary occupation, seamen’s earnings, seamen’s earnings of entrepreneurs, insurance pay under the so-called six-month rule, wage and

wage security paid by a substitute, pay under the six-month rule paid by a substitute, entrepreneur's salary from main activity, salary paid from an athlete fund, municipal childminder's salary, entrepreneur's salary under the six-month rule, work compensation, athlete's compensation, other payment considered as taxable income, and salary paid by an employer (fixed establishment in Finland) to an employee that is not insured in Finland to the extent that they have been recorded under monetary pay, tax deduction benefit for interests on housing loans, payment to an elected official or the share of employer-subsidised public transport tickets considered to be salary. Of benefits in kind, wages and salaries include a company car, company accommodation, meal benefit, phone benefit and meal compensation.

For sectors S11 and S14, wage and salary income generated due to the grey economy is estimated for wages and salaries. These have been produced as expert estimates for different industries where the grey economy is estimated to occur.

Table 55: Wages and salaries D11 (incl. incentive stock options and stock bonuses, as well as benefits in kind) by industry and sector in 2018, EUR million

	S1	S11	S12	...S121	...S122	...S125	...S126	...S127	...S128	S13	...S1311	...S1313	...S1314	S14	S15
Total	90,067	59,839	2,423	39	1,213	116	555	52	448	23,390	5,757	17,090	543	1,253	3,162
A	775	507								7		7		261	0
B	283	283												0	
C	14,514	14,505												9	
D	687	687												0	
E	515	509								6		6		0	
F	7,920	7,234								153		153		533	
G	9,375	9,346												29	
H	4,892	4,681								87	24	63		124	
I	2,179	2,105								55	12	43		19	
J	5,578	5,324								253	179	74		1	
K	2,423		2,423	39	1,213	116	555	52	448						
L	930	899								28	26	2		3	
M	6,051	5,397								612	580	32		15	27
N	4,673	4,327								332	141	191		14	
O	6,383									6,383	3,290	2,550	543		
P	6,386	251								5,490	1,421	4,069		2	643
Q	13,177	2,773								9,460	61	9,399		16	928
R	1401	524								495	23	472		4	378
S	1,716	487								29		29		14	1,186
T	209													209	

Incentive stock options and stock bonuses are included in the wagebill of the national accounts and they derive also from the Tax Administration's annual tax return data. These are not divided to establishments, incentive stock options are recorded to the industry to which the enterprise is classified. Only sectors S11 and S12 have incentive stock options and stock bonus income.

Table 56: Incentive stock options and stock bonuses (D111) by sector and industry in 2018, EUR million

Industry	S1 Total economy	…S11 Non-financial corporations	…S12 Financial and insurance corporations
Industries total	199	193	6
C Manufacturing	87	87	-
D Energy supply	1	1	-
F Construction	3	3	-
G Trade	11	11	-
H Transport	5	5	-
I Accommodation and food services activities	0	0	-
J Information and communication	70	70	-
K Financial and insurance activities	6	-	6
L Real estate activities	1	1	-
M Professional, scientific and technical activities	13	13	-
N Administrative and support service activities	2	2	-

The development of the wages and salaries sum is always viewed relative to the development of employment and working hours and relative to other statistics on wages and salaries and employment. For example, the changes in average pay in each industry from one year ago should be positive and relatively small, unless something out of the ordinary has occurred in the industry. Because the wage and salary data received from the Tax Administration can be considered especially reliable, it is more likely that in a conflict, primarily employment data (number of employed persons or working hours) are corrected instead of the wages and salaries sum.

In “normal circumstances”, the change in wages and salaries gives a framework for the change in the number of employed and in working hours (e.g. if no actual pay cuts have been agreed, the number of working hours or the employed should not grow more than wages and salaries). On the other hand, changes in the employment structure of an industry can in some cases justifiably push the change in average pay into negative (or clearly into positive). A change in the sector or industry category of an individual large enterprise can also result in large justified annual changes in some cases on sector and industry level.

The Labour Force Survey and the index of wage and salary earnings are the main comparison data sources in use. These are elaborated upon in Sections 10.2.2 and 10.2.3.

Starting from the statistical reference year 2019, the main data source for wages, salaries and fees is the national Incomes Register, which replaced the Tax Administration’s annual tax return data on wages and salaries as

the main source in 2020. More detailed information about the Incomes Register is available in Section 10.2.4.

4.7.2 Employer's social contributions

Employers' social contributions D.12 only include actual social contributions D.121 in Finland. Imputed social contributions D.122 are no longer included in the statistics, because the Finnish social insurance system no longer includes such counterpart of other social insurance that employers pay directly to their employees or former employees without insurance corporations or independent pension funds. Statistics on employers' imputed social contributions D.122 were previously compiled up to the year 2000. Imputed social contributions in question concerned only local government S1313, since the municipalities paid at least some of their employees' pensions directly to employees.

First, sector/industry-specific payment percentages are formed to calculate the sub-items of employer's actual social contributions. The percentages of payments refer to how many percentages the social contribution in question is of the wages and salaries. At a later stage, the percentages are used to multiply sector and industry-specific wage and salary data in order to achieve euro denominated social security contributions. In the end, they are balanced with the accumulations from sector accounts, i.e. the total sums paid to social security funds and insurance corporations. The calculation of social contributions D.12 and its sub-items for sector S13 and some individual industry is based on better considered data sources, but these are also balanced with the accumulation from sector accounts.

D12111 Employment insurance contributions are calculated using the industry-specific 2-digit level employment pension payment percentage table that is available from the Finnish Centre for Pensions. The average of all industries is used for missing industries.

D12121 Employers’ SII contributions are calculated for S11 using industry-specific percentages calculated from the periodic tax return data. The data provide the enterprise’s wagebill and the amount of paid Social Insurance Institution contributions. The standardised payment percentage is used in other sectors and can be found on the web pages of the Ministry of Social Affairs and Health.

D12122 Statutory accident insurance payments were calculated according to the industry-specific tables received by the National Accounts from the Federation of Accident Insurance Institutions. The table contains the amounts of accident insurance payments by industry and these are divided by the wagebills of the National Accounts.

D12123 Unemployment insurance contribution percentages are derived by using the percentages on the pages of the Ministry of Social Affairs and Health based on the wagebill paid by the employer. In 2018, the limit was EUR 2,083,500 and the percentages 0.65 (when the wagebill paid by the enterprise is below the mentioned limit) and 2.6 (when the wagebill paid by the enterprise exceeds the limit).

D12124 Group life insurance contributions are calculated based on the average percentage (in 2018, the average group life insurance contribution was 0.07 per cent of the wagebill).

All payment types are balanced with the accumulation deriving from sector accounts. The effect of the balancing can be seen in Table 57. The calculation of the accumulation is explained in a separate Section. The rounding difference is taken to sector S11 for the five biggest industries (biggest industries in terms of the wagebill).

D12112 Employer's voluntary pension contributions and D12125 Other voluntary social security contributions are calculated as the difference between sector accounts and production accounts. The difference is divided to sector accounts based on the size category of their wages and salaries. The rounding difference is taken to the industry of wholesale trade.

Table 57: D12 Employer's social security contributions by source in 2018, EUR million

Sector	In percentages of wages and salaries	Other sources	Balancing to accumulations	Final result
S11	11,293	1,177	-851	11,619
S12	486	10	4	500
S13	48	5,503	1	5,552
S14	149	27	4	180
S15	534	169	12	715
TOTAL	12,510	6,894	-830	18,566

Table 58: Employer's social security contributions by sector in 2018, EUR million

	S1 Total economy	…S11 Non-financial corporations	…S12 Financial and insurance corporations	…S13 General government	…S14 Households	…S15 Non-profit institutions serving households
D12K Employer's social security contributions	**18,566**	11,619	500	5,552	180	715
..D121K Employers' actual social contributions	**18,566**	11,619	500	5,552	180	715
…D1211K Employer's actual pension contributions	**15,671**	9,692	425	4,784	145	625
……D12111K Employer's actual statutory pension contributions	**15,392**	9,434	421	4,783	141	613
……D12112K Employer's actual voluntary pension contributions	**279**	258	4	1	4	12
…D1212K Households' actual non-pension contributions	**2,895**	1,927	75	768	35	90
……D12121K Employer's Social Insurance Institution contributions	**748**	502	21	191	7	27
……D12122K Statutory accident insurance payments	**597**	428	5	125	20	19
……D12123K Unemployment insurance contributions	**1,493**	952	48	445	8	40

……D12124K Group life insurance contributions	**46**	34	1	7	0	4
……D12125K Voluntary social security contributions excl. pension contributions	**11**	11	0	0	0	0
..D122K Employers' imputed social contributions	-	-	-	-	-	-

4.8 Taxes on production and imports

Table 59: Taxes on production and imports by year, EUR million

Transaction	2014	2015	2016	2017	2018
D2 Taxes on production and imports	29,727	29,913	31,360	31,861	33,251
…D21 Taxes on products	29,259	29,625	30,970	31,465	32,855
…D29 Other taxes on production and imports	468	288	390	396	396

4.8.1 Taxes on products

See chapter 3.11.

4.8.2 Other taxes on production and imports

Other taxes on production (D29) differ from taxes on products (D21) in that they are not tied to the volume of production. The main other taxes on production in Finland are the user charge on passenger vehicles paid by enterprises, income from auction of emission allowances and contributions to the Single Resolution Fund (see Table). Taxes on imports have not existed since 1994.

Table 60: Accrual of other taxes on production in 2018, EUR million

Tax	Accrual
User charge on passenger vehicles paid by enterprises	211
Income from auction of emission allowances	113
Contributions to the Single Resolution Fund	55
Nuclear power research fee	12
Tax on waste	7
Penalties for late payments of taxes	2
Bank tax	-4
Total	396

Contributions to the Single Resolution Fund are paid to the EU, but the rest of the taxes in this category (other taxes on production) have been paid to central government. Data on tax accumulation derive from the state's financial statements and, in terms of the nuclear power research fee, from the Nuclear Waste Management Fund. Accrual of income from auction of emission allowances is calculated with help of data from the Energy Authority. Emission allowances are purchased by enterprises causing

emissions, which include several industry branches (081, 192, 241, 351 and 51). Waste tax is paid by waste treatment plants (industry 382) that mainly belong to the non-financial corporations sector and to a small extent to the local government sector. The nuclear power research fee is paid by nuclear power plants (industry 351).

In terms of the vehicle tax, a total sum is derived from the state's financial statements, being EUR 1,194 million in 2018. The tax is collected annually both on vehicles used for production and on vehicles used for households' consumption. The vehicle tax paid of vehicles used for production (D29) is derived by combining data on vehicle owners from the vehicle register with data of the business register, which means that the vehicle taxes paid by households and various industries and sectors can be separated. The combination is carried out when compiling industry-specific data for the statistics on environmental taxes. The vehicle tax collected from households belongs to other direct taxes (D59).

Bank tax was a temporary tax collected in 2013 –2015. After ceasing the tax, it has produced some repayments to deposit banks (industry 64).

Payments to the Deposit Guarantee Fund have been included in D29 taxes since 2019. The fund has since 2015 been part of the S1311 sector, but the sums collected to the “Old Deposit Guarantee Fund” have covered the requirements set to the banks until 2019. These payments do not render services exclusively to financial institutions but rather to the whole community, and the payments by a single bank are not strictly linked to the risks incurred by the fund.

Nuclear power research fee consists of fees for research of nuclear safety and nuclear waste management. They are part of the Nuclear Waste Management Fund, which further includes Financial Provision Fund. Capital that has been raised to the latter from the companies responsible for nuclear waste management is not classified as tax. The companies can borrow 75% of their share in the Financial Provision Fund against a security.

Concerning other taxes on production and imports, time adjustment is carried out only to the income from auction of emission allowances. The accrual of 2018 has been obtained by summing the income from auctions (using Energy Authority data) between April 1, 2017 and March 31, 2018.

The accruals do not include taxes accrued but not paid (tax debt, errors in paid sums, omissions). Part of these sums are paid later, and it is assumed that the lagging sums flow in evenly over time.

4.9 Subsidies

Table 61: Subsidies by year, EUR million

Transaction	2015	2016	2017	2018
D3 / Subsidies	3,581	3,505	3,465	3,353
…D31 / Subsidies on products	839	846	871	701
…D39 / Other subsidies on production	2,742	2,659	2,594	2,652

4.9.1 Subsidies on products

Subsidies on products are described in section 3.12.

4.9.2 Other subsidies on production

The sum of other subsidies on production (D39) paid to the non-financial corporations and households sectors is determined based on how much subsidies central government, local government and the rest of the world have paid. The sum of subsidies paid by the state is largest and it comes from the Central Government's bookkeeping. The same data provide information on the subsidies paid by the rest of the world sector. The subsidies paid by local government derive from the data of the Åland Provincial Government.

Data on subsidies on production is obtained by item, but there are no data on which enterprises have received subsidies, so subsidies cannot be directly allocated to industries.

There is reliable information on how much subsidies have been paid and received in agriculture. Thus, the data on subsidies on production are taken from a separate data source for this industry. This sum of subsidies is subtracted from the sum of subsidies in Central Government's bookkeeping and the difference must be allocated to other industries in the non-financial corporations and households sectors.

There may be a corresponding industry for some items, in which case the subsidy sum can be allocated directly to that industry. Statistics on business subsidies compiled by Statistics Finland are utilised when allocating the sum of subsidises to industries. The statistics contain data on direct business subsidies paid by institutions that finance business subsidies, such as the Ministry of Economic Affairs and Employment, Business Finland, ELY centres, Finnvera, and the Ministry of Agriculture and Forestry.

An industry breakdown is formed based on central government's bookkeeping data, local government data and business subsidy statistics, with which the sum of subsidies is broken down to industries. The breakdown of received subsidies between sectors is based on central and local government data, statistics on business subsidies and estimation. Investment grants must be removed from the data, as they do not belong to transaction D39 according to ESA 2010.

Table 62: Received subsidies on production (D39R) by industry in 2018, all sectors, EUR million

Industry	Value
A	1,552
B	6
C	402
D	25
E	5
F	45

G	75
H	101
I	22
J	86
K	0
L	57
M	122
N	33
O	0
P	38
Q	25
R	29
S	29
T	0
Total	**2,652**

4.10 Gross operating surplus

The gross operating surplus derives as a residual category from market production in the National Accounts: compensations of employees and other taxes on production paid are subtracted from gross value added and other subsidies on production received are added. Mixed income received by households (see Section 4.11) must be subtracted from this item. In non-market production, the gross operating surplus is the same as consumption of fixed capital because there is no operating surplus.

In Finland, a test calculation has been made for 1995 to 1997 to calculate the gross operating surplus of market output (incl. households' mixed income) independently. It was also possible to calculate GDP with the income approach based on this by adding compensation of employees, other taxes on production minus other subsidies on production and consumption of fixed capital of other non-market output to the gross operating surplus of market production. The gross domestic product calculated in this manner was lower than the one calculated using the output approach.

4.11 Mixed income

Mixed income refers to the income households receive as compensation for participating in market output as entrepreneurs. This income is based on work input, but it cannot be separated from an entrepreneur's profits and it is, therefore, called mixed income. Possible salaries paid by an entrepreneur to him or herself is considered wages and salaries and not mixed income. Imputed income received from living in an owner-occupied dwelling is operating surplus and not mixed income.

When industry data are recorded by sector, mixed income comes directly from the overall calculation. In the households sector, the item operating

surplus/mixed income, net in the industry calculation is mixed income for everything else apart from owner-occupied dwelling that generates operating surplus.

In the households sector, mixed income is generated in the following industries:

- Agriculture (industry 01)
- Forestry (02)
- Fishing (03)
- Other industries (B to S)
- Own-account construction
- Letting of dwellings
- The underground economy

Mixed income is derived by subtracting intermediate consumption, compensation of employees, consumption of fixed capital and other taxes on production from the output and by adding other subsidies on production.

4.11.1 Agriculture (industry 01)

The basis for the calculation of mixed income in agriculture is the production and income formation account of agriculture (see Section 3.7.1). When the production and income formation accounts of the non-financial corporations sector operating in agriculture are subtracted from this, the result is the production and income formation account of households.

The calculation of enterprises' agriculture industry is based on structural statistics data. The calculation is carried out in the same way as described below for the mixed income of other industries (B to S). The share of enterprises in the consumption of fixed capital in agriculture is 12 per cent. The figure corresponds roughly with the share of agricultural investment expenditure of agriculture enterprises liable to pay tax under the Business Tax Act.

4.11.2 Forestry (industry 02)

Mixed income received from forestry is calculated in the same way as mixed income from agriculture. The basis for the calculation is the production and income formation account of forestry (see Section 3.7.2) from which the shares of other sectors is subtracted. Other sectors include non-financial corporations, local government and non-profit institutions.

Division of the output between various sectors is based on the division of the gross capital stock of monetary income between different forest owner sectors.

4.11.3 Fishing (industry 03)

Mixed income from fishing equals the value added of the fishing industry that depicts the value of recreational fishing.

4.11.4 Other industries (industries B to S)

The calculation of other industries is mainly based on structural statistics data. All industries of the households sector apart from primary production derive from the data. All own-account workers, who have fewer than two staff years converted to full-time employees (including entrepreneurs), are included in the households sector. Own-account construction and letting of dwellings remain outside the data. Naturally, the underground economy is also outside the data.

Output and intermediate consumption come from the structural statistics. Roughly speaking, output is the sum of the variables "turnover", "change on finished products inventory", "production for own use" and "other operating income". For industry 90 cultural activities, the income of authors, composers and other such artists from copyright compensation in Finland and abroad are added to the output. The added income is based on the calculation of entertainment, literary and art originals (see Section 5.10.3.11). Intermediate consumption is the sum of financial statement variables "purchases during the accounting period", "purchases of outside services" and "other expenses" plus financial intermediation services indirectly measured (FISIM). Gross value added is the difference between the output and intermediate consumption.

Mixed income is calculated so that wages and salaries, employer's social insurance contributions, consumption of fixed capital and other taxes on production are subtracted from the gross value added and other subsidies on production are added.

Consumption of fixed capital comes from the Perpetual Inventory Method calculations. Wages and salaries paid come directly from the structural statistics. Employer's social insurance contributions have been calculated from the wagebill with the appropriate employer's social contribution percentages. Other taxes on production and other subsidies on production come from public sector calculations.

4.11.5 Own-account construction

The value added of own-account construction is recorded in full as mixed income of the households sector. The calculation is based on estimates of the output and intermediate consumption (see Section 3.7.3). The development of working hours in own-account construction is linked to the annual changes in the output and average hourly wages in building construction (excl. employer's social insurance contributions and indirect salary expenses).

4.11.6 Letting of dwellings

Rent income received by households from dwellings they own are mixed income for households after intermediate consumption and consumption of fixed capital have been subtracted from the rent income. In the Finnish National Accounts, rent income are processed as mixed income even though they involve no actual work input.

The basis for the calculation is the production and income formation account of industry "68201 Letting of dwellings" (see Section 3.7.4). The market output of this industry consists in full of rent income. Households' share in rent income and intermediate consumption is estimated with the help of dwelling stock data. Consumption of fixed capital is calculated with the help of the Perpetual Inventory Method.

4.11.7 The underground economy

The value added produced by the underground economy is estimated by industry as are hidden wages. The calculations are explained in more detail in Section 7.1.3. The mixed income of households in terms of non-observed economy is formed when hidden wages are subtracted from the output (=value added) generated as a result of activities in the underground economy.

Table 63: Households' mixed income in 2018, EUR million

Industry	Value
Industries, total	7,488
A Agriculture, forestry and fishing	2,451
…01 Agriculture and hunting	481
…02 Forestry	1,960
…03 Fishery	10
B Mining and quarrying	9
C Manufacturing	156
D Energy supply	0
E Water supply and waste management	3
F Construction	717
G Trade	394
H Transport	271
I Accommodation and food services activities	119
J Information and communication	70
L Real estate activities	1,502
M Professional, scientific and technical activities	378
N Administrative and support service activities	152
P Education	47
Q Human health and social work activities	502
R Arts, entertainment and recreation	125
S Other service activities	592
T Activities of households as employers	0

4.12 Consumption of fixed capital

This section describes the compilation process and the methodology behind gross stock, net stock, consumption of fixed capital and retirements calculations in Finland. It will also introduce the parameters used when constructing the time series of these variables.

The capital stock calculations describe the fixed capital stock used in the production of goods and services, physical removal and decrease in value, i.e. consumption of fixed capital, in the economy. The results of the capital stock calculations are used in the National Accounts as estimates for consumption of fixed capital and in productivity calculations. Furthermore, the stock of fixed capital is part of the national wealth.

In Finland, the consumption of fixed capital is calculated with the help of the Perpetual Inventory Method (PIM). The choice of retirement functions and age-price profiles is based on the recommendations in ESA 2010, OECD Manual on Measuring Capital 2009 and Manual on Measuring Research and Development.

All the calculations are performed separately for all sectors, industries, producer types and assets. Long investment series, price indices and assumptions on the form of the survival and mortality function of capital goods and their average service lives are used in the Perpetual Inventory Method to calculate the capital stocks. The Perpetual Inventory Method is complemented with inquiries and administrative data.

In capital stock calculations, investments and their prices (deflators for investments) are obtained from the investment subsystem of the National Accounts. The supply and use tables divide the investments into products, and each product has its own price index. As a result, we obtain the implicit price indices used in capital stocks calculations.

4.12.1 The Calculation of Capital Stocks and Consumption of Fixed Capital

4.12.1.1 *The classification of Assets*

The asset classification used in capital stock calculations in Finland is described in the following table.

Table 64: The classification of assets

Asset	Description
N111	Dwellings
N1121	Buildings other than dwellings
N1122	Other structures
N1123	Land improvements
N1131	Transport equipment
N11321	Computer hardware
N11322	Telecommunications equipment
N1139	Other machinery and equipment
N114	Weapons systems
N1151	Animal resources
N1171	Research and development
N1172	Mineral exploration and evaluation
N1173	Computer software and databases
N1174	Entertainment, literary or artistic originals

In Finland, fixed tangible assets do not include animal resources yielding repeat products (AN1151) even though they are included in flows of gross fixed capital formation, so no stock or consumption of fixed capital is calculated for them (ESA 2010, Section l3.140). AN 1152 Tree, crop and plant resources yielding repeat products is excluded. AN116 ownership transfer costs of non-produced assets are included in category AN1123 land improvements.

4.12.1.2 *The valuation of the Assets and price indices*

According to ESA 2010 "the stock of fixed assets must be valued at the purchaser's prices of the accounting period". Capital stocks can be valued at three price concepts: Fixed replacement costs, i.e. the capital goods are valued at the prices of a particular reference year, Current replacement costs, i.e. the capital goods are valued at the prices of the ongoing year, and Acquisition price (so-called historical prices), i.e. the capital goods are valued at the price of the time of acquisition.

In Finland, the two first mentioned price concepts are used. The stocks at fixed prices produced by the Perpetual Inventory Method are turned into constant priced by using the implicit price indices of the investments. Price indices of investments produced by the National Accounts supply and use tables have been used as deflators in capital stock calculations since 1995. The price indices have been chained to 2010. The price indices for the years 1960 to 1994 by product type were constructed by taking the level of the 1995 price indices backwards by previous changes to price indices. Constant price investment time series for the years 1920 to 1959 were chained backwards from 1960 with old volume changes.

The price indices used for each asset vary according to the sector and industry where the stock is. The table below simplifies the reality a little and doesn’t show the detailed level of the products in each industry and sector.

Table 65: The assets and the products linked to them

Asset	CPA category
N111	41_43 Constructions and construction works
	68 Real estate services
N1121	41_43 Constructions and construction works
	68 Real estate services
N1122	41_43 Constructions and construction works
N1123	02 Products of forestry, logging and related services
	41_43 Constructions and construction works
	68 Real estate services
N1131	29 Motor vehicles, trailers and semi-trailers
	30 Other transport equipment
	45 Wholesale and retail trade and repair services of motor vehicles and motorcycles
	46 Wholesale trade services, except of motor vehicles and motorcycles
	49 Land transport services and transport services via pipelines
	50 Water transport services
	52 Warehousing and support services for transportation
N11321	26 Computer, electronic and optical products
	46 Wholesale trade services, except of motor vehicles and motorcycles

	49 Land transport services and transport services via pipelines
	50 Water transport services
	52 Warehousing and support services for transportation
	95 Repair services of computers and personal and household goods
N11322	26 Computer, electronic and optical products
	46 Wholesale trade services, except of motor vehicles and motorcycles
	49 Land transport services and transport services via pipelines
	50 Water transport services
	51 Air transport services
	52 Warehousing and support services for transportation
N1139	25 Fabricated metal products, except machinery and equipment
	26 Computer, electronic and optical products
	27 Electrical equipment
	28 Machinery and equipment n.e.c.
	29 Motor vehicles, trailers and semi-trailers
	31_32 Furniture; other manufactured goods
	33 Repair and installation services of machinery and equipment
	45 Wholesale and retail trade and repair services of motor vehicles and motorcycles
	46 Wholesale trade services, except of motor vehicles and motorcycles
	49 Land transport services and transport services via pipelines
	50 Water transport services
	51 Air transport services
	52 Warehousing and support services for transportation
	62_63 Computer programming, consultancy and related services; information services
	71 Architectural and engineering services; technical testing and analysis services
N114	25 Fabricated metal products, except machinery and equipment
	26 Computer, electronic and optical products
	29 Motor vehicles, trailers and semi-trailers
	30 Other transport equipment
	33 Repair and installation services of machinery and equipment
	45 Wholesale and retail trade and repair services of motor vehicles and motorcycles
	46 Wholesale trade services, except of motor vehicles and motorcycles
	49 Land transport services and transport services via pipelines
	50 Water transport services
	51 Air transport services
	52 Warehousing and support services for transportation
	62_63 Computer programming, consultancy and related services; information services
N1151	01 Products of agriculture, hunting and related services
	46 Wholesale trade services, except of motor vehicles and motorcycles
N1171	72 Scientific research and development services
N1172	71 Architectural and engineering services; technical testing and analysis services
N1173	46 Wholesale trade services, except of motor vehicles and motorcycles
	58 Publishing services
	62_63 Computer programming, consultancy and related services; information services
N1174	46 Wholesale trade services, except of motor vehicles and motorcycles
	59_60 Motion picture, video and television programme production services, sound recording and music publishing; programming and broadcasting services
	90_92 Creative, arts and entertainment services; library, archive, museum and other cultural services; gambling and betting services

Table 66 shows which price indices are linked to the assets. Again, as the content of the assets may vary across the industries and sectors, not all of them have the same price indices but some subset of those mentioned in the table.

Table 66: Assets and price indices linked to them

Asset	Price indices
N111, N1121	For dwellings and buildings other than dwellings, the index of newbuilding, the producer price indices for services are used.
N1122	For other structures, the cost index of civil engineering works is used.
N1123	For land improvements, Natural Resource Institute Finland's prices and the cost index of civil engineering works as well as the producer price indices for services are used.
N1131	For transport equipment, basic price index for domestic supply, producer price indices for services, producer price index for manufactured products, import price index, export price index and trade volume index are used.
N11321	For computer hardware, producer price indices for services, producer price index for manufactured products, import price index and trade volume index are used.
N11322	For telecommunications equipment, producer price indices for services, producer price index for manufactured products, import price index and trade volume index are used.
N1139	For other machinery and equipment, producer price indices for services, producer price index for manufactured products, import price index and trade volume index are used.
N114	For weapons systems, producer price indices for services, producer price index for manufactured products, import price index and trade volume index are used.
N1151	For animal resources yielding repeat products, index of producer prices of agricultural products, import price index and trade volume index are used.
N1171	For the Research and development investments, index of wage and salary earnings is used.
N1172	For mineral exploitation and evaluation, producer price indices for services are used.
N1173	For computer software and databases, producer price indices for services and trade volume index are used.
N1174	For entertainment, literary or artistic originals, index of wage and salary earnings, consumer price index, producer price indices for services, producer price index for manufactured products, import price index and trade volume index are used.

4.12.1.3 *The initial stocks and backward extrapolation of the investment series*

The initial stock is the first-year value of time series of gross and net stock of fixed capital. There are several methods available for calculating the initial stock for a specific asset. In Finnish NA, the method chosen is to extend the time series of investments back in time for as long as it is necessary to be able to calculate the initial stock for the chosen year.

For some assets, there are very long time series for gross fixed capital formation (GFCF). For some industries and sectors, assets N111, N1121, N1122, N1123, N1131 and N1139 have time series dating back to 1920.

Sometimes, however, the time series for investments are too short to account for all the accumulation of capital, especially if the service life of that type of asset is very long. In those cases, we have estimated the first years of the investments' time series. Since we have no knowledge about them, we simply have assumed that the investments have increased 3% per year. That way, we have been able to construct the time series. The assumption is, that if there are investments in year 1975 but not before that, the time series for the years prior to 1975 is created. The series is then created to reach back to year 1920. In addition, we assume that the maximum length of the GFCF time series is always 100 years.

Using these series, it is possible to construct the initial stocks of fixed capital. The process is the same as the usual calculation process of capital stocks.

A detailed description of calculation of gross fixed capital formation can be found in chapter 5.10.

4.12.1.4 *The service lives and the pole years*

The average service lives of capital goods are based on inquiries, administrative sources, expert estimates and practices used in other countries. For example, in public infrastructure, the average service lives of railways, roads and waterways are based on data from the Finnish Rail Administration, Finnish Road Administration and Finnish Maritime Administration

Table of all the average service lives used in PIM in Finland is found from ANNEX 9.

The average service lives of capital goods in industry are, for example, based on Statistics Finland's inquiry on the replacement value of tangible fixed assets and average expected lifetimes for 1990 and 2002 from main industries *B Mining and quarrying, C Manufacturing* and *D Electricity, gas, steam and air conditioning supply*. The results of the inquiry for 1990 on fixed assets of industry have been used only for revising the service lives of machinery, equipment and transport equipment. The results of the inquiry for 2002 are also applied to the definition of service lives of industrial building construction and other structures.

As seen in the Table 67 below, the Perpetual Inventory Method uses three pole years for the lifetimes of product types, that is, 1960, 1990 and 2002. This means that the average service lives may change in those years. Varying average service lives assumptions are applied in some industrial sectors for other machinery and equipment between 1990 and 2002 and lifetimes decreasing yearly by 0.5 to 1 per cent prior to 1990. In the table 3 we can see that on the first row, the variable “asl1960” is 25, so the service life prior to 1990 is 25 years. The variable “tm1960”, the so-called smoothing multiplier, is set to -1, so that from the year 1990, the average service life decreases by one per cent every year. The variable “asl1990” is 18, so the average service life of that asset will reach 18 years in 2002.

An example of the parameter table that direct the capital stock calculation is presented in Table 67, where the average service life in years and the declining balance rate have been defined for each sector x producer type x industry x asset combination together with the smoothing multiplier. The actual capital stock calculation has been built with the SAS Enterprise Guide software, which reads a similar table as described in Table 67.

Table 67: An example of parameter table

sector	prod.type	industry	asset	method	asl1960	tm1960	asl1990	tm1990	asl2002	tm2002	dbr
S11	T10	221	N1139	G	25	-1	18	-2.7	13	0	1.65
S11	T10	241	N1131	G	12	0	12	-2.4	9	0	1.65
S11	T10	263	N1139	G	14	-0.7	11	-2.6	8	0	1.65
S11	T10	264	N1139	G	14	-0.7	11	-2.6	8	0	1.65
S14	T10	221	N1139	G	25	-1	18	-2.7	13	0	1.65

Explanation of the terms used in the table above:

- asl1960 = average service life before 1990

- asl1990 = average service life between 1990 and 2002
- asl2002 = average service life after 2002
- dbr = declining balance rate
- tm1960, tm1990, tm2002 are the "smoothing multiplier" for the changes in service lives in the
- method: W = weibull, G = geometric

4.12.1.5 *Calculation of the Gross Stock*

The gross stock is the first item being calculated related to fixed capital in National Accounts in Finland. As already mentioned, The Finnish National Accounts uses a perpetual inventory method to calculate it. The calculation proceeds in the same way for all the assets – the distribution of retirements around the average service life of all the assets is assumed to follow a skewed Weibull distribution. The assumptions about service lives differ among assets.

The gross stock, according to the Measuring Capital: OECD Manual 2009, is the stock of assets surviving from past investment and re-valued at the purchasers' prices of new capital goods of a reference period. The gross capital stock ignores decay of assets and considers past investment "as new" – only retirements are taken into account. In other words, we will calculate the gross stock as a weighted sum of past investments. The weight here is defined by the skewed Weibull distribution function.

To calculate the gross stock, we need long time series of the gross fixed capital formation (GFCF). (A detailed description of calculation of gross fixed capital formation can be found in chapter 5.10.) For example, if the average service life of an asset is 60 years, it follows that the past 1,5*60 years, that is, 90 years must be taken into account for the gross fixed capital formation of the asset.

We also need to know the prices of those assets' gross fixed capital formation. To calculate the capital stocks, we must first convert the investments to the prices of a specific base year. In Finland, we express all the investments in prices of 2010 in the calculations. But it is not very important, which year is chosen here.

We then calculate, using the below described Weibull function (Eq. 1) and assumptions of service lives of specific assets, the amount of an investment done in year t-x that is still in use in year t. When this is done, we sum all the remaining investments from different years to get the gross stock of a particular year. After that, we convert the results with the help of implicit price indices of investments so that we get the gross stock at current prices and at previous year's prices.

The retirements are assumed to follow a skewed Weibull distribution, i.e. the part of the investments of year t that is still in use at the end of year t follows the so-called survival function

$$W_{t-T} = exp\left\{-\left(\frac{\gamma(1+\left(\frac{1}{\alpha}\right))}{E}\tau\right)^{\alpha}\right\}, \quad (1)$$

where $\tau = t - T + 0.5$ is the age of the investment at the current time, that is, if we calculate the fraction of investments surviving from the previous year, and if we calculate the investments surviving from the year before that, then $\tau = 2$. E is the average service life. We assume that α, a form parameter, is always 8. γ is the gamma function.

The gross stock at the end of the year t is

$$GCS_t = \sum_{T \geq t-J_{t+1}} w_{t-T}\, I_T, \quad (2)$$

where $T \geq t - J_{t+1}$ and I_t is the gross fixed capital formation of year t. $J_t = \max\{1.5\theta_t, 100\}$, so the maximum lifetime is expected to be 1.5 times the average service life, however at most 100 years. I_T is the gross fixed capital formation in year T.

The Table 68 demonstrates the calculation of the gross stock of fixed capital with Weibull retirement function. The average service life is assumed to be 10 years. For simplicity, it is assumed that the gross fixed capital formation is 1 per year. By plugging these numbers to the equation 1 above, we get the column "weibull" in Table 68. By multiplying the GFCF by that column, we get the investments surviving from that period (column "w*gfcf"). By summing all the investments, we get the gross stock of the current year.

Table 68: Calculation of the Gross Stock

year	weibull	gfcf	w*gfcf
1	0.00	1	0.00
2	0.00	1	0.00
3	0.03	1	0.03
4	0.15	1	0.15
5	0.40	1	0.40
6	0.66	1	0.66
7	0.84	1	0.84
8	0.94	1	0.94
9	0.98	1	0.98
10	0.99	1	0.99
11	1.00	1	1.00
12	1.00	1	1.00
13	1.00	1	1.00
14	1.00	1	1.00
15	1.00	1	1.00
the gross stock in year 15:			10

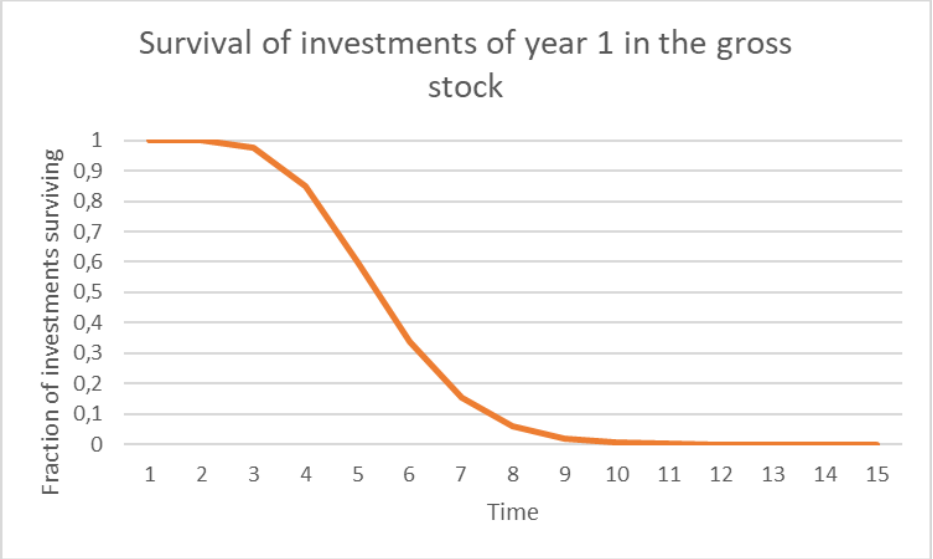

Figure 14: Survival of investments in the gross stock

4.12.1.6 *Retirement of fixed capital*

After calculating the gross stocks for all the assets, classified by industry, sector and producer type, it is quite simple to calculate the retirement of fixed capital. The retirement of fixed capital refers to removal of capital goods from the gross capital stock at the end of their average service life. Retirement is calculated as the difference between the change in investments and the gross capital stock:

$$RET_t = GFCF_t - (GCS_t - GCS_{t-1}) , \qquad (3)$$

where RET is the retirement of fixed capital at constant prices, GFCF is the gross fixed capital formation at constant prices and GCS is the gross stock of fixed capital at constant prices.

4.12.1.7 *Calculation of the Net Stock*

In Finnish NA also the Net stock of fixed capital is calculated through direct application of perpetual inventory method, as the sum of past investments, weighted by a combined age-price/retirement profile.

Calculating the net stock of fixed capital is a bit more complicated than the gross stock because two differing age-price profiles are in use: linear and geometric. The linear profile is used for N111 Dwellings, N1121 Buildings other than dwellings, N1122 Other structures and N1123 Land improvements. The geometric profile is used for all the rest of the assets.

Net stock of fixed capital consists of the cumulated value of past investments minus cumulated consumption of fixed capital. In the linear case, net stock is calculated using linear straight-line depreciation so that the constant-price net stock for a homogeneous capital good at the end of year t is:

$$NCS_t = \sum_{T \geq t-J_t+1} w_{t-T} \, I_T d_{t-T} , \qquad (4)$$

where $d_{t-T} = 0$, when $T \leq t - E + 0.5$, and $d_{t-T} = 1 - (1 / E)(t - T + 0.5)$ otherwise. T is the year in which the investment was made, so the fraction of investments surviving from the previous year is increasing at a constant rate. When the average service life E is over, the age-price profile will reach zero.

If the net stock is calculated using geometric age-price profile, the constant-price net stock for a homogeneous capital asset at the end of year t is

$$NCS_t = NCS_{t-1}(1-d) + I_t\left(1 - \frac{d}{2}\right), \qquad (5)$$

where depreciation rate d = R/E, and R = declining balance rate, with the condition that the value of the remaining capital asset is set to zero at the time when average service life is attained 1.5 times. E is average service life.

The Figure 15 below demonstrates both the linear and the geometric cases. In this example, the average service life is set to 10 years, which is also the maximum service life in the linear case. However, in the geometric case the maximum service life is 1.5*10=15 years. For the geometric case, the declining balance rate used here is 1.65.

Plugging these numbers into the equation 2 and 3 above, we get the numbers in the Table 69 below. The next step is to multiply the column linear case by the amount of GFCF and also by the column Weibull (which is the same as in table 1) to take into account the retirement of fixed capital.

In the geometric case, the retirements are already taken into account and we can proceed by simply multiplying the gfcf by the geometric case column.

Finally, by summing the whole column Weibull*linear*gfcf we get the net capital stock in year number 15 when linear depreciation profile is assumed. Similarly, by summing the column geom.*gfcf, we get the net capital stock in year 15 when geometric depreciation profile is assumed.

Table 69: The calculation of the Net stock of fixed capital

year	lin.	geom.	weibull	gfcf	weibull*lin.*gfcf	geom.*gfcf
1	-	0.07	0.00	17	-	1
2	-	0.09	0.00	21	-	2
3	-	0.11	0.03	42	-	4
4	-	0.13	0.15	32	-	4
5	-	0.15	0.40	34	-	5
6	0.05	0.18	0.66	31	2	6
7	0.15	0.22	0.84	36	5	8
8	0.25	0.26	0.94	34	9	9
9	0.35	0.31	0.98	35	12	11
10	0.45	0.37	0.99	34	15	13
11	0.55	0.45	1.00	31	17	14

12	0.65	0.53	1.00	25	16	13
13	0.75	0.64	1.00	25	19	16
14	0.85	0.77	1.00	25	22	19
15	0.95	0.92	1.00	29	28	27
the net stock of year 15:					144	152

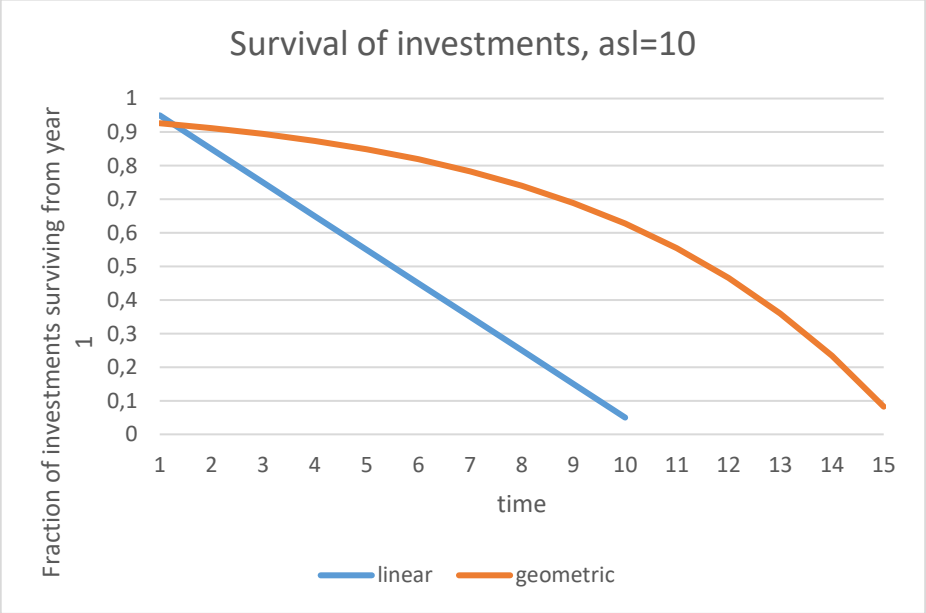

Figure 15: The survival of investments in the net stock

4.12.1.8 *Consumption of fixed capital*

Consumption of fixed capital refers to a value decrease in fixed capital that results from physical weakening, expected out-datedness, usual damaging and ageing during the financial period. Consumption of fixed capital, on the other hand, also represents the decrease in value of capital used in production. It is presented as a production cost in the generation of income account and as capital financing in the capital account of the National Accounts. Consumption of fixed capital is the difference between gross and net value added.

The concept of consumption of fixed capital differs from depreciation in enterprises' bookkeeping. In the National Accounts, consumption of fixed capital is estimated with the Perpetual Inventory Method (PIM) using the stocks of fixed assets and the expected average economic lifetime of these assets.

As in the case of calculating the retirements with the help of gross stocks and GFCF, it is simple to calculate the consumption of fixed capital after calculating the net stocks. It is calculated as the difference between the change in investments and the net capital stock:

$$CFC_t = GFCF_t - (NCS_t - NCS_{t-1}), \quad (6)$$

where CFC is the consumption of fixed capital at constant prices, GFCF is the gross fixed capital formation at constant prices and NCS is the net stock of fixed capital at constant prices.

Table 70: Gross and net stocks, retirement and cfc in 2018

Sector	Gross stock	Retirement	Net stock	Cfc
S1	1379,839	36,090	765,783	43,456
S11	550,497	23,195	290,483	24,081
S12	5,779	600	2,132	679
S13	257,343	6,767	136,471	8,015
...S1311	109,016	4,442	53,284	4,242
...S1313	143,762	2,223	81,613	3,642
...S1314	4,565	102	1,574	131
......S13141	4,237	89	1,441	111
......S13149	328	13	133	20
S14	538,723	5,116	322,586	10,064
S15	27,497	412	14,111	617

4.12.1.9 *Moving capital stocks from one sector to another*

Sector transfers refer to transfers of stocks of fixed assets from one sector to another, for example from the central government to the enterprise sector as a result of privatization. The capital stock calculations are compiled in two stages. In the first stage, the gross and net stocks of capital are produced with the Perpetual Inventory Method (PIM). In the next stage, the removal and consumption of fixed capital is calculated. When assets are transferred from one sector to another, their stocks are directed to new sectors based on the data defined in the sector transfers table below. After this, the Perpetual Inventory Method is applied, that is, the consumption and removal of fixed capital is calculated. In case of a sector transfer if the whole stock is not transferred, the share that is transferred from the source sector's stock to the new sector is defined based on more detailed accounts. A thorough account has been made, for example, on transfers of the capital stock of the central government sector.

Table 71: An example of the sector transfer table

old sector	old prod. type	old industry	asset	new sector	new prod. type	new industry	transf. year	end year	share
S1311	T30	841_842	N1121	S11	T10	681+68209	2000	9999	0.08
S1311	T30	42+431	N1121	S11	T10	42+431	2001	9999	1
S11	T10	59_60	N1174	S1311	T30	59_60	2013	9999	0.5

The sector transfers table defines the known sector transfers: source sector, producer type, industry and product type and to which sector, industry and producer type the transfer is made. *Start year* is the year in which the transfer started, and *end year* is the year it ended; 9999 means that the transfer is still valid. The share column defines which share of the product type's stock is transferred to another sector or another industry in the same

sector. The entire stock or only part of it can be transferred, in which case the share of the stock to be transferred must be estimated by product type. In the past, balance sheet data and other data sources have been used to get a better view of these figures.

4.12.2 Linear age-price-profiles: specific assumptions for assets

4.12.2.1 *Dwellings (N111)*

In capital stock calculations, the linear model is used for *N111 Dwellings*. This convention is based on recommendations from Eurostat in ESA 2010.

For all sectors, producer types and industries the service life used for GFCF in N111 is 60 years. The service life used to be 50 years but was raised to 60 years in 2014 due to lessons from other countries. The revision concerned the whole time series of the capital stocks of N111.

In GFCF in N111 there is only one product, “dwelling”. This “dwelling” comprises GFCF in building classes detached houses, attached houses, apartment buildings and holiday homes. In other words, in Finland we don’t estimate GFCF for various dwelling classes like some countries do.

In Finland, the refurbishment (more extensive renovation compared to “yearly repairs”) part of GFCF in N111 is almost as big as is the newbuilding (new dwellings) part. In Finnish capital stock calculations this fact has not led to reconsiderations of lowering the service life on GFCF in N111.

4.12.2.2 *Buildings other than dwellings (N1121)*

In capital stock calculations, the linear model is used for *N1121 Buildings other than dwellings*. This convention is based on recommendations from Eurostat.

The average service lives of GFCF of N1121 buildings other than dwellings vary between 20 and 52 years.

In Finnish capital stock calculations, we do not specify various sort of building types (warehouse, industrial building, office building, etc.) in N1121 but rely on that fact that in most cases the NACE used offers close enough guide to what sort of buildings N1121 include in various NACE classes. That is, for example, in NACE C the emphasize is on industrial buildings and in NACE L on office and business buildings.

In NACE C, D and E the service lives are based on inquiries to enterprises. The latest of these inquiries was made in 2002. These kinds of inquiries have not been conducted after 2002 partly because of low response rate. Also, the information value from the inquiries was questioned. It was not clear whether enterprises knew the “real service life” of their assets or if their answers reflect the “book-keeping service life”.

Otherwise, the service lives are based on expert assessments and lessons from other countries.

4.12.2.3 *Other structures (N1122)*

In capital stock calculations, the linear model is used for *N1122 other structures*. This convention is based on recommendations from Eurostat. The average service lives vary significantly depending on the industry where the capital stock is used.

In Finland, almost all road and railroad investments are public investments. Both are recorded in NACE 'O Public administration and social security'. More precisely, the road investments are recorded in NACE '846 Maintaining of roads and streets' and the railroad investments are recorded in NACE '845 Maintaining of railways'. In 2001, the average lifetime of railways was estimated to be 40 years. This is based on assessment made in Finnish Transport Infrastructure Agency.

The average service life of roads is 52 years. This is based on balance sheet data from the Finnish Road Administration. When determining the average lifetime, data on the lifetime of various road components and balance sheet data on the share of these components in the entire road capital received from the Finnish Road Administration are used (Table 72).

Table 72: The estimation of ASL for roads

Structure	ASL	Share, %
substructures	**50**	**71.20 %**
surfaces	**10**	**9.30 %**
bridges	**85**	**18.50 %**
other structures	**10**	**1.00 %**
Average service life	**52.40**	

In NACE O, there are some minor GFCF in N1122 also in '841_842 Public administration'. Here, the service life for N1122 is set to be 70 years. This choice is based on expert assessment.

In NACE 'D Electricity, gas, steam and air conditioning supply', the service life for GFCF in N1122 is 45 years. This choice relies on discussions with energy experts.

In NACE 'E Water supply and waste management', the service life for GFCF in N1122 is 35 to 40 years for sector S11 and 70 years for sector S1313. The S11 part of GFCF in N1122 in NACE D covers water supply and waste management sites. The chosen service life of 40 is based on expert assessments and lessons from other countries. The GFCF for S1313 is linked to the waste management sites for few municipalities and is rather small, only a few million EUR per year. The service life for this sort of GFCF is set to 70 years.

In NACE 'J Information and communication' almost all GFCF is recorded in NACE '61 Telecommunication', where the service life is 20 years. This quite limited service life reflects the nature of GFCF in N1122 in Telecommunications. The choice of service life of 20 years relies on discussion with experts and lessons from other countries. For other NACE

classes in NACE J, the service life is 35-40 years and is based on lessons from other countries.

In NACE ’H Transport and storage’ the choices of service lives vary between 20 and 70 years. In NACE ‘522 Support activities for transport’ the service life for GFCF in N1122 is 70 years. The choice of the service life is based on expert assessments and lessons from other countries. GFCF in N1122 in this NACE class is linked to various sort of investments in harbours, waterways and airport structures. For most of other NACE in H the service life for GFCF in N1122 varies between 35-40 years. These service lives are based on expert assessments and lessons from other countries.

In NACE ’R Arts, entertainment and recreation’, there are sizeable GFCF in N1122 in NACE ’93 Sport, amusement and recreation activities’ in sector S1313. Mostly these are linked to infrastructure GFCF in various sort of sport facilities. The service life for sector S1313 GFCF in N1122 in NACE 93 is set to 70 years. This choice is based on expert assessment. There are minor GFCF in N1122 in other NACE R also. For these the service life is 40 years and is based on lessons from other countries.

In NACE ’B Mining and quarrying’ most of the GFCF in N1122 is recorded in NACE ’07 Mining of metal ores’, where the service life is 33 years. There are also some minor GFCF in NACE ’08 Other mining and quarrying’. In NACE 08 the service life for other structures is 25 years. These service life choices are based on discussions with experts and lessons from other countries.

4.12.2.4 *Land improvements (N1123)*

In capital stock calculations, the linear model is used for *N1123 Land improvements*. This convention rests on recommendations from Eurostat. In Finland, GFCF in land improvements are recorded in relatively few NACE classes. These can be found mainly in NACE A (‘011_016 Agriculture’, ‘021 Silviculture and other forestry activities’). Smaller GFCF figures are recorded in NACE L (‘68202 Operation of Dwellings’), NACE O (‘841_842 ‘), NACE S (‘9491’) and NACE B (‘07 Mining on metal ores’).

The services lives for GFCF in N1123 vary between 25 and 70 years. The services lives are based expert advice and lessons learnt from other countries. In NACE agriculture (‘011_016’) service life is 50 years, in forestry (‘021’) 30 years, in mining (‘072’) 70 years. In Housing the service life for GFCF in N1123 is 30 years. In the higher end of service lives are NACE classes ‘841_842’ for sector S1311 and NACE ‘9491’ for sector S15. For these cases the service life is 70 years.

4.12.3 Geometric age-price profile: Specific Assumptions for Assets

4.12.3.1 *Transportation equipment (N1131)*

The average service lives of transportation equipment for the most industries, sectors and producer types is either 7, 8 or 10 years. The shortest service lives for this type of assets are assumed for the sectors S11 and S14, producer type T10, industries *181, 182 printing and reproduction of recorded media* and *58 publishing activities*. The average service life in these cases is only 6 years.

For the industry 192 sectors S11 and S14, the service life was 10 years until 2002 when it was lengthened to be 11 years.

For the agriculture, 011_016 T10, and sectors S11 and S14, the service lives have always been longer for transportation equipment, 15 years. This is also the case for S11 T10 industry *51 Air transport*, where this sort of equipment mainly consists of airplanes.

The longest service lives are assumed for the industry *50 Water transport*, the S11 T10 and S1313 T30. Here the service lives are 25 years and this is thought to reflect the fact that the water transport equipment are mainly ships.

The average service life for trains is assumed to be 20 years, hence the ASL for industry *491_491 passenger rail transport, interurban and freight rail transpor*t is 20 years.

In the PIM-model, the declining balance rate is 1.65 for transport equipment.

4.12.3.2 *Computer hardware (N11321)*

The average service life of computer hardware is 7 years. This is used for all NACE subgroups, apart from S14 households *702 Management consultancy activities*, which uses a 10-year service life. Other countries and international comparisons are used to choose these service lives, as well as expert assessment and Statistics Finland's annual statistics on financial leasing.

For estimating the depreciation of computer hardware stocks, a geometric model is used. The declining balance rate for N1131 is 2, except for NACE class 702, which has a balance rate of 1.65.

N1132 computer hardware is a sum of various products, and therefore price sources vary between institutional sector and industry. The price index for N1132 is constructed as a part of the supply and use table compilation process, where each product has its own price. Prices for N11321 are obtained from Statistics Finland's input-output statistics where the price data is based on the producer price index for services, the producer price index for manufactured products, the import price index and on trade volume price index.

4.12.3.3 *Telecommunications equipment (N11322)*

The average service life of telecommunications equipment is 5 to 15 years. For estimating the depreciation of telecommunications equipment stocks, a geometric model is used. For most telecommunications equipment, the service life is 15 years and the declining balance rate is 1.65. The only exception is sector S14 NACE class *702 Management consultancy activities*, which has a service life of five years and a declining balance rate of 2. International recommendations and expert assessment are used as arguments for the decisions on depreciation functions and service lives as well as Statistics Finland's annual statistics on financial leasing.

Prices for N11322 are obtained from Statistics Finland's input-output statistics where the price data is based on the producer price index for services, the producer price index for manufactured products, the import price index and on trade volume price index.

4.12.3.4 *Other machinery and equipment (N1139)*

The service lives of N1139 other machinery and equipment vary from 5 to 37 years. The rationale behind this variation is that other machinery and equipment differ significantly from industry to industry. Five years is used for some industries, such as *A Agriculture, forestry and fishing* and industries (017, 021, 022, 024) and one *H Transport and Storage* industry (*494 Freight transport by road and removal services*), while 10 to 20 year service lives are used mainly for *C Manufacturing* industries such as *16 Manufacture of wood and of products of wood and cork* and *12 Manufacture of tobacco products*. An average service life of over 20 years is used for industries including *72 Scientific research and development* and *49 Land transport and transport via pipelines*, with *D 35 electricity, gas steam and air conditioning supply* being the longest, 37 years. Source for average service lives is the inquiry for 2002 on fixed assets of industry.

For estimating the depreciation of other machinery and equipment stocks, a geometric model is used. The declining balance rate is 1.65. This is in line with international best practice, as noted by Hulten and Wykoff (1981)[22].

Prices for N1139 are obtained from Statistics Finland's input-output statistics where the price data is based on the producer price index for services, the producer price index for manufactured products, the import price index and on trade volume price index.

4.12.3.5 *Weapons systems (N114)*

The average service life of weapon systems is 25 years. The data are based on an estimate compiled by Statistics Finland from the information provided by the Finnish Defense Forces. Investment data is obtained from account "4560 Defence equipment" of the state's central bookkeeping data.

[22] HULTEN, Charles R. and Frank C. WYKOFF (1981), "The Measurement of Economic Depreciation Using Vintage Asset Prices", Journal of Econometrics 15.

Naturally, N114 is only estimated for the public sector S1311, industry 844. For the weapon systems, a geometrical model is used with a declining balance rate of 1.65.

Prices for N114 are obtained from Statistics Finland's input-output statistics where the price data is based on the producer price index for services, the producer price index for manufactured products, the import price index and on trade volume price index.

4.12.3.6 *Animal resources (N1151)*

In Finland, fixed tangible assets do not include animal resources yielding repeat products (AN1151) even though they are included in flows of gross fixed capital formation, so no stock or consumption of fixed capital is calculated for them (ESA 2010, Section 3.140).

4.12.3.7 *Research and development (N1171)*

The average service lives of research and development are assessed by industry and sector, based on international recommendations by The Eurostat *Manual on measuring R&D in ESA 2010* and average validity of patents. The average service life for research and development is 10 years for most industries and sectors. However, for some industries, the average service life was extended to 20 years and for some cut to 7 years. This information was collected from firms during the ESA 2010 project as the capitalization of R&D was first implemented. In the chemical industry (industries 201 to 206) and pharmaceutical preparations (industries 211 and 212), the average service life of R&D assets is 20 years. In the industry 62_63, the average service life is assumed to be shorter, only 7 years.

Index of wage and salary earnings is applied as the price of R&D investments, which is thought to consist mainly of wages and salaries of those who are working within R&D activities.

4.12.3.8 *Mineral exploration and evaluation (N1172)*

The average service life is assumed to be 10 years for mineral exploration and evaluation. Here the amount of GFCF is quite small and this sort of activity is only done in one industry, *072 Mining of non-ferrous metal ores*. For N1172 GFCF producer price indices for services are used as deflators.

4.12.3.9 *Computer software and databases (N1173)*

The average service life of N1173 *software and databases* is set to 5 years. The geometric age-price profile is used to model the net stock and consumption of fixed capital of this type of assets.

The sources for service life estimation are international recommendations and average validity of patents. Investment information from the data of the business structural statistics and central government bookkeeping have also been used.

Prices for N1173 are obtained from Statistics Finland's input-output statistics where the price data is based on the producer price index for services and on trade volume index.

The declining balance rate for N1173 is 2, except for S1313/ industry 78, which has a DBR of 1.65.

4.12.3.10 *Entertainment, literary or artistic originals (N1174)*

The data for calculating the GFCF of *N1174 Entertainment, literary or artistic originals* is mostly collected from TV company reports, organizations collecting copyright payments and from the Film Foundation.

Prices for N1174 are obtained from Statistics Finland's input-output statistics where the price data is based on the index of wage and salary earnings, the consumer price index, the producer price index for services, the producer price index for manufactured products, the import price index and on trade volume price index.

An average service life of ten years is used for entertainment, literary and art originals in the PIM model. N1174 is estimated with a geometric age-price profile. A geometric pattern of depreciation with a convex shape is particularly suitable for N1174 as the consumption is larger in the early years of an asset’s average service life. Relative to the other investments in NA, investments in N1174 are low.

The declining balance rate for N1174 is 2. The higher declining balance rate of entertainment, literary and artistic originals reflects the faster deprecation of the asset at the early years. Using a declining balance rate of 2 means that the assets deprecation in the first year is twice as large as the depreciation of an asset which uses a linear depreciation profile.

CHAPTER 5 THE EXPENDITURE APPROACH

5.0 GDP according to the expenditure approach

The table below shows the GDP calculated based on the expenditure approach. Private consumption expenditure forms half of the GDP and public consumption expenditure over 20 per cent. Foreign trade plays a central role in the Finnish economy, exports relative to GDP is 40 per cent.

Table 73: GDP according to the expenditure approach in 2018

Transaction	EUR million	%
1 Consumption expenditure	177,429	76.0
…Private consumption expenditure	123,937	53.1
…Public consumption expenditure	53,492	22.9
……Individual consumption expenditure	35,335	15.1
……Collective consumption expenditure	18,157	7.8
2 Gross fixed capital formation	56,183	24.1
…Private gross fixed capital formation	46,224	19.8
…Public gross fixed capital formation	9,959	4.3
3 Change in inventories, acquisition of valuable goods	2,785	1.2
4 Net exports of goods and services (5 to 6)	-2,929	-1.3
…5 Exports of goods and services	89,810	38.5
…6 Imports of goods and services	92,739	39.7
7 Statistical discrepancy	0	0.0
8 Gross domestic product at market prices	233,468	100.0

5.1 The reference framework

In the expenditure approach, the GDP is calculated as the sum of its expenditure components or demand items. These items are consumption expenditure, gross fixed capital formation, change in inventories, and exports of goods and services minus imports of goods and services.

In the Finnish National Accounts, the GDP is determined based on the output approach but the expenditure approach is also independently taken into account. The difference between the GDPs calculated with the output and expenditure approaches are recorded as a statistical difference in the preliminary National Accounts. In the final figures, the supply and demand are balanced by product and no statistical difference occurs.

5.2 The borderline cases

5.2.1 The borderline cases for HFCE

Dwelling services produced by the owners of dwellings (annual repairs, etc.) are recorded mainly under intermediate consumption of operation of dwellings (industry 68202). Renovation materials (paints, timber, and so on) are also mainly recorded in the production account of dwelling.

Household appliances renewed in connection with renovations are recorded in private consumption.

Renovations carried out by the renters of dwellings are recorded in full in private consumption.

5.2.2 The borderline cases for GFCF

The Finnish Defence Forces only record equipment acquired for defence activities in a special account for defence equipment. Other acquisitions that can be used also for civilian purposes (like buildings, personnel vehicles, road structures, and so on) are recoded in balance sheet accounts just like in all government offices.

The calculation and data sources of investments "mineral exploration and evaluation" are described in Section 5.10.3. Mineral exploration consists of costs of these activities, like wages and salaries paid, outsourced services, and so on.

The calculation of software and databases is based partly on assumptions. The calculation is explained in Section 5.10.3.10 and R&D in Section 5.10.3.8.

In terms of construction of buildings, the division into renovation and annual repairs is discussed in connection with building construction in Section 3.7.3. In terms of other types of assets, a similar division is based on responses to various inquiries.

For general government: If there are considerable terminal costs, they are examined case-specifically to ensure correct recording of the costs.

The division of leasing into direct and financial leasing is based on the financial leasing statistics. Net increases of financial leasing (increases-decreases) are recorded in gross fixed capital formation. Direct leasing is recoded in intermediate consumption.

5.3 Valuation

Use of products is valued at the purchaser's price. Thus, consumption expenditure includes value added tax and other taxes on products but not subsidies. Products acquired through hire purchase or similar credit arrangements are recorded based on the time of purchase.

Gross fixed capital formation includes value added tax to the extent that it is not deductible. Investments are recorded at the time when ownership is changed. There are three exceptions to this rule in the Finnish National Accounts. Firstly, financial leasing is recorded as an investment for the industry that uses the item even though no change in ownership happens. Secondly, investments made for own use are recoded when they are produced. Thirdly, construction investments are recorded as they are constructed, and not when the building is completed and ownership is usually changed.

Change in inventories is valued at the average price of the year, so the value of the inventories at the end and beginning of the year are first changed to the average price of the year and then the difference between them is calculated.

Exports and imports of goods are valued as FOB, that is, free on board at frontier. Exports of services are valued at basic prices and imports at purchaser's prices.

Details on valuation for each demand item are presented in sections 5.7-5.17.

5.4 Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts

The economic statistics on municipalities and joint municipal authorities, central government's bookkeeping and financial statement material, and the profit and loss accounts of various organisations are used in the calculation of public consumption expenditure. Their concepts are edited into concepts of the National Accounts.

Part of business structural statistics, economic statistics on municipalities and joint municipal authorities, and central government's bookkeeping and financial statement material are used in the calculation of gross fixed capital formation. From their concepts, the items that are accordant with the National Accounts are selected.

The calculation of R&D is explained in Section 5.10.3.8.

5.5 The roles of direct and indirect estimation methods and of benchmarks and extrapolations

Both direct and indirect estimation methods are used when calculating demand items.

Benchmark and extrapolation have been used in the calculation of household consumption expenditure. They have particularly been based on Household Budget Surveys. These calculation methods are described in chapter 5.7.

Benchmark and extrapolation based on special analysis have also been used in the calculation of gross fixed capital formation when calculating renovation investments included in building construction investments. These calculation methods are described in chapter 5.10.

		Basis for NA Figures												
					Extrapolation and Models									
		Surveys & Censuses	Administrative Records	Combined Data	Benchmark extrapolations	Commodity Flow Model	CFC(PIM)	Dwellings - stratification method	FISIM	Insurance	Other E&M	Total Extrap+Models	Other	Total (sources)
GDP EXPENDITURE APPROACH														
Total final consumption expenditure		4090	7846	29608	0	0	7926	0	0	0	48	7974	122029	171547
	I Total	0	0	0	0	0	0	0	0	0	0	0	115510	115510
COICOP (1-digi)	01 - Food and non-alcoholic beverages	0	0	0	0	0	0	0	0	0	0	0	13627	13627
	02 - Alcoholic beverages, tobacco and narcotics	0	0	0	0	0	0	0	0	0	0	0	5527	5527
	03 - Clothing and footwear	0	0	0	0	0	0	0	0	0	0	0	4839	4839
	04 - Housing, water, electricity, gas and other fuels	0	0	0	0	0	0	0	0	0	0	0	33738	33738
	05 - Furnishings, household equipment and routine house	0	0	0	0	0	0	0	0	0	0	0	5433	5433
	06 - Health	0	0	0	0	0	0	0	0	0	0	0	5748	5748
	07 - Transport	0	0	0	0	0	0	0	0	0	0	0	14060	14060
	08 - Communication	0	0	0	0	0	0	0	0	0	0	0	2760	2760
	09 - Recreation and culture	0	0	0	0	0	0	0	0	0	0	0	12043	12043
	10 - Education	0	0	0	0	0	0	0	0	0	0	0	472	472
	11 - Restaurants and hotels	0	0	0	0	0	0	0	0	0	0	0	7889	7889
	12 - Miscellaneous goods and services	0	0	0	0	0	0	0	0	0	0	0	8711	8711
	Transition to national concept	0	0	0	0	0	0	0	0	0	0	0	663	663
NPISH final consumption expenditure		0	0	0	0	0	0	0	0	0	0	0	5256	5256
General government final consumption expenditure		4090	7846	29608	0	0	7926	0	0	0	48	7974	1263	50781
Gross capital formation		2252	1186	25023	0	0	0	0	0	0	0	0	27159	55620
	G Total	2252	1186	22025	0	0	0	0	0	0	0	0	26460	51923
AN	111 Dwellings	0	0	-4	0	0	0	0	0	0	0	0	16972	16968
	112 Other buidlings and structures	34	968	10790	0	0	0	0	0	0	0	0	1580	13372
	113 Machinery and equipment	2201	124	9017	0	0	0	0	0	0	0	0	858	12200
	114 Weapons systems	0	0	0	0	0	0	0	0	0	0	0	0	0
	115 Cultivated biological resources	0	0	0	0	0	0	0	0	0	0	0	18	18
	117 Intellectual property products	17	94	2222	0	0	0	0	0	0	0	0	7032	9365
Changes in inventories		0	0	2998	0	0	0	0	0	0	0	0	633	3631
	materials and supplies	0	0	1643	0	0	0	0	0	0	0	0	0	1643
	w ork-in-progress	0	0	472	0	0	0	0	0	0	0	0	633	1105
	finished goods	0	0	498	0	0	0	0	0	0	0	0	0	498
	goods for resale	0	0	385	0	0	0	0	0	0	0	0	0	385
Acquisitions less disposals of valuables		0	0	0	0	0	0	0	0	0	0	0	66	66
Exports of goods and services		144	0	90875	0	0	0	0	76	0	0	76	0	91095
	goods	0	0	62097	0	0	0	0	0	0	0	0	0	62097
	services	144	0	28778	0	0	0	0	76	0	0	76	0	28998
Imports of goods and services		308	0	90878	0	0	0	0	371	0	0	371	0	91557
	goods	0	0	64409	0	0	0	0	0	0	0	0	0	64409
	services	308	0	26469	0	0	0	0	371	0	0	371	0	27148
Gross domestic product		6178	9032	54628	0	0	7926	0	-295	0	48	7679	149188	226705

Figure 16 Sources, extrapolations and models used in the expenditure approach according to the process tables

5.6 The main approaches taken with respect to exhaustiveness

The data sources of the expenditure approach are usually quite exhaustive. The calculation is based on comprehensive data for exports and imports of goods, public consumption expenditure, and partly for gross fixed capital formation, inventories and consumption expenditure of non-profit institutions serving households. The main data source for households' consumption expenditure, the Household Budget Survey, is basically extremely exhaustive excluding some famously problematic consumption items like alcohol. The supplementations made in the data of the Household Budget Survey are explained later on.

The non-observed economy is not really a considerable problem for the expenditure approach. The consumer goods and services produced by the underground economy are assumed to be primarily included in the Household Budget Survey data.

Ultimately, the reconciliation and balancing of the output and expenditure approaches are ensured in the supply and use table framework that offers a systematic approach to ensure coverage in the estimation of the expenditure components of the GDP as well.

		Adjustments														
		Conceptual				Exhaustiveness										
	Data validation	Allocation of FISIM	Allocation of insurance	Other conceptual	Total conceptual	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness	Balancing	Total (adjustments)
GDP EXPENDITURE APPROACH															
Total final consumption expenditure	2766	601	2731	-428	2904	0	0	0	0	0	0	211	211	1	5882
COICOP 1-digit: Total	0	440	2731	0	3171	0	0	0	0	0	0	0	0	0	3171
01 - Food and non-alcoholic beverages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02 - Alcoholic beverages, tobacco and narcotics	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03 - Clothing and footwear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04 - Housing, water, electricity, gas and other fuels	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05 - Furnishings, household equipment and routine house	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06 - Health	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07 - Transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08 - Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09 - Recreation and culture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 - Restaurants and hotels	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 - Miscellaneous goods and services	0	440	2731	0	3171	0	0	0	0	0	0	0	0	0	3171
Transition to national concept	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NPISH final consumption expenditure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
General government final consumption expenditure	2766	161	0	-428	-267	0	0	0	0	0	0	0	211	1	2711
Gross capital formation	475	0	3	199	202	0	0	0	0	0	0	0	2671	2671	0	3348
AN: Total	1073	0	0	456	456	0	0	0	0	0	0	0	2731	2731	0	4260
111 Dwellings	-51	0	0	-100	-100	0	0	0	0	0	0	0	19	19	0	-132
112 Other buildings and structures	576	0	0	69	69	0	0	0	0	0	0	0	2792	2792	0	3437
113 Machinery and equipment	103	0	0	14	14	0	0	0	0	0	0	0	-39	-39	0	78
114 Weapons systems	302	0	0	0	0	0	0	0	0	0	0	0	0	0	0	302
115 Cultivated biological resources	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	9
117 Intellectual property products	143	0	0	473	473	0	0	0	0	0	0	0	-50	-50	0	566
Changes in inventories	-604	0	3	-257	-254	0	0	0	0	0	0	0	-60	-60	0	-918
materials and supplies	-654	0	0	-257	-257	0	0	0	0	0	0	0	-3	-3	0	-914
work-in-progress	-31	0	0	214	214	0	0	0	0	0	0	0	-2	-2	0	181
finished goods	12	0	3	-103	-100	0	0	0	0	0	0	0	-34	-34	0	-122
goods for resale	69	0	0	-111	-111	0	0	0	0	0	0	0	-21	-21	0	-63
Acquisitions less disposals of valuables	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Exports of goods and services	0	0	135	-1624	-1489	0	0	0	0	0	0	0	204	204	0	-1285
goods	0	0	58	771	829	0	0	0	0	0	0	0	0	0	0	829
services	0	0	77	-2395	-2318	0	0	0	0	0	0	0	204	204	0	-2114
Imports of goods and services	0	0	160	-2148	-1988	0	0	0	0	0	0	0	3170	3170	0	1182
goods	0	0	-205	-2947	-3152	0	0	0	0	0	0	0	1406	1406	0	-1746
services	0	0	365	799	1164	0	0	0	0	0	0	0	1764	1764	0	2928
Gross domestic product	3241	601	2709	295	3605	0	0	0	0	0	0	0	-84	-84	1	6763

Figure 17: Adjustments in the expenditure approach according to the process tables

5.7 Household final consumption expenditure (HFCE)

5.7.1 Overview

When compiling the consumption expenditure estimates of households, the concepts and definitions in accordance with the 2010 European System of Accounts (ESA 2010) are used.

The product classification of household final consumption expenditure is based on the COICOP (Classification of Individual Consumption According to Purpose) classification referred to in ESA 2010 and the version named ECOICOP, which was revised in the EU on that basis and harmonised until the 5-digit level and approved in 2016. Based on ECOICOP, a classification of consumption expenditure has been revised to meet the needs of the Finnish National Accounts, which at the most detailed classification level (5-digit level) is divided into 229 goods and service headings. The ECOICOP has 305 categories at the most detailed level so not all categories have been adopted in the compilation of national accounts. The aim was to generate at least the categories that are needed for the compilation of the international price comparison (PPP), in addition to which, a few categories were included that the CPI particularly wanted, and the division of financial intermediation services indirectly measured (FISIM) into two categories (from deposits and loans) was used even though the ECOICOP does not include this division.

Because the calculation accuracy is the 5-digit level and categories that are formed of several 5-digit level categories in the ECOICOP (thus differing from the ECOICOP classification) are included, these categories have been coded so that the last character of the 5-digit level code is an X (in addition, in category 10 Education the character X is included already earlier in the code because no more detailed subdivision is used even on the 3-digit level). In addition, each 5-digit heading is defined as belonging to

one durability category and the durability category is in letter format separated with a dot at the end of the 5-digit level code (D = durable goods, SD = semi-durable goods, ND = non-durable goods and S = services).

Previously, when a slightly different 5-digit level version was used in the consumption classification of national accounts, the code was separated from the code used in the CPI so that the code for the national accounts started with the character C (followed by the numbers without full stops). Now we are using a uniform code format, so the National Accounts no longer use a character at the beginning of codes and the code is includes full stops.

The ECOICOP classification was adopted in connection with the time series revision released in autumn 2019, and at that time, the main source for calculating the most detailed level was the 2016 Household Budget Survey where the ECOICOP was used for the first time. In this methodological description, the final figures are from 2018, but the shift from the figures of the Household Budget Survey to the figures of the National Accounts is presented using the 2016 figures, first with the old and then with the new classification. The results of the 2016 Household Budget Survey were linked to comply with the old consumption classification of the National Accounts, and a time series revision was first made according to the old classification using change percentages rather than absolute figures, and after that, the figures of the National Accounts were divided according to the new 5-digit level classification using the data of the Household Budget Survey to time series revised 4-digit level figures. For example, no separate benchmarking and corrections were made for food in the data from other sources, as has been done earlier, because both the time series revision and the time series according to the new classification were calculated at the same time. As a rule, thus, in the time series revision for 2016, a new level updated according to the Household Budget Survey was first produced for the National Accounts on the 4-digit level, and the division of the 5-digit level was then made using the shares of the Household Budget Survey, and no separate product-specific benchmarking was made to the figures of the Household Budget Survey.

In addition to the Household Budget Survey used as the main source, the calculation of “intermediate years” or sources and calculation methods are presented for the years when the Household Budget Survey for the year in question is not available.

The classification used (according to ECOICOP) including the codes, the current priced data of each category in million euros for 2018, and the name of the classification file describing the main source and the method used (A or B) are described in the table below.

Table 74: Summary: Household Final Consumption Expenditure, 2018

NA-ECOICOP-code	Heading	Summary level	EUR million	Calculation file (main sources)	Method
01	FOOD AND NON-ALCOHOLIC BEVERAGES	x	13,627		
01.1	Food	x	12,383		
01.1.1	Bread and cereals	x	1,895		
01.1.1.1.ND	Rice		70	Food (volume, CPI)	B
01.1.1.2.ND	Flour and other cereals		65	Food (volume, CPI)	B
01.1.1.3.ND	Bread		691	Food (volume, CPI)	B
01.1.1.4.ND	Other bakery products		567	Food (volume, CPI)	B
01.1.1.5.ND	Pizza and quiche		259	Food (volume, CPI)	B
01.1.1.6.ND	Pasta products and couscous		135	Food (volume, CPI)	B
01.1.1.7.ND	Breakfast cereals		67	Food (volume, CPI)	B
01.1.1.8.ND	Other cereal products		41	Food (volume, CPI)	B
01.1.2	Meat	x	2,157		
01.1.2.1.ND	Beef and veal		290	Food (volume, CPI)	B
01.1.2.2.ND	Pork		271	Food (volume, CPI)	B
01.1.2.3.ND	Lamb and goat		25	Food (volume, CPI)	B
01.1.2.4.ND	Poultry		381	Food (volume, CPI)	B
01.1.2.5.ND	Other meats		101	Food (volume, CPI)	B
01.1.2.6.ND	Edible offal		5	Food (volume, CPI)	B
01.1.2.7.ND	Dried, salted or smoked meat		841	Food (volume, CPI)	B
01.1.2.8.ND	Other meat preparations		243	Food (volume, CPI)	B
01.1.3	Fish and seafood	x	640		
01.1.3.1.ND	Fresh or chilled fish		334	Food (volume, CPI)	B
01.1.3.2.ND	Frozen fish		15	Food (volume, CPI)	B
01.1.3.3.ND	Fresh or chilled seafood		3	Food (volume, CPI)	B
01.1.3.4.ND	Frozen seafood		3	Food (volume, CPI)	B
01.1.3.5.ND	Dried, smoked or salted fish and seafood		167	Food (volume, CPI)	B
01.1.3.6.ND	Other preserved of processed fish and seafood-based preparations		118	Food (volume, CPI)	B
01.1.4	Milk, cheese and eggs	x	2,227		
01.1.4.1.ND	Whole milk (Milk, whole, fresh – includes UHT)		45	Food (volume, CPI)	B
01.1.4.2.ND	Low fat milk (Milk, low fat, fresh – includes UHT)		410	Food (volume, CPI)	B
01.1.4.3.ND	Preserved milk		2	Food (volume, CPI)	B
01.1.4.4.ND	Yoghurt		307	Food (volume, CPI)	B
01.1.4.5.ND	Cheese and curd		859	Food (volume, CPI)	B
01.1.4.6.ND	Other milk products		462	Food (volume, CPI)	B
01.1.4.7.ND	Eggs		142	Food (volume, CPI)	B
01.1.5	Oils and fats	x	298		
01.1.5.1.ND	Butter		162	Food (volume, CPI)	B
01.1.5.2.ND	Margarine and other vegetable fats		89	Food (volume, CPI)	B
01.1.5.3.ND	Olive oil		20	Food (volume, CPI)	B
01.1.5.4.ND	Other edible oils		27	Food (volume, CPI)	B
01.1.5.5.ND	Other edible animal fats		-	Food (volume, CPI)	B
01.1.6	Fruit	x	1,093		
01.1.6.1.ND	Fresh or chilled fruit		812	Food (volume, CPI)	B
01.1.6.2.ND	Frozen fruit		32	Food (volume, CPI)	B
01.1.6.3.ND	Dried fruit and nuts		166	Food (volume, CPI)	B
01.1.6.4.ND	Preserved fruit and fruitbased products		83	Food (volume, CPI)	B
01.1.7	Vegetables	x	1,209		
01.1.7.1.ND	Fresh or chilled vegetables other than potatoes and other tubers		754	Food (volume, CPI)	B
01.1.7.2.ND	Frozen vegetables other than potatoes and other tubers		53	Food (volume, CPI)	B

01.1.7.3.ND	Dried vegetables, other preserved or processed vegetables		142	Food (volume, CPI)	B
01.1.7.4.ND	Potatoes		162	Food (volume, CPI)	B
01.1.7.5.ND	Crisps		98	Food (volume, CPI)	B
01.1.7.6.ND	Other tubers and products of tuber vegetables		-	Food (volume, CPI)	B
01.1.8	Sugar, jam, honey, chocolate and confectionery	x	1,058		
01.1.8.1.ND	Sugar		37	Food (volume, CPI)	B
01.1.8.2.ND	Jams, marmalades and honey		81	Food (volume, CPI)	B
01.1.8.3.ND	Chocolate		326	Food (volume, CPI)	B
01.1.8.4.ND	Confectionery products		391	Food (volume, CPI)	B
01.1.8.5.ND	Edible ices and ice cream		215	Food (volume, CPI)	B
01.1.8.6.ND	Artificial sugar substitutes		8	Food (volume, CPI)	
01.1.9	Food products n.e.c.	x	1,806		
01.1.9.1.ND	Sauces, condiments		173	Food (volume, CPI)	B
01.1.9.2.ND	Salt, spices and culinary herbs		100	Food (volume, CPI)	B
01.1.9.3.ND	Baby food		66	Food (volume, CPI)	B
01.1.9.4.ND	Ready-made meals		533	Food (volume, CPI)	B
01.1.9.9.ND	Other food products n.e.c.		934	Food (volume, CPI)	B
01.2	Non-alcoholic beverages	x	1,244		
01.2.1	Coffee, tea and cocoa	x	420		
01.2.1.1.ND	Coffee		348	Food (volume, CPI)	B
01.2.1.2.ND	Tea		46	Food (volume, CPI)	B
01.2.1.3.ND	Cocoa and powdered chocolate		26	Food (volume, CPI)	B
01.2.2	Mineral waters, soft drinks, fruit and vegetable juices	x	824		
01.2.2.1.ND	Mineral or spring waters		143	Food (volume, CPI)	B
01.2.2.2.ND	Soft drinks		362	Food (volume, CPI)	B
01.2.2.3.ND	Fruit and vegetable juices		319	Food (volume, CPI)	B
02	ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	x	5,527		
02.1	Alcoholic beverages	x	3,487		
02.1.1	Spirits	x	771		
02.1.1.X.ND	Spirits		771	Calculation framework (National Institute for Health and Welfare)	B
02.1.2	Wine	x	1,257		
02.1.2.X.ND	Wine		1,257	Calculation framework (National Institute for Health and Welfare)	B
02.1.3	Beer	x	1,459		B
02.1.3.X.ND	Beer		1,459	Calculation framework (National Institute for Health and Welfare)	B
02.2	Tobacco	x	1,757		
02.2.0	Tobacco	x	1,757		
02.2.0.X.ND	Tobacco		1,757	Calculation framework (data on tobacco tax, CPI)	B
02.3	Narcotics	x	283		
02.3.0	Narcotics	x	283		
02.3.0.0.ND	Narcotics		283	Separate calculations (different sources)	
03	CLOTHING AND FOOTWEAR	x	4,839		
03.1	Clothing	x	4,127		
03.1.1	Clothing materials	x	66		
03.1.1.0.SD	Clothing materials		66	Trade sales (turnover data)	A
03.1.2	Garments	x	3,700		
03.1.2.1.SD	Garments for men		1,143	Trade sales (turnover data)	A
03.1.2.2.SD	Garments for women		2,077	Trade sales (turnover data)	A
03.1.2.3.SD	Garments for infants (0 to 2 years) and children (3 to 13 years)		480	Trade sales (turnover data)	A
03.1.3	Other articles of clothing and clothing accessories	x	304		
03.1.3.X.SD	Other articles of clothing and clothing accessories		304	Trade sales (turnover data)	A
3.1.4	Cleaning, repair and hire of clothing	x	57		
03.1.4.X.S	Cleaning, repair and hire of clothing		57	Production side (NA production accounts)	B
03.2	Footwear	x	712		

03.2.1	Shoes and other footwear	x	694		
03.2.1.1.SD	Footwear for men		241	Trade sales (turnover data)	A
03.2.1.2.SD	Footwear for women		346	Trade sales (turnover data)	A
03.2.1.3.SD	Footwear for infants and children		107	Trade sales (turnover data)	A
03.2.2	Repair and hire of footwear	x	18		
03.2.2.0.S	Repair and hire of footwear		18	Production side (NA production accounts)	B
04	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	x	33,738		
04.1	Actual rents for housing	x	7,435		
04.1.X	Actual rents for housing	x	7,435		
04.1.X.X.S	Actual rents for housing		7,435	Housing (NA production accounts, other sources)	B
04.2	Imputed rents for housing	x	20,332		
04.2.X	Imputed rents for housing	x	20,332		
04.2.X.X.S	Imputed rents for housing		20,332	Housing (NA production accounts, other sources)	B
04.3	Maintenance and repair of dwelling	x	183		
04.3.1	Materials for the maintenance and repair of dwelling	x	183		
04.3.1.0.ND	Materials for the maintenance and repair of dwelling		183	Housing (NA production accounts, other sources)	B
04.3.2	Services for the maintenance and repair of dwelling	x	-		
04.3.2.X.S	Services for the maintenance and repair of dwelling		-	Housing (NA production accounts, other sources)	B
04.4	Other services relating to housing	x	640		
04.4.1	Water supply		426		
04.4.1.0.ND	Water supply		426	Housing (NA production accounts, other sources)	B
04.4.2	Waste collection	x	191		
04.4.2.0.S	Waste collection		191	Housing (NA production accounts, other sources)	B
04.4.3	Sewage services	x	-		
04.4.3.0.S	Sewage services		-	Housing (NA production accounts, other sources)	B
04.4.4	Other services relating to housing n.e.c.	x	23		
04.4.4.X.S	Other services relating to housing n.e.c.		23	Housing (NA production accounts, other sources)	B
04.5	Electricity, gas and other fuels	x	5,148		
04.5.1	Electricity	x	2,738		
04.5.1.0.ND	Electricity		2,738	Housing (NA production accounts, other sources)	B
04.5.2	Gas	x	-		
04.5.2.X.ND	Gas		-	Value 0	
04.5.3	Liquid fuels	x	385		
04.5.3.0.ND	Liquid fuels		385	Housing (NA production accounts, other sources)	B
04.5.4	Solid fuels	x	426		
04.5.4.X.ND	Solid fuels		426	Housing (NA production accounts, other sources)	B
04.5.5	Hot water, steam and ice	x	1,599		
04.5.5.0.ND	Hot water, steam and ice		1,599	Housing (NA production accounts, other sources)	B
05	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	x	5,433		
05.1	Furniture and furnishings, carpets and other floor coverings	x	1,795		
05.1.1	Furniture and furnishings	x	1,508		
05.1.1.1.D	Household furniture		1,033	Trade sales (turnover data)	A
05.1.1.2.D	Garden furniture		101	Trade sales (turnover data)	A
05.1.1.3.D	Lighting equipment		107	Trade sales (turnover data)	A
05.1.1.9.D	Other furniture and furnishings		267	Trade sales (turnover data)	A
05.1.2	Carpets and other floor coverings	x	154		
05.1.2.X.D	Carpets and other floor coverings		154	Trade sales (turnover data)	A
05.1.3	Repair of furniture, furnishings and floor coverings	x	133		
05.1.3.0.S	Repair of furniture, furnishings and floor coverings		133	Production side (NA production accounts)	A
05.2	Household textiles	x	494		

05.2.0	Household textiles	x	494		
05.2.0.1.SD	Furnishings fabrics and curtains		96	Trade sales (turnover data)	A
05.2.0.2.SD	Bed linen		251	Trade sales (turnover data)	A
05.2.0.3.SD	Table linen and bathroom linen		89	Trade sales (turnover data)	A
05.2.0.4.S	Repair of household textiles		12	Production side (NA production accounts)	B
05.2.0.9.SD	Other household textiles		46	Trade sales (turnover data)	A
05.3	Household appliances	x	938		
05.3.1	Major household appliances whether electric or not	x	788		
05.3.1.1.D	Refrigerators, freezers and fridge-freezers		191	Calculation framework (KOTEK)	A
05.3.1.2.D	Clothes washing machines, clothes drying machines, and dish washing machines		268	Calculation framework (KOTEK)	A
05.3.1.3.D	Cookers		137	Calculation framework (KOTEK)	A
05.3.1.4.D	Heaters, air conditioners		81	Calculation framework (KOTEK)	A
05.3.1.5.D	Cleaning equipment		90	Calculation framework (KOTEK)	A
05.3.1.9.D	Other major household appliances		21	Calculation framework (KOTEK)	A
05.3.2	Small electric household appliances	x	101		
05.3.2.X.SD	Small electric household appliances		101	Calculation framework (KOTEK)	A
05.3.3	Repair of household appliances	x	49		
05.3.3.0.S	Repair of household appliances		49	Production side (NA production accounts)	A
05.4	Glassware, tableware and household utensils	x	406		
05.4.0	Glassware, tableware and household utensils	x	406		
05.4.0.1.SD	Glassware, crystal-ware, ceramic ware and chinaware		119	Trade sales (turnover data)	A
05.4.0.2.SD	Cutlery, flatware and silverware		28	Trade sales (turnover data)	A
05.4.0.3.SD	Non-electric kitchen utensils and articles		244	Trade sales (turnover data)	A
05.4.0.4.S	Repair of glassware, tableware and household utensils		15	Production side (NA production accounts)	A
05.5	Tools and equipment for house and garden	x	625		
05.5.1	Major tools and equipment	x	259		
05.5.1.X.D	Major tools and equipment		259	Trade sales (turnover data)	A
05.5.2	Small tools and miscellaneous accessories	x	366		
05.5.2.X.SD	Small tools and miscellaneous accessories		366	Trade sales (turnover data)	A
05.6	Goods and services for routine household maintenance	x	1,175		
05.6.1	Non-durable household goods	x	785		
05.6.1.1.ND	Cleaning and maintenance products		298	Trade sales (turnover data)	A
05.6.1.2.ND	Other non-durable small household articles		487	Trade sales (turnover data)	A
05.6.2	Domestic services and household services	x	390		
05.6.2.1.S	Domestic services by paid staff		89	Calculation freamework (municipal wages)	B
05.6.2.2.S	Cleaning services		84	Production side (NA production accounts)	B
05.6.2.3.S	Hire of furniture and furnishings		-	Assumed to be 0	B
05.6.2.9.S	Other domestic services and household services		217	Production side (NA production accounts)	B
06	HEALTH	x	5,748		
06.1	Medical products, appliances and equipment	x	1,897		
06.1.1	Pharmaceutical products	x	1,278		
06.1.1.0.ND	Pharmaceutical products		1,278	Calculation framework (Finnish Medicines Agency Fimea, the Social Insurance Institution)	B
06.1.2	Other medical products	x	74		
06.1.2.X.ND	Other medical products		74	Trade sales (turnover data)	A
06.1.3	Therapeutic appliances and equipment	x	545		
06.1.3.X.D	Therapeutic appliances and equipment		545	Trade sales (turnover data)	A
06.2	Out-patient services	x	2,782		
06.2.1	Medical services	x	892		
06.2.1.X.S	Medical services		892	Calculation framework (NA poruction accounts)	B
06.2.2	Dental services	x	1,082		
06.2.2.0.S	Dental services		1,082	Calculation framework (NA production accounts)	B
06.2.3	Paramedical services	x	808		
06.2.3.X.S	Paramedical services		808	Calculation framework (NA production accounts)	B
06.3	Hospital services	x	1,069		

06.3.0	Hospital services	x	1,069		
06.3.0.0.S	Hospital services		1,069	Calculation framework (NA production accounts)	B
07	TRANSPORT	x	14,060		
07.1	Purchase of vehicles	x	3,888		
07.1.1	Motor cars	x	3,508		
07.1.1.1.D	New motor cars		2,137	Calculation framework (registrations & prices)	B
07.1.1.2.D	Second-hand motor cars		1,371	Calculation framework (sales volumes & CPI)	B
07.1.2	Motorcycles	x	179		
07.1.2.0.D	Motorcycles		179	Trade sales (turnover data)	A
07.1.3	Bicycles	x	201		
07.1.3.0.D	Bicycles		201	Trade sales (turnover data)	A
07.1.4	Animal drawn vehicles	x	-		
07.1.4.0.D	Animal drawn vehicles		-	Value 0	
07.2	Operation of personal transport equipment	x	7,647		
07.2.1	Spare parts and accessories for personal transport equipment	x	906		
07.2.1.1.SD	Tyres		286	Trade sales (turnover data)	A
07.2.1.2.SD	Spare parts for personal transport equipment		595	Trade sales (turnover data)	A
07.2.1.3.SD	Accessories for personal transport equipment		25	Trade sales (turnover data)	A
07.2.2	Fuels and lubricants for personal transport equipment	x	3,604		
07.2.2.1.ND	Diesel		1,038	Calculation framework (sales volumes & CPI)	B
07.2.2.2.ND	Petrol		2,445	Calculation framework (sales volumes & CPI)	B
07.2.2.3.ND	Other fuels for personal transport equipment		47	Calculation framework (sales volumes & CPI)	B
07.2.2.4.ND	Lubricants		74	Trade sales (turnover data)	A
07.2.3	Maintenance and repair of personal transport equipment	x	2,201		
07.2.3.0.S	Maintenance and repair of personal transport equipment		2,201	Production side (NA production accounts)	B
07.2.4	Other services in respect of personal transport equipment	x	936		
07.2.4.1.S	Hire of garages, parking spaces and personal transport equipment		372	Production side (NA production accounts)	B
07.2.4.2.S	Toll facilities and parking meters		88	Production side (NA production accounts)	B
07.2.4.3.S	Driving lessons, tests, licences and road worthiness tests		476	Production side (NA production accounts)	B
07.3	Transport services	x	2,525		
07.3.1	Passenger transport by railway	x	528		
07.3.1.1.S	Passenger transport by train		460	Calculation framework (volume (VR, HSL), CPI)	B
07.3.1.2.S	Passenger transport by underground and tram		68	Calculation framework (volume (HSL), CPI)	B
07.3.2	Passenger transport by road	x	896		
07.3.2.1.S	Passenger transport by bus and coach		648	Calculation framework (NA production accounts, CPI)	B
07.3.2.2.S	Passenger transport by taxi and hired car with driver		248	Calculation framework (NA production accounts, CPI)	B
07.3.3	Passenger transport by air	x	560		
07.3.3.X.S	Passenger transport by air		560	Calculation framework (passenger volumes & CPI)	B
07.3.4	Passenger transport by sea and inland waterway	x	286		
07.3.4.X.S	Passenger transport by sea and inland waterway		286	Calculation framework (passenger volumes & CPI)	B
07.3.5	Combined passenger transport		139		
07.3.5.0.S	Combined passenger transport		139	Calculation framework (volume (HSL), CPI)	B
07.3.6	Other purchased transport services	x	116		
07.3.6.X.S	Other purchased transport services		116	Production side (NA production accounts)	B
08	COMMUNICATION	x	2,760		
08.1	Postal services	x	114		
08.1.0	Postal services	x	114		
08.1.0.1.S	Letter handling services		79	Calculation framework (volumes & CPI)	B
08.1.0.9.S	Other postal services		35	Calculation framework (volumes & CPI)	B

08.2	Telephone and telefax equipment	x	463		
08.2.0	Telephone and telefax equipment	x	463		
08.2.0.X.D	Telephone and telefax equipment		463	Calculation framework (KOTEK)	A
08.3	Telephone and telefax services	x	2,183		
08.3.0	Telephone and telefax services	x	2,183		
08.3.0.1.S	Wired telephone services		30	Calculation framework (volumes & CPI)	B
08.3.0.2.S	Wireless telephone services		1,488	Calculation framework (volumes & CPI)	B
08.3.0.3.S	Internet access provision services		416	Calculation framework (volumes & CPI)	B
08.3.0.4.S	Bundled telecommunication services		249	Calculation framework (volumes & CPI)	B
08.3.0.5.S	Other information transmission services		-	Calculation framework (volumes & CPI)	B
09	RECREATION AND CULTURE	x	12,043		
09.1	Audio-visual, photographic and information processing equipment	x	1,343		
09.1.1	Equipment for the reception, recording and reproduction of sound and picture	x	469		
09.1.1.1.D	Equipment for the reception, recording and reproduction of sound		77	Calculation framework (KOTEK)	A
09.1.1.2.D	Equipment for the reception, recording and reproduction of sound and vision		360	Calculation framework (KOTEK)	A
09.1.1.3.D	Portable sound and vision devices		-	Calculation framework (KOTEK)	A
09.1.1.9.D	Other equipment for the reception, recording and reproduction of sound and vision		32	Calculation framework (KOTEK)	A
09.1.2	Photographic and cinematographic equipment and optical instruments	x	55		
09.1.2.X.D	Photographic and cinematographic equipment and optical instruments		55	Calculation framework (KOTEK)	A
09.1.3	Information processing equipment	x	620		
09.1.3.1.D	Personal computers		394	Calculation framework (KOTEK)	A
09.1.3.2.D	Accessories for information processing equipment		184	Calculation framework (KOTEK)	A
09.1.3.3.D	Software		42	Trade sales (turnover data)	A
09.1.3.4.D	Calculators and other information processing equipment		-	Calculation framework (KOTEK)	A
09.1.4	Recording media	x	133		
09.1.4.1.SD	Pre-recorded recording media		105	Trade sales (turnover data)	A
09.1.4.2.SD	Unrecorded recording media		2	Trade sales (turnover data)	A
09.1.4.9.SD	Other recording media		26	Trade sales (turnover data)	A
09.1.5	Repair of audio-visual, photographic and information processing equipment	x	66		
09.1.5.0.S	Repair of audio-visual, photographic and information processing equipment		66	Production side (NA production accounts)	A
09.2	Other major consumer durables for recreation and culture	x	801		
09.2.1	Major durables for outdoor recreation	x	529		
09.2.1.X.D	Major durables for outdoor recreation		529	Trade sales (turnover data)	A
09.2.2	Musical instruments and major durables for indoor recreation	x	171		
09.2.2.X.D	Musical instruments and major durables for indoor recreation		171	Trade sales (turnover data)	A
09.2.3	Maintenance and repair of other major durables for recreation and culture	x	101		
09.2.3.0.S	Maintenance and repair of other major durables for recreation and culture		101	Trade sales (turnover data)	A
09.3	Other recreational items and equipment, gardens and pets	x	2,647		
09.3.1	Games, toys and hobbies	x	461		
09.3.1.1.SD	Games and hobbies		130	Trade sales (turnover data)	A
09.3.1.2.SD	Toys and celebration articles		331	Trade sales (turnover data)	A
09.3.2	Equipment for sport, camping and open-air recreation	x	732		

09.3.2.X.SD	Equipment for sport, camping and open-air recreation		732	Trade sales (turnover data)	A
09.3.3	Garden, plants and flowers	x	545		
09.3.3.1.SD	Garden products		113	Trade sales (turnover data)	A
09.3.3.2.ND	Plants and flowers		432	Trade sales (turnover data)	A
09.3.4	Pets and related products	x	571		
09.3.4.1.SD	Purchase of pets		76	Calculation framework (volumes & prices)	B
09.3.4.2.ND	Products for pets		495	Trade sales (turnover data)	A
09.3.5	Veterinary and other services for pets	x	338		
09.3.5.0.S	Veterinary and other services for pets		338	Production side (NA production accounts)	B
09.4	Recreational and cultural services	x	4,534		
09.4.1	Recreational and sporting services	x	1,358		
09.4.1.X.S	Recreational and sporting services		1,358	Production side (NA production accounts)	B
09.4.2	Cultural services	x	1,133		
09.4.2.1.S	Cinemas, theatres, concerts		655	Calculation framework (production side, cultural statistics, CPI)	B
09.4.2.2.S	Museums, libraries, zoological gardens		84	Calculation framework (production side, cultural statistics, CPI)	B
09.4.2.3.S	Television and radio licence fees, subscriptions		322	Calculation framework (volumes & CPI)	B
09.4.2.4.S	Hire of equipment and accessories for culture		-	Trade sales (turnover data)	A
09.4.2.5.S	Photographic services		72	Trade sales (turnover data)	A
09.4.2.9.S	Other cultural services		-		
09.4.3	Games of chance	x	2,043		
09.4.3.0.S	Games of chance		2,043	Calculation framework (Veikkaus etc.)	B
09.5	Newspapers, books and stationery	x	1,357		
09.5.1	Books	x	346		
09.5.1.X.SD	Books		346	Trade sales (turnover data)	A
09.5.2	Newspapers and periodicals	x	855		
09.5.2.1.ND	Newspapers		484	Calculation framework (volumes from producer statistics, CPI)	B
09.5.2.2.ND	Magazines and periodicals		371	Calculation framework (volumes from producer statistics, CPI)	B
09.5.3	Miscellaneous printed matter	x	106		
09.5.3.0.ND	Miscellaneous printed matter		106	Trade sales (turnover data)	A
09.5.4	Stationery and drawing materials	x	50		
09.5.4.X.ND	Stationery and drawing materials		50	Trade sales (turnover data)	A
09.6	Package holidays	x	1,361		
09.6.0	Package holidays	x	1,361		
09.6.0.X.S	Package holidays		1,361	Calculation framework (NA production accounts, turnover data))	B
10	EDUCATION	x	472		
10.X	Education	x	472		
10.X.X	Education	x	472		
10.X.X.X.S	Education		472	Production side (NA production accounts)	B
11	RESTAURANTS AND HOTELS	x	7,889		
11.1	Catering services	x	7,243		
11.1.1	Restaurants, cafes and the like	x	6,099		
11.1.1.1.S	Restaurants, cafes and dancing establishments		4,767	Production side (NA production accounts etc.)	B
11.1.1.2.S	Fast food and take away food services		1,332	Production side (NA production accounts etc.)	B
11.1.2	Canteens	x	1,144		
11.1.2.0.S	Canteens		1,144	Production side (NA production accounts etc.)t	B
11.2	Accommodation services	x	646		
11.2.0	Accommodation services	x	646		
11.2.0.1.S	Hotels, motels, inns and similar accommodation services		538	Production side (NA production accounts etc.)t	B
11.2.0.2.S	Holiday centres, camping sites, youth hostels and similar accommodation services		108	Prduction side (NA production accounts etc.)	B
11.2.0.3.S	Accommodation services of other establishments		-	Value 0	
12	MISCELLANEOUS GOODS AND SERVICES	x	11,882		
12.1	Personal care	x	2,531		

12.1.1	Hairdressing salons and personal grooming establishments	x	1,210		
12.1.1.1.S	Hairdressing for men and children		219	Production side (NA production accounts)	B
12.1.1.2.S	Hairdressing for women		750	Production side (NA production accounts)	B
12.1.1.3.S	Personal grooming treatments		241	Production side (NA production accounts)	B
12.1.2	Electric appliances for personal care	x	80		
12.1.2.X.SD	Electric appliances for personal care		80	Calculation framework (KOTEK)	A
12.1.3	Other appliances, articles and products for personal care	x	1,241		
12.1.3.1.SD	Non-electric appliances		124	Trade sales (turnover data)	A
12.1.3.2.ND	Articles for personal hygiene and wellness, esoteric products and beauty products		1,117	Trade sales (turnover data)	A
12.2	Prostitution	x	155		
12.2.0	Prostitution	x	155		
12.2.0.0.S	Prostitution		155	Separate calculations (different sources)	
12.3	Personal effects n.e.c.	x	585		
12.3.1	Jewellery, clocks and watches	x	318		
12.3.1.1.D	Jewellery		223	Trade sales (turnover data)	A
12.3.1.2.D	Clocks and watches		78	Trade sales (turnover data)	A
12.3.1.3.S	Repair of jewellery, clocks and watches		17	Production side (NA production accounts)	A
12.3.2	Other personal effects	x	267		
12.3.2.1.SD	Travel goods		125	Trade sales (turnover data)	A
12.3.2.2.SD	Articles for babies		52	Trade sales (turnover data)	A
12.3.2.3.S	Repair of other personal effects		-	Trade sales (turnover data)	A
12.3.2.9.SD	Other personal effects n.e.c.		90	Trade sales (turnover data)	A
12.4	Social protection	x	2,187		
12.4.0	Social protection	x	2,187		
12.4.0.X.S	Social protection		2,187	Production side (NA production accounts)	B
12.5	Insurance	x	2,731		
12.5.1	Life insurance	x	1,106		
12.5.1.0.S	Life insurance		1,106	Insurance calculations	
12.5.2	Insurance connected with dwelling	x	425		
12.5.2.0.S	Insurance connected with dwelling		425	Insurance calculations	
12.5.3	Insurance connected with health	x	241		
12.5.3.X.S	Insurance connected with health		241	Insurance calculations	
12.5.4	Insurance connected with transport	x	893		
12.5.4.1.S	Motor vehicle insurance		805	Insurance calculations	
12.5.4.2.S	Travel insurance		88	Insurance calculations	
12.5.5	Other insurance	x	66		
12.5.5.0.S	Other insurance		66	Insurance calculations	
12.6	Financial services n.e.c.	x	2,998		
12.6.1	FISIM	x	440		
12.6.1.1.S	FISIM on loans		358	Centralised calculation (see chapter 3.8.1.7)	
12.6.1.2.S	FISIM on deposits		82	Centralised calculation (see chapter 3.8.1.7)	
12.6.2	Other financial services n.e.c.	x	2,558		
12.6.2.X.S	Other financial services n.e.c.		2,558	Calculation framework (production side & asset transfer tax data)	B
12.7	Other services n.e.c.	x	695		
12.7.0	Other services n.e.c.	x	695		
12.7.0.X.S	Other services n.e.c.		695	Production side (NA production accounts)	B
D	DURABLE GOODS	x	9,750		
ND	NON-DURABLE GOODS	x	33,707		
S	SERVICES	x	65,219		
SD	SEMI-DURABLE GOODS	x	9,342		
P31 DC S14	CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND	x	118,018		
TUR S14	EXPENDITURE ON TOURISM	x	663		
P33 S14	Consumption expenditure of resident households in the rest of the world		3,705	Tourism: sum of the quarters	

P34 S14	Consumption expenditure of non-resident households in Finland		3,042	Tourism: sum of the quarters	
P31 NC S14	CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS	x	118,681		

5.7.2 Main data sources and their conversion to national accounts results

5.7.2.1 *General principles*

In the calculation of final consumption expenditure, the data available from various sources and viewpoints (and on demand and supply) are converted into estimates of final consumption expenditure that correspond with the concepts and definitions of the National Accounts.

The selection of the final National Accounts estimate of final consumption expenditure is based on careful comparisons of the final consumption expenditure estimates derived from the data in these different sources, as well as on the evaluation of their reliability.

In an ideal situation, estimates of final consumption expenditure deduced from data in different sources should be compared every year. This is, however, not possible because some, even significant, data are produced at quite irregular intervals. For example, the Household Budget Survey is compiled at separately agreed intervals (…, 1998, 2001, 2006, 2012, 2016, …).

To reduce the problem caused by the intermediate years of source statistics, data are revised (in the year when each data exist) iteratively so that the consumption expenditure estimates deriving from the final data for each year are as congruent as possible with the approved estimate of the National Accounts. Thus, the figures possibly calculated from different data in the following year will be based on a verified basic level of consumption.

This way, possible lack of data sources in a statistical reference year can be partially compensated for by consolidating the data accumulated from different sources in the previous year with entry items of alternative calculation processes.

The data source is selected by consumption heading. Even though both data deriving from supply and demand are monitored at the same time, the starting point is statistical data that describe the reviewed phenomena, household final consumption expenditure, as closely as possible.

The most usable source data describing households' consumption expenditure are Statistics Finland's Household Budget Survey. The heading-specific consumption expenditure produced by it can be converted into consumption expenditure estimates that correspond with the concepts and definitions of the National Accounts. The use of the Household Budget Survey as a source is explained in more detail in Section 5.7.2.2.

However, the Household Budget Survey requires other data in order for it to be utilised when compiling estimates for the National Accounts. This is naturally evident in the intermediate years of the survey but determining

the size of revision and conversion items requires support from other data at other times, too. The search for supporting and supplementary data sources for the Household Budget Survey must usually progress towards supply-oriented data files. Nevertheless, the data in the files should ideally indicate, as closely as possible, the development in the final consumption expenditure of households. In this review, in respect of retail trade and certain service industries, statistics by establishment on the turnover of economic activities in Statistics Finland's Register of Enterprises and Establishments have proven to be such useful data sources. In addition, the aim is to find and adopt new source data, as an example so-called scanner data, i.e. receipt data from shops. Scanned data contain more detailed data than mere turnover data but the coverage varies, though hopefully improving all the time.

The usability of turnover data from the Register of Enterprises and Establishments is based on the fact that retail trade functions are an important interconnection point in the transition of products from the distribution stage to final consumption. The statistics are compiled annually, and the data are available on the detailed establishment level. The use of the statistics and the conversion of data into consumption expenditure estimates of the National Accounts are explained below.

In addition, many figures are based on the calculations of the National Accounts' producer industries. Defining of the share of consumption is described through examples.

Many data sources that are by nature mainly supplementary are also used in the calculation of consumption expenditure, of which the most important ones are listed in Section 5.7.2.5. The reference number in the list works as a reference to the source references in the tables of the methodological description.

The parallel use of the Household Budget Survey and data from the Register of Enterprises and Establishments is described as the basic method of calculation (method A). Because the method often requires other supportive methods and sources, as well as completely replacing methods, these methods (methods B1 to Bn) are described separately under the product heading in question in connection with the methodological examination of the product classification.

The share of consumption expenditure in the overall consumption of each product is defined finally as a result of the balancing of the National Accounts' supply and use tables. If there is a need to change the consumption calculations, the editing should be included in the actual calculations – for example, by modifying the percentage used in the calculation – so that the estimate for the following year would be as good as possible and no separate corrections should be added continuously.

The used sources are constantly assessed during calculations and new sources are sought when possible, which sources are added to the calculation as far as possible, usually mainly in connection with time series revisions. On a larger scale, the assessment of current sources and seeking of new sources will lie ahead in coming years, because a new COICOP

2018 classification will, according to current expectations, be adopted in 2024. So far, there are no plans concerning the number of categories that will be taken into use in connection with this classification renewal, but it is likely that we will try to produce at least the headings needed in the compilation of the international price comparison. In terms of new sources, one must always consider both the history and continuity, that is, whether the sources can be used to compile time series or if they can be used only for benchmarking. The available sources are mainly “inherited”, in other words, most of them have already been used before, and consideration on their quality has also been made earlier, but new sources are naturally constantly sought and at the same time the usability of the current sources is considered, but there is no actual process for determining what is the “best” of the sources.

So far, the MOSS (Mini One Stop Shop) issue has not been separately taken into account in the consumption calculations. The matter has been discussed in connection with VAT calculations and it is estimated that there will be some changes retrospectively to the VAT calculations for 2015 to 2018 and thereafter, but for the time being it is unclear how these changes will affect the consumption calculations or whether they affect at all, or how the whole matter should be taken into account in the consumption calculations. As a rule, the price paid by consumers includes value added tax, so the MOSS treatment does not automatically affect the calculation of households' consumption expenditure.

5.7.2.2 *Household Budget Survey*

The Household Budget Survey carried out by Statistics Finland in separately agreed years is the main source for household final consumption expenditure. The table below compares the calculation levels and changes of the National Accounts and the Household Budget Survey according to the Household Budget Survey between 2012 and 2016. The newest Household Budget Survey was carried out in 2016 and its results have been used to calculate household consumption expenditure in the time series revision released in autumn 2019 in connection with which the classification was changed to ECOICOP. Although the actual focus in this methodological description is on 2018, as concerns households’ consumption expenditure, the use of the 2016 Household Budget Survey is presented as a source of calculations for the 2016 figures and the calculation methods used in the intermediate years of the Household Budget Survey for 2017 (when time series revised data for 2016 can be used as source data). In terms of consumption calculations, this methodological description is a bit of a mixture of the old and new classifications, because the time series revision was made first using the old classification and the changeover to the new 5-digit level classification was then made from the time series revised 4-digit level data both on the basis of the 2016 Household Budget Survey and other sources. Due to this “two-stage” calculation (first the level revision with the old classification and then the more detailed subdivision by the new classification), no listing

is available on how the individual figures of the Household Budget Survey have been edited into estimates of the National Accounts.

In the table below, the first column contains the total sum from the Household Budget Survey 2016 calculated in accordance with the previous classification of the National Accounts (households total) and the second column contains the change in the item in question from the level of the 2012 Household Budget Survey to the level of the 2016 Household Budget Survey (calculated directly from the figures of the Household Budget Survey, i.e. from data at current prices). The third column shows the corresponding change percentage (current priced data from 2012 to 2016) calculated from the original National Accounts' data, and the fourth column has the change from the time series revised National Accounts' data. The fifth column has data on the National Accounts' time series revised figures comparable to the Household Budget Survey data. The sixth and seventh columns contain the conceptual corrections included in the National Accounts' figures (persons living abroad and in institutions). The eighth column depicts the final time series revised figure of the National Accounts (that is, the sum from columns five, six and seven). The next two columns compare the level difference between the Household Budget Survey figure and the final National Accounts figure (as percentages of the level of the Household Budget Survey) comparison for 2012 is in column nine and comparison for 2016 in column ten. The last column includes the 2-digit, 3-digit and 4-digit level figures which are calculated as sums from below.

In addition to the Household Budget Survey, many other data sources and methods are used in the calculation – both in the Household Budget Survey years and particularly in the intermediate years. In the light of other source data, for several items, a level that differs from the data of the Household Budget Survey has been accepted, but even for such data, whenever possible, the change percentages of the Household Budget Survey's data are followed, so for many items, the more important issue is the change, not the level. Some things are not asked at all in the Household Budget Survey (narcotics and prostitution) so these items are estimated based on completely other sources. It is known that some items remain – both internationally and historically – underrepresented for various reasons (e.g. alcohol and tobacco), so other sources than the Household Budget Survey are also used in their calculation, even though a change in the data of the Household Budget Survey is monitored for them as well, even though the level is not used. In addition, there are some items (e.g. housing, used cars, insurance) that by definition differ from the concepts of the Household Budget Survey, so their calculation does not either start directly from the level of the Household Budget Survey but other sources are used even in the Household Budget Survey years.

Table 75: Comparison with the Household Budget Survey

	HBS: Year 2016 (households total EUR million)	HBS: Change 2016/2012	NA: Change 2016/2012 (original)	NA: Change 2016/2012 (time series revised)	NA: Year 2016 (HBS comparable, times series revised), EUR million	NA: persons living abroad 2016	NA: persons living in institutions 2016	NA: Year 2016 (fina, times series revised), EUR million	Year 2012: (NA/HBS) % -100	Year 2016 (NA/HBS) % - 100	Summary level (x)
C01 FOOD AND NON-ALCOHOLIC BEVERAGES	11,726	1%	7 %	5 %	12,811	490	10	13,312	5	9	x
C011 Food	10,837	2 %	7 %	6 %	11,630	473	4	12,107	4	7	x
C0111 Bread and other grain products	1,756	-2 %	2 %	1 %	1,848	125	2	1,975	2	5	x
C01111ND Rice	62	25 %	14 %	20 %	59		0	59	-1	-4	
C01112ND Flour and groats	198	14 %	12 %	12 %	204		0	204	5	3	
C01113ND Potato flour	3	-48 %	0 %	-22 %	7		0	7	73	161	
C01114ND Bread	645	-9 %	-2 %	-3 %	708	35	0	743	3	10	
C01115ND Cakes and pastries	570	1 %	3 %	4 %	579	90	2	671	-1	1	
C01116ND Other grain products	278	-5 %	4 %	-2 %	291		0	291	2	5	
C0112 Meat and meat products	2,075	-4 %	4 %	1 %	2,508	40	0	2,548	14	21	x
C01121ND Beef	278	-19 %	4 %	-3 %	360		0	360	9	29	
C01122ND Pork	137	-43 %	-6 %	-13 %	219		0	219	5	60	
C01123ND Poultry	316	22 %	19 %	21 %	319		0	319	1	1	
C01124ND Mutton, reindeer meat, etc.	32	13 %	5 %	5 %	61		0	61	103	90	
C01123ND Game	54	1963 %	9 %	10 %	86		0	86	2906	61	
C01126ND Sausages	364	-18 %	-3 %	-7 %	538	40	0	578	31	48	
C01127ND Tinned meat, processed or precooked meat	608	-9 %	6 %	0 %	680		0	680	2	12	
C01128ND Other meat products	286	55 %	6 %	28 %	245		0	245	4	-14	
C0113 Fish and fish products	589	10 %	21 %	16 %	660	0	0	660	6	12	x
C01131ND Fresh fish	284	23 %	36 %	37 %	232		0	232	-27	-18	
C01132ND Fish preserves and precooked fish products	305	1 %	14 %	8 %	428		0	428	31	40	
C0114 Milk, cheese and eggs	1,928	-11 %	4 %	-1 %	2,268	25	0	2,293	5	18	x
C01141ND Milk sold directly to consumers and consumption for own use	5	106 %	25 %	25 %	5		0	5	54	-7	
C01142ND Milk and milk powder	487	-15 %	4 %	-2 %	591		0	591	6	21	
C01143ND Sour milk products	415	-16 %	-14 %	-13 %	443		0	443	3	7	
C01144ND Cream	118	-22 %	6 %	-13 %	136		0	136	4	15	
C01145ND Cheeses	792	-4 %	16 %	11 %	961	25	0	986	5	21	
C01146ND Eggs	110	-15 %	-1 %	-4 %	132		0	132	6	20	
C0115 Oils and fats	260	-9 %	-25 %	-8 %	266	0	0	266	2	2	x
C01151ND Butter and butter-vegetable oil mixtures	137	-9 %	-37 %	-6 %	135		0	135	-4	-1	
C01152ND Margarine	78	-23 %	-13 %	-21 %	91		0	91	14	17	
C01153ND Other fats and oils	46	35 %	-13 %	29 %	40		0	40	-8	-12	
C0116 Fruit	985	31 %	23 %	24 %	1,184	130	0	1,314	27	20	x
C01161ND Fruit and garden berries for own use	34	35 %	7 %	8 %	80		0	80	197	137	
C01162ND Fresh fruit and garden berries	614	23 %	34 %	30 %	752	130	0	882	16	23	
C01163ND Forest berries	86	200 %	-24 %	3 %	99		0	99	236	16	
C01164ND Dried fruit, nuts, etc.	155	30 %	28 %	30 %	156		0	156	1	0	
C01165ND Fruit and berry preserves and preparations	96	20 %	2 %	7 %	97		0	97	13	1	
C0117 Vegetables	1,250	9 %	15 %	14 %	1,376	41	0	1,418	6	10	x
C01171ND Mushrooms	24	132 %	57 %	57 %	44		0	44	170	83	
C01172ND Vegetables and root crops for own use	41	1 %	-6 %	-6 %	17		0	17	-56	-59	
C01173ND Fresh vegetables and root crops	626	6 %	15 %	15 %	769		0	769	13	23	
C01174ND Vegetable and root crop preparations	339	22 %	4 %	16 %	318		0	318	-1	-6	
C01175ND Potatoes for own use	14	-2 %	17 %	17 %	7		0	7	-58	-50	
C01176ND Potatoes	80	-2 %	29 %	1 %	100		0	100	21	26	
C01177ND Potato preparations	126	-1 %	25 %	5 %	121	41	0	163	-10	-4	
C0118 Sugar, jams, honey, syrups, chocolate and confectionery	972	1 %	6 %	5 %	1,162	113	2	1,276	15	20	x
C01181ND Sugar	29	-29 %	-20 %	-20 %	37	26	0	63	12	27	
C01182ND Honey	27	29 %	10 %	17 %	34		0	34	40	27	
C01183ND Jams, syrup, etc.	40	3 %	21 %	11 %	51	26	0	77	19	28	

C01184ND Confectionery and chocolate	661	0 %	5 %	5 %	755	47	1	803	9	14	
C01185ND Ice cream	214	6 %	9 %	8 %	284	15	0	299	30	33	
C0119 Food n.e.c.	1,023	28 %	8 %	20 %	357	0	0	357	-63	-65	x
C01190ND Spices, nutrient preparations, unspecified expenditure	1,023	28 %	8 %	20 %	357		0	357	-63	-65	
C012 Non-alcoholic beverages	889	-6 %	5 %	0 %	1,182	17	6	1,205	25	33	x
C0121 Coffee, tea and cocoa	303	-10 %	1 %	2%	397	6	3	405	17	31	x
C01211ND Coffee	254	-7 %	3 %	6%	318	6	2	326	10	25	
C01212ND Tea	32	-17 %	-2 %	-6 %	47		0	47	28	46	
C01213ND Cocoa	16	-31 %	-5 %	-19 %	32		0	32	70	100	
C0122 Mineral waters, soft drinks and juices	586	-5 %	7 %	-1 %	786	11	3	800	30	34	x
C01221ND Mineral waters and soft drinks	297	0 %	3 %	-1 %	494	8	3	505	67	66	
C01222ND Juices	289	-9 %	14 %	-2 %	292	3	0	295	-6	1	
C02 ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	2,120	2 %	3 %	7 %	5,111	78	38	5,227	128	141	x
C021 Alcoholic beverages	1,432	-5 %	-3 %	-3 %	3,240	52	15	3,307	121	126	x
C0211 Spirits	236	-14 %	-6 %	-6 %	771	0	3	774	202	227	x
C02110ND Spirits	236	-14 %	-6 %	-6 %	771		3	774	202	227	
C0212 Wine, cider, long drinks	586	-4 %	-4 %	-4 %	1,066	26	5	1,097	81	82	x
C02120ND Wine, cider, long drinks	586	-4 %	-4 %	-4 %	1,066	26	5	1,097	81	82	
C0213 Beer	610	-3 %	0 %	0 %	1,403	26	7	1,436	124	130	x
C02130ND Beer	610	-3 %	0 %	0 %	1,403	26	7	1,436	124	130	
C022 Tobacco	688	19 %	13 %	19 %	1,535	26	23	1,584	123	123	x
C0220 Tobacco	688	19 %	13 %	19 %	1,535	26	23	1,584	123	123	x
C02200ND Tobacco	688	19 %	13 %	19 %	1,535	26	23	1,584	123	123	
C023 Narcotics			48 %	127 %	336	0	0	336			x
C0230 Narcotics			48 %	127 %	336	0	0	336			x
C02300ND Narcotics			48 %	127 %	336		0	336			
C03 CLOTHING AND FOOTWEAR	2,916	-4 %	3 %	2 %	4,363	386	17	4,765	41	50	x
C031 Clothing	2,415	-6 %	3 %	3 %	3,705	368	11	4,084	39	53	x
C0311 Fabrics	11	-66 %	-6 %	-16 %	81	0	0	81	211	656	x
C03110SD Fabrics	11	-66 %	-6 %	-16 %	81		0	81	211	656	
C0312 Garments	2,217	-3 %	4 %	5 %	3,291	347	8	3,646	38	48	x
C03121SD Outdoor clothing	1,707	-1 %	4 %	5 %	2,540	281	6	2,827	40	49	
C03122SD Underwear	510	-7 %	4 %	5 %	751	66	2	819	30	47	
C0313 Accessories and articles of clothing	166	-25 %	-1 %	-3 %	270	21	2	293	26	63	x
C03131SD Yarn, etc.	54	-21 %	-8 %	-8 %	73		0	73	17	36	
C03132SD Hats, ties, scarves, gloves, etc.	113	-27 %	1 %	-1 %	197	21	2	220	30	75	
C0314 Repair and hire of clothing	21	-58 %	7 %	-10 %	62	0	2	64	35	191	x
C03140S Garment repair and hire	21	-58 %	7 %	-10 %	62		2	64	35	191	
C032 Footwear	501	12 %	0 %	-3 %	658	17	5	681	51	32	x
C0321 Footwear and footwear supplies	490	12 %	-1 %	-3 %	639	17	3	660	51	30	x
C03210SD Footwear and footwear supplies	490	12 %	-1 %	-3 %	639	17	3	660	51	30	
C0322 Footwear repair and hire	11	3 %	17 %	6 %	19	0	2	21	75	80	x
C03220S Footwear repair and hire	11	3 %	17 %	6 %	19		2	21	75	80	
C04 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	29,785	14 %	17 %	16 %	31,650	0	0	31,650	5	6	x
C041 Actual rents for housing	6,380	30 %	22 %	11 %	6,675	0	0	6,675	22	5	x
C0410 Actual rents for housing	6,380	30 %	22 %	11 %	6,675	0	0	6,675	22	5	x
C04100S Actual rents for housing	6,380	30 %	22 %	11 %	6,675		0	6,675	22	5	
C042 Imputed rents for housing	18,823	12 %	18 %	10 %	19,331	0	0	19,331	5	3	x
C0420 Imputed rents for housing	18,823	12 %	18 %	10 %	19,331	0	0	19,331	5	3	x
C04200S Imputed rents for housing	18,823	12 %	18 %	10 %	19,331		0	19,331	5	3	
C043 Maintenance and repair of dwelling	8	-56 %	460 %	460 %	168	0	0	168	65	1992	x
C0431 Materials for the maintenance and repair of dwelling	8	-56 %	460 %	460 %	168	0	0	168	65	1992	x
C04310ND Materials for the maintenance and repair of dwelling	8	-56 %	460 %	460 %	168		0	168	65	1992	
C0432 Services for the maintenance and repair of dwelling	0					0	,				x
C04320S Services for the maintenance and repair of dwelling	0						,				
C044 Other services relating to housing	758	20 %	20 %	22 %	615	0	0	615	-20	-19	x
C0441 Water supply	434	26 %	20 %	21 %	415	0	0	415	0	-4	
C04410ND Water supply	434	26 %	20 %	21 %	415		0	415	0	-4	
C0442 Waste collection	198	16 %	18 %	30 %	178	0	0	178	-20	-10	x
C04420S Waste collection	198	16 %	18 %	30 %	178		0	178	-20	-10	
C0443 Sewage services	0					0	,				x
C04430S Sewage services	0						,				
C0440 Other services related to dwelling	126	10 %	28 %	-12 %	22	0	0	22	-78	-83	x

C04440S Other services relating to housing n.e.c.	126	10 %	28 %	-12 %	22		0	22	-78	-83	
C045 Electricity, gas and other fuels	3,818	2 %	-4 %	48 %	4,861	0	0	4,861	-12	27	x
C0451 Electricity	2,471	0 %	3 %	6 %	2,475	0	0	2,475	-6	0	x
C04510ND Electricity	2,471	0 %	3 %	6 %	2,475		0	2,475	-6	0	
C0452 Gas	29	127 %				0	,		-100	-100	x
C04520ND Gas	29	127 %					,		-100	-100	
C0453 Liquid fuels	313	-27 %	-44 %	-27 %	341	0	0	341	10	9	x
CC04530ND Liquid fuels	313	-27 %	-44 %	-27 %	341		0	341	10	9	
C0454 Solid fuels	423	16 %	-3 %	29 %	429	0	0	429	-9	1	x
C04540ND Solid fuels	423	16 %	-3 %	29 %	429		0	429	-9	1	
C0455 Hot water, steam and ice	581	26 %	9 %	992 %	1,616	0	0	1,616	-68	178	x
C04550ND Hot water, steam and ice	581	26 %	9 %	992 %	1,616		0	1,616	-68	178	
C05 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	4,267	-2 %	0 %	0 %	5,335	0	3	5,341	23	25	x
C051 Furniture and furnishings, carpets and other floor coverings	1,404	-2 %	-3 %	-4 %	1,765	0	1	1,767	27	26	x
C0511 Furniture and furnishings	1,190	1 %	-3 %	-3 %	1,464	0	1	1,466	29	23	x
C05111D Furniture	901	-2 %	-4 %	-3 %	1,007		0	1,007	14	12	
C05112D Garden and other outdoor furniture	83	23 %	-1 %	-1 %	98		0	98	47	18	
C05113D Lamps and shades	91	30 %	0 %	0 %	100		0	100	43	10	
C05114D Art objects	75	-4 %	-1 %	-4 %	151		0	151	102	101	
C05115D Decorations, mirrors	40	-14 %	1 %	-9 %	108		1	109	154	168	
C0512 Carpets and other floor coverings	99	9 %	-2 %	2 %	144	0	0	144	55	45	x
CC05120D Carpets and other floor coverings	99	9 %	-2 %	2 %	144		0	144	55	45	
C0513 Repair of furniture, etc.	115	-32 %	-5 %	-10 %	157	0	0	157	3	36	x
C05130S Repair of furniture, etc.	115	-32 %	-5 %	-10 %	157		0	157	3	36	
C052 Household textiles	339	-4 %	-3 %	1 %	546	0	0	547	53	61	x
C0521 Household textiles	339	-4 %	-3 %	1 %	546	0	0	547	53	61	x
C05211SD Textiles	278	4 %	-4 %	2 %	450		0	450	65	62	
C05212SD Mattresses	60	11 %	2 %	8 %	71		0	71	22	18	
C05213S Repair of textiles	0	-100 %	0 %	-19 %	25		0	25	0		
C053 Household appliances	704	-4 %	-2 %	-5 %	869	0	1	870	25	23	x
C0531 Major household appliances	560	-7 %	-2 %	-2 %	711	0	0	711	21	27	x
C05311D Ovens, stoves, sauna stoves	11	-36 %	-13 %	-13 %	26		0	26	73	133	
C05312D Refrigerators and freezers	123	-21 %	-9 %	-7 %	183		0	183	27	49	
C05313D Washing machines, dishwashers, tumble dryers	225	10 %	2 %	4 %	258		0	258	21	15	
C05314D Sewing machines	8	-35 %	-6 %	-22 %	25		0	25	160	211	
C05315D Electric cookers, microwave ovens, vacuum cleaners	192	-9 %	0 %	0 %	219		0	219	4	14	
C0532 Small electric household appliances	115	17 %	2 %	-20 %	99	0	1	100	25	-14	x
C05320SD Small electric household appliances	115	17 %	2 %	-20 %	99		1	100	25	-14	
C0533 Repair of household appliances	29	-5 %	-6 %	-5 %	59	0	0	59	99	100	x
C05330S Repair of household appliances	29	-5 %	-6 %	-5 %	59		0	59	99	100	
C054 Glassware, tableware and household utensils	303	-27 %	-6 %	-5 %	431	0	0	432	9	42	x
C0541 Glassware, tableware and household utensils	303	-27 %	-6 %	-5 %	431	0	0	432	9	42	x
C05411SD Dishes, cooking dishes, etc.	174	-20 %	-8 %	-7 %	223		0	223	10	28	
C05412SD Table cutlery and cooking utensils	46	-40 %	0 %	0 %	87		0	87	16	91	
C05413SD Other household articles	83	-11 %	-10 %	-5 %	98		0	98	10	18	
C05414S Repair of household equipment	0	-100 %	8 %	-8 %	23		0	23	-17		
C055 Tools and equipment for house and garden	584	-2 %	1 %	1 %	601	0	0	601	0	3	x
C0551 Garden appliances, other work appliances	225	-7 %	-1 %	1 %	245	0	0	245	0	9	x
C05510D Garden appliances, other work appliances	225	-7 %	-1 %	1 %	245		0	245	0	9	
C0552 Tools and miscellaneous accessories	359	1 %	2 %	1 %	356	0	0	356	-1	-1	x
C05521SD Household utensils and tools	124	-33 %	1 %	-9 %	164		0	164	-2	32	
C05522SD Small electric accessories	234	37 %	2 %	11 %	192		0	192	1	-18	
C056 Goods and services for routine household maintenance	934	16 %	11 %	10 %	1,124	0	0	1,124	27	20	x
C0561 Non-durable household goods	674	2 %	5 %	2 %	775	0	0	775	14	15	x
C05611ND Cleaning and washing substances	187	0 %	7 %	3 %	248		0	248	29	32	
C05612ND Insecticides and other pesticides	16	-31 %	-2 %	-10 %	44		0	44	110	174	
C05613ND Disposable paper and plastic goods	211	-1 %	-1 %	-1 %	226		0	226	8	7	
C05614ND Other non-durable goods	259	8 %	9 %	8 %	257		0	257	-1	-1	
C0562 Household services	260	81 %	30 %	31 %	349	0	0	349	86	34	x
C05620S Household services	260	81 %	30 %	31 %	349		0	349	86	34	
C06 HEALTH	3,360	14 %	19 %	19 %	5,231	10	20	5,260	49	56	x
C061 Medical products, appliances, and equipment	1,778	13 %	9 %	9 %	1,843	10	13	1,865	8	4	x
C0611 Medicines	1,317	14 %	9 %	11 %	1,250	10	7	1,267	-3	-5	x
C06110ND Medicines	1,317	14 %	9 %	11 %	1,250	10	7	1,267	-3	-5	

C0612 Other pharmaceutical products	54	21 %	1 %	-1 %	75	0	1	76	71	39	x
C06120ND Other pharmaceutical products	54	21 %	1 %	-1 %	75		1	76	71	39	
C0613 Therapeutic appliances and equipment	407	9 %	11 %	5 %	518	0	4	522	32	27	x
C06131D Glasses, contact lenses, prostheses, hearing aids	403	10 %	11 %	6 %	478		3	481	23	19	
C06132D Other therapeutic appliances and equipment	4	-43 %	10 %	-5 %	40		1	41	493	886	
C062 Non-hospital medical and paramedical services	1,325	15 %	27 %	25 %	2,432	0	7	2,439	69	84	x
C0621 Medical services	445	42 %	13 %	15 %	793	0	3	796	120	78	x
C06210S Medical services	445	42 %	13 %	15 %	793		3	796	120	78	
C0622 Dental services	472	-11 %	28 %	24 %	975	0	3	978	48	107	x
C06220S Dental services	472	-11 %	28 %	24 %	975		3	978	48	107	
C0623 Paramedical services	408	34 %	46 %	41 %	664	0	1	665	54	63	x
C0623 Paramedical services	408	34 %	46 %	41 %	664		1	665	54	63	
C063 Hospital services	257	17 %	18 %	26 %	956	0	0	956	243	272	x
C0630 Hospital services	257	17 %	18 %	26 %	956	0	0	956	243	272	x
C06300S Hospital services	257	17 %	18 %	26 %	956		0	956	243	272	
C07 TRANSPORT	14,331	-5 %	1 %	-1 %	12,833	233	23	13,087	-14	-10	x
C071 Purchase of vehicles	6,040	-7 %	13 %	12 %	3,691	0	2	3,693	-49	-39	x
C0711 Motor cars	5,579	-6 %	15 %	14 %	3,317	0	0	3,317	-51	-41	x
C07110D Motor cars	5,579	-6 %	15 %	14 %	3,317		0	3,317	-51	-41	
C0712 Motorcycles and snowmobiles	308	-30 %	-4 %	-4 %	174	0	0	174	-59	-43	x
C07120D Motorcycles and snowmobiles	308	-30 %	-4 %	-4 %	174		0	174	-59	-43	
C0713 Bicycles	153	-2 %	4 %	-1 %	200	0	2	202	30	31	x
C07130D Bicycles	153	-2 %	4 %	-1 %	200		2	202	30	31	
C072 Operation of personal transport equipment	6,939	-5 %	-5 %	-8 %	6,892	108	0	6,999	2	-1	x
C0721 Spare parts and accessories for personal transport equipment	678	-5 %	6 %	-6 %	782	68	0	850	17	15	x
C07211SD Tyres	239	104 %	10 %	2 %	243		0	243	104	2	
C07212SD Other spare parts and accessories	439	-27 %	4 %	-10 %	539	68	0	607	0	23	
C0722 Fuels and lubricants	3,153	-19 %	-17 %	-19 %	3,227	12	0	3,239	3	2	x
C07220ND Fuels and lubricants	3,153	-19 %	-17 %	-19 %	3,227	12	0	3,239	3	2	
C0723 Maintenance and repair of personal transport equipment	2,460	15 %	8 %	9 %	2,061	0	0	2,061	-12	-16	x
C07230S Maintenance and repair of personal transport equipment	2,460	15 %	8 %	9 %	2,061		0	2,061	-12	-16	
C0724 Other services for personal transport equipment	648	18 %	11 %	11 %	821	29	0	849	36	27	x
C07241S Car rental	19	-28 %	28 %	30 %	83	29	0	112	146	342	
C07242S Parking place, parking and road maintenance charges	313	40 %	13 %	14 %	333		0	333	31	6	
C07243S Driving lessons	129	5 %	11 %	7 %	188		0	188	43	46	
C07244S Motor vehicle inspection, driving test and number plate charges	187	6 %	2 %	3 %	217		0	217	20	16	
C073 Transport services	1,352	7 %	2 %	3 %	2,250	124	21	2,395	74	66	x
C0731 Train, tram and underground train travel	460	20 %	-2 %	13 %	514	14	2	530	19	12	x
C07310S Train, tram and underground train travel	460	20 %	-2 %	13 %	514	14	2	530	19	12	
C0732 Bus, motor-coach and taxi travel	685	-9 %	3 %	1 %	886	77	17	980	17	29	x
C07320S Bus, motor-coach and taxi travel	685	-9 %	3 %	1 %	886	77	17	980	17	29	
C0733 Air travel	48	-12 %	3 %	0 %	465	19	0	484	756	866	x
C07330S Air travel	48	-12 %	3 %	0 %	465	19	0	484	756	866	
C0734 Sea travel	150	381 %	-1 %	-1 %	291	5	0	296	844	94	x
C07340S Sea travel	150	381 %	-1 %	-1 %	291	5	0	296	844	94	
C0735 Other transport services	8	-79 %	2 %	3 %	93	10	1	105	133	1064	x
C07350S Other transport services	8	-79 %	2 %	3 %	93	10	1	105	133	1064	
C08 TELECOMMUNICATIONS	2,573	12 %	6 %	9 %	2,627	7	43	2,677	5	2	x
C081 Telecommunications	2,573	12 %	6 %	9 %	2,627	7	43	2,677	5	2	x
C0811 Postal services	72	39 %	-19 %	17 %	81	3	17	101	33	11	x
C08110S Postal services	72	39 %	-19 %	17 %	81	3	17	101	33	11	
C0812 Telecommunication equipment	400	28 %	22 %	17 %	466	0	3	469	27	16	x
C08120D Telecommunication equipment	400	28 %	22 %	17 %	466		3	469	27	16	
C0813 Telecommunication services	2,100	8 %	3 %	7 %	2,081	3	23	2,107	1	-1	x
C08130S Telecommunication services	2,100	8 %	3 %	7 %	2,081	3	23	2,107	1	-1	
C09 RECREATION AND CULTURE	8,891	-6 %	-1 %	-3 %	11,306	298	67	11,671	22	27	x
C091 Audio-visual, photographic and data processing equipment	1,114	-19 %	-13 %	-23 %	1,253	70	14	1,337	19	13	x
C0911 Equipment for the reception, recording and reproduction of sound and images	316	-41 %	-20 %	-34 %	394	28	6	428	11	25	x
C09111D Radios, sound reproduction equipment, etc.	64	-32 %	-37 %	-37 %	44	17	4	65	-25	-30	
C09112D Televisions and video recorders	220	-46 %	-19 %	-34 %	323	8	1	333	22	47	

C09113SD Parts and accessories for entertainment electronics	32	-23 %	-5 %	-25 %	27	3	1	30	-15	-17	
C0912 Photographic and cinematographic equipment and optical instruments	78	-40 %	-59 %	-63 %	48	11	0	59	1	-38	x
C09121D Cameras, binoculars, etc.	67	-44 %	-64 %	-66 %	42	10	0	52	2	-38	
C09122D Video cameras	11	3 %	12 %	-31 %	6	1	0	7	-10	-40	
C0913 Personal computers, calculators and typewriters	551	4 %	3 %	-6 %	639	0	5	644	28	16	x
C09130D Personal computers, calculators and typewriters	551	4 %	3 %	-6 %	639		5	644	28	16	
C0914 Sound and picture recording equipment	115	-24 %	-34 %	-37 %	99	29	3	131	5	-14	x
C09141SD Films and other photographic accessories	0	-100 %	-218 %	-70 %	0	22	0	22	-117		
C09142SD Records, audio and video cassettes	115	-19 %	-36 %	-37 %	100	7	3	109	11	-13	
C0915 Repair of audio-visual, photographic and data processing equipment	54	244 %	16 %	10 %	72	3	0	75	321	35	x
C09150S Repair of audio-visual, photographic and data processing equipment	54	244 %	16 %	10 %	72	3	0	75	321	35	
C092 Other major consumer durables for recreation and culture	662	-21 %	-1 %	-4 %	756	35	3	795	-6	14	x
C0921 Major consumer durables for outdoor recreation	428	-31 %	0 %	-6 %	486	27	1	514	-16	13	x
C09210D Major consumer durables for outdoor recreation	428	-31 %	0 %	-6 %	486	27	1	514	-16	13	
C0922 Major durables for indoor recreation	134	16 %	2 %	5 %	155	9	1	165	27	15	x
C09220D Major durables for indoor recreation	134	16 %	2 %	5 %	155	9	1	165	27	15	
C0923 Maintenance and repair of other major durables for recreation and culture	99	-5 %	-4 %	-5 %	115	0	1	116	17	16	x
C09230S Maintenance and repair of other major durables for recreation and culture	99	-5 %	-4 %	-5 %	115		1	116	17	16	
C093 Other recreational items and equipment, garden supplies and pets	2,505	18 %	11 %	15 %	2,509	14	9	2,532	3	0	x
C0931 Games, toys and hobby equipment	449	3 %	2 %	2 %	447	14	7	467	0	-1	x
C09310SD Games, toys and hobby equipment	449	3 %	2 %	2 %	447	14	7	467	0	-1	
C0932 Sports and camping equipment	704	19 %	18 %	18 %	706	0	2	708	1	0	x
C09320SD Sports and camping equipment	704	19 %	18 %	18 %	706		2	708	1	0	
C0933 Flowers and garden supplies	503	8 %	2 %	4 %	523	0	0	523	7	4	x
C09330ND Flowers and garden supplies	503	8 %	2 %	4 %	523		0	523	7	4	
C0934 Pets and related products	592	18 %	15 %	18 %	550	0	0	550	-7	-7	x
C09341ND Pet food	361	15 %	12 %	15 %	341		0	341	-6	-6	
C09342SD Pets and pet supplies	230	23 %	20 %	23 %	209		0	209	-9	-9	
C0935 Veterinary and other services for pets	257	111 %	26 %	67 %	284	0	0	284	39	11	x
C09350S Veterinary and other services for pets	257	111 %	26 %	67 %	284		0	284	39	11	
C094 Recreational and cultural services	2,187	-13 %	1 %	-1 %	4,179	153	14	4,347	68	91	x
C0941 Sports and recreational services	945	31 %	19 %	23 %	1,122	127	4	1,253	27	19	x
C09411S Sports and leisure-time equipment rentals	11	3 %	5 %	7 %	39	12	1	52	252	266	
C09412S Other sports and recreational services	934	31 %	20 %	23 %	1,083	115	3	1,201	23	16	
C0942 Cultural services	557	-53 %	-20 %	-28 %	988	26	5	1,019	16	77	x
C09421S Rentals of television, video, etc.	3	-85 %	-81 %	-81 %	4		2	6	25	57	
C09422S Television licences, cable television fees, etc.	166	-79 %	-52 %	-58 %	309		0	309	-7	86	
C09423S Photographer's services and film development services	50	-15 %	-8 %	-10 %	80		0	80	51	59	
C09424S Other cultural services	338	6 %	24 %	12 %	595	26	3	624	67	76	
C0943 Football pools, lottery	685	14 %	8 %	8 %	2,069	0	6	2,075	220	202	x
C09430S Football pools, lottery	685	14 %	8 %	8 %	2,069		6	2,075	220	202	
C095 Newspapers, books and stationery	1,223	-11 %	-10 %	-9 %	1,349	26	20	1,394	8	10	x
C0951 Books	190	-17 %	-11 %	-11 %	290	14	7	311	42	52	x
C09510SD Books	190	-17 %	-11 %	-11 %	290	14	7	311	42	52	
C0952 Newspapers and periodicals	865	-13 %	-10 %	-10 %	902	9	8	919	1	4	x
C09520ND Newspapers and periodicals	865	-13 %	-10 %	-10 %	902	9	8	919	1	4	
C0953 Maps, calendars, cards and other printed matter, etc.	102	6 %	-9 %	4 %	103	3	1	107	3	1	x
C09530ND Maps, calendars, cards and other printed matter, etc.	102	6 %	-9 %	4 %	103	3	1	107	3	1	
C0954 Stationery	67	-1 %	-19 %	-19 %	54	0	3	57	-1	-19	x
C09540ND Stationery	67	-1 %	-19 %	-19 %	54		3	57	-1	-19	
C096 Package tours	1,199	-6 %	-5 %	-5 %	1,259	0	7	1,266	4	5	x
C0960 Package tours	1,199	-6 %	-5 %	-5 %	1,259	0	7	1,266	4	5	x
C09600S Package tours	1,199	-6 %	-5 %	-5 %	1,259		7	1,266	4	5	
C10 EDUCATION	147	-2 %	6 %	2 %	427	0	0	427	179	190	x
C100 Educational services	147	-2 %	6 %	2 %	427	0	0	427	179	190	x
C1000 Educational services	147	-2 %	6 %	2 %	427	0	0	427	179	190	x
C10000S Educational services	147	-2 %	6 %	2 %	427		0	427	179	190	
C11 HOTELS, CAFES AND RESTAURANTS	4,010	18 %	16 %	16 %	6,380	831	34	7,244	61	59	x
C111 Catering services	3,542	15 %	15 %	15 %	5,923	720	25	6,669	68	67	x

C1111 Restaurants and cafes	2,942	15 %	17 %	16 %	4,826	720	22	5,569	63	64	x
C11110S Restaurants and cafes	2,942	15 %	17 %	16 %	4,826	720	22	5,569	63	64	
C1112 Canteens	600	14 %	6 %	9 %	1,097	0	3	1,100	92	83	x
C11120S Canteens	600	14 %	6 %	9 %	1,097		3	1,100	92	83	
C112 Accommodation services	468	40 %	32 %	38 %	456	111	8	575	-1	-3	x
C1120 Accommodation services	468	40 %	32 %	38 %	456	111	8	575	-1	-3	x
C11200S Accommodation services	468	40 %	32 %	38 %	456	111	8	575	-1	-3	
C12 MISCELLANEOUS GOODS AND SERVICES	7,549	25 %	13 %	15 %	10,526	48	647	11,221	51	39	x
C121 Personal hygiene and beauty care	1,901	4 %	10 %	7 %	2,379	0	13	2,391	22	25	x
C1211 Hairdresser, barber and other personal hygiene services	792	12 %	18 %	13 %	1,127	0	2	1,129	41	42	x
C12110S Hairdresser, barber and other personal hygiene services	792	12 %	18 %	13 %	1,127		2	1,129	41	42	
C1212 Hairdryers, electric shavers and other electric appliances in kind	46	25 %	-3 %	13 %	77	0	1	78	86	68	x
C1212 Hairdryers, electric shavers and other electric appliances in kind	46	25 %	-3 %	13 %	77		1	78	86	68	
C1213 Other appliances, articles and products for personal care	1,063	-2 %	4 %	1 %	1,176	0	9	1,184	7	11	x
C12131ND Cosmetic and toilet articles	717	-1 %	6 %	2 %	765		2	767	4	7	
C12132ND Toilet paper, handkerchiefs, etc.	142	-4 %	-1 %	-1 %	158		0	158	8	11	
C12133ND Nappies, sanitary towels, cotton wool	110	-8 %	4 %	-1 %	137		0	137	16	25	
C12134SD Combs, hairbrushes, shaving equipment, toothbrushes	94	6 %	-1 %	5 %	116		7	123	25	24	
C122 Prostitution			58 %	58 %	149	6	0	155			x
C1220 Prostitution			58 %	58 %	149	6	0	155			x
C12200S Prostitution			58 %	58 %	149	6	0	155			
C123 Personal effects n.e.c.	463	19 %	3 %	7 %	569	0	10	579	37	23	x
C1231 Jewellery, clocks and watches	246	28 %	3 %	7 %	312	0	1	313	51	27	x
C12311D Jewellery	94	-34 %	0 %	0 %	217		0	217	51	132	
C12312D Wrist and pocket watches, wall and other clocks	134	268 %	13 %	32 %	76		1	77	58	-43	
C12313S Repair of watches, clocks and jewellery	19	44 %	12 %	12 %	19		0	19	31	1	
C1232 Other personal effects	217	10 %	2 %	7 %	257	0	9	266	22	19	x
C12321SD Bags and wallets	110	-2 %	-5 %	-2 %	125		1	126	14	14	
C12322SD Prams, pushchairs and child safety seats	46	35 %	7 %	16 %	52		0	52	33	14	
C12323SD Umbrellas, sunglasses, smoking articles	62	19 %	12 %	17 %	80		8	88	32	31	
C124 Social protection	784	22 %	23 %	22 %	1,495	0	618	2,113	92	91	x
C1240 Children's day care, institution and other social service expenses	784	22 %	23 %	22 %	1,495	0	618	2,113	92	91	x
C12400S Children's day care, institution and other social service expenses	784	22 %	23 %	22 %	1,495		618	2,113	92	91	
C125 Insurance	3,092	42 %	20 %	32 %	2,515	2	0	2,517	-12	-19	x
C1250 Insurance	3,092	42 %	20 %	32 %	2,515	2	0	2,517	-12	-19	x
C12500S Insurance	3,092	42 %	20 %	32 %	2,515	2	0	2,517	-12	-19	
C126 Financial services n.e.c.	701	102 %	9 %	11 %	2,759	15	0	2,774	618	293	x
C1261 FISIM			-41 %	-41 %	378	0	0	378			x
C12611S FISIM on loans			37 %	37 %	297		0	297			
C12612S FISIM on deposits			-81 %	-81 %	81		0	81			
C1262 Actual financial services	701	102 %	26 %	28 %	2,381	15	0	2,396	435	240	x
C12620S Actual financial services	701	102 %	26 %	28 %	2,381	15	0	2,396	435	240	
C127 Other services n.e.c.	608	-11 %	10 %	-2 %	659	26	7	692	-1	8	x
C1270 Other services n.e.c.	608	-11 %	10 %	-2 %	659	26	7	692	-1	8	x
C12700S Other services n.e.c.	608	-11 %	10 %	-2 %	659	26	7	692	-1	8	
P311Y CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND	91,675	6 %	9 %	8 %	108,600	2,380	900	111,882	16	18	x
D DURABLE GOODS	10,669	-7 %	4 %	1 %	9,304	71	26	9,401	-20	-13	x
SD SEMI-DURABLE GOODS	6,708	-1 %	2 %	1 %	8,597	512	50	9,160	26	28	x
ND NON-DURABLE GOODS	26,171	-1 %	2 %	7 %	31,677	601	70	32,349	12	21	x
S SERVICES	48,128	15 %	14 %	11 %	59,021	1,195	754	60,972	27	23	x

5.7.2.2.1 Latest Household Budget Survey as the basis

The product-specific data of Statistics Finland's Household Budget Survey on household final consumption expenditure (EUR/year/household) form the basis of the method. The basis for the latest calculations published in September 2019 following the ECOICOP classification is the 2016

Household Budget Survey, for which change percentages were used in benchmarking and not product-specific benchmarking. The data are in Excel files and they are processed further with the help of a spreadsheet program.

5.7.2.2.2 Preliminary revision of data from the Household Budget Survey for the needs of the National Accounts

The heading-specific consumption data of the Household Budget Survey are multiplied by the number of households, which gives the total consumption expenditure in the entire country for the headings of the Household Budget Survey of all households belonging to the population of the Household Budget Survey.

At this stage, a heading link to the corresponding consumption headings in the National Accounts is attached to each heading of the Household Budget Survey. If the heading is divided into several headings of the National Accounts, weights are given to the headings based on their distribution. If there is one heading, the weight is = 1. Because the product division of the Household Budget Survey is clearly more detailed than that of the National Accounts, a majority of the cases follow the latter weighting.

Table 76: Preliminary revision of data. Example, Year 2016

National Accounts	Household Budget Survey		Consumption expenditure per household	Households in Finland	Households' total consumption expenditure
Consumption heading	Code	Heading text	EUR	million units	EUR million
C01211ND Coffee	0121101	Coffee	86	2.677099	230.2
C01211ND Coffee	0121102	Instant coffee and ready-to-drink coffees	9	2.677099	24.1
C01212ND Tea	0121201	Tea	11	2.677099	34.8
C01212ND Tea	0121202	Herbal tea	0	2.677099	0.0
C01212ND Tea	0121203	Ready-to-drink teas	1	2.677099	2.7
C01213ND Cocoa	0121301	Cocoa and cocoa drinks	6	2.677099	16.1

5.7.2.2.3 Data of the Household Budget Survey combined with the headings of the National Accounts

The data derived by linking from the Household Budget Survey in the manner described above are converted into consumption expenditure that matches the headings of the National Accounts.

Table 77: Data of the Household Budget Survey combined with the headings of the National Accounts. Example, Year 2016

National Accounts	Consumption expenditure per household	Households in Finland	Households' total consumption expenditure (according to the Household Budget Survey)
Consumption heading	EUR	million units	EUR million
C0121 Coffee, tea and cocoa	114		305.2
C01211ND Coffee	96	2.677099	257.0
C01212ND Tea	13	2.677099	34.8
C01213ND Cocoa	6	2.677099	16.1

Change percentages are calculated for the data of the Household Budget Survey by consumption heading of the National Accounts compared to the data of the previous Household Budget Survey.

Table 78: Change percentages of the Household Budget Survey data by consumption heading of the National Accounts. Example

Consumption heading of the National Accounts	Year 2012: Households' total consumption expenditure (according to the Household Budget Survey), EUR million	Year 2016: Households' total consumption expenditure (according to the Household Budget Survey), EUR million	Change percentages of the Household Budget Survey data by consumption heading of the National Accounts.
C0121 Coffee, tea and cocoa	337	305	-9%
C01211ND Coffee	275	257	-7 %
C01212ND Tea	39	35	-10 %
C01213ND Cocoa	23	16	-30 %

The corresponding change percentages have also been calculated from the data of the National Accounts that have been produced with statistical methods in the intermediate years of the Household Budget Survey. The change percentages are compared and, if necessary, they are revised to correspond with – or at least to be closer to – the change percentages produced by the Household Budget Survey. Assessments on consumption estimates deriving from the data of the Register of Enterprises and Establishments and other possible data sources are also utilised in the comparison and revision.

If the level of the Household Budget Survey and National Accounts data differs strongly – as is the case for these products – in principle, the approved National Accounts levels are adhered to and change percentages are used, not directly the absolute levels of the Household Budget Survey. The change percentages produced by the Household Budget Survey can also be deviated from if other data are found to be reliable.

Table 79: Revision of change percentages of the National Accounts in accordance with change percentages of the Household Budget Survey by consumption heading. Example.

Consumption heading of the National Accounts	Change percentages of the Household Budget Survey data by consumption heading of the National Accounts.	Change percentage produced by the statistical method-based calculation of the National Accounts	Revised change percentage of the National Accounts
C0121 Coffee, tea and cocoa	-9%	1 %	2 %
C01211ND Coffee	-7 %	3 %	6 %
C01212ND Tea	-10 %	-2 %	-6 %
C01213ND Cocoa	-30 %	-5 %	-19 %

5.7.2.2.4 Revision: population not belonging to the population of the Household Budget Survey

Certain revisions are required to edit the above-described consumption expenditure data to an estimate that corresponds with the National Accounts. The first one is an addition that is caused by the fact that the population living in various institutions is missing from the population of the Household Budget Survey.

First, the share of the population in question is estimated. The difference between the mean population of the country and the number of persons belonging to the households of the Household Budget Survey population is estimated to be the number of the missing population. Based on data from the social and health administration and the Ministry of Justice, the division of the population into inhabitants of various types of institutions is charted. A consumption expenditure level and structure is estimated for the inhabitants of each institution type relative to their financial position and consumption possibilities. This helps establish an estimate for the consumption expenditure of the institutional population by product. The figures are added to the original, uncorreted consumption expenditure figures and the result is the so-called population revised consumption expenditure. The figure does not include the consumption expenditure of foreign households in Finland.

5.7.2.2.5 Revision: consumption expenditure of foreign households in Finland

Because the consumption expenditure of foreign households in Finland must also be added to the National Accounts' accordant consumption expenditure by purpose of use category, this item must be calculated and added to the figures. The total estimate on foreigners' consumption expenditure comes from Statistics Finland's statistics on tourism. Earlier, breakdown data on foreigners' consumption in Finland based on the Border Interview Survey were also available, but unfortunately the Border Interview Survey was discontinued after 2012. In the present calculations, the reports of the Finnish Travel Survey, previous data of the Border Interview Survey, and statistics on tax-free purchases and the use of money by tourists in Finland for various purposes are used to divide the total value to various consumption expenditure headings. When the expenditure

calculated in this manner is added to the heading-specific consumption expenditure, the revised National Accounts estimate of consumption expenditure derived from the data of the Household Budget Survey is reached.

5.7.2.2.6 Bias, random variation, possible conceptual and definition differences

The bias and random variation and possible differences in concepts and definitions included in the Household Budget Survey must also be considered.

The Household Budget Survey aims to cover purchases made by the household, but in households with more than one person probably at least something does not get recorded when the household members make purchases independently. In addition, it has been observed that when households have the possibility to postpone the time they keep the diary, many move the recording period away from the time of holiday or parties, in which case it can be suspected that acquisitions related to them – i.e. the time when more money than usual may be used – are under-represented. In addition, the lower response rate and the uneven distribution of non-response by household type and area affect the results, but it is difficult to estimate the magnitude. Since both production and consumption are examined simultaneously in the National Accounts, the level in many items has been accepted to be higher in the National Accounts than the data of the Household Budget Survey, because so many factors affect the overall level of the Household Budget Survey.

Bias usually has a lowering effect on consumption expenditure in the Household Budget Survey. The effect of the bias cannot usually be reduced by increasing the sample size of the Household Budget Survey. Many reasons can affect bias, for example, opinion climate (alcohol and tobacco), selection of respondents and incomplete accounts during the response period. The basic assumption when defining the magnitude of the correction factor is that the share of the bias of the actual total consumption expenditure of each heading remains relatively constant each year. The magnitude of the bias is assessed based on comparisons with other basic data of the consumption expenditure calculation. The bias has an effect on the fact that the level data of some products cannot be taken as such from the Household Budget Survey but even then, it is usually estimated that the change indicated by the Household Budget Survey is a relatively good indicator of the change in consumption, i.e. the change percentage is utilised to the level that has been produced using other data.

Increasing the sample size of the Household Budget Survey would, however, have a positive effect on reducing random variation. In order to eliminate the effects of random variation in the National Accounts, comparisons with other basic data must be used in order to detect deviating items and repairing them. Because the National Accounts have clearly fewer product categories than the Household Budget Survey (so they depict larger entities than the items of the Household Budget Survey), the importance of random variation is slightly smaller than in the Household

Budget Survey but it must still be considered, especially in case of items with a smaller value.

There is constant discussion between various statistics concerning concepts and definitions and the aim is to produce classifications together so that the statistics would be as comparable as possible. Previously, statistics that used the COICOP classification in Finland had slightly different 5-digit level versions, but this changed when all moved to use the EU harmonised 5-digit level ECOICOP classification.

In the calculations of the National Accounts, items not belonging to consumption expenditure have not been considered even if they were included in the figures of the Household Budget Survey, as the data are at a more detailed level, which are then linked to the classification of the National Accounts.

Table 80: Revisions to the Household Budget Survey data. Example, Year 2016

National Accounts	Households total consumption expenditure (data comparable with the Household Budget Survey), NA	Revision: Consumption expenditure of those not belonging to the Household Budget Survey (institutional population)	Population revised consumption expenditure	Revision: consumption expenditure of foreign households in Finland	Consumption expenditure revised to FNA2019 level
Consumption heading	EUR million	EUR million	EUR million	EUR million	EUR million
C0121 Coffee, tea and cocoa	396.7	2.8	399.5	5.5	405.0
C01211ND Coffee	317.9	2.1	320.0	5.5	325.5
C01212ND Tea	46.7	0.3	47.1	0	47.1
C01213ND Cocoa	32.1	0.3	32.4	0	32.4

For the years when the Household Budget Survey is not available, the calculation for food has mainly started from changes in volume indicators (the main source is LUKE's food balance, as well as data from different producers), the price change of the CPI and the quality change indicator (which is, as a rule, 1 unless there is some reason to change it in some direction). The product of these indicators is the value change with which value data have been taken forward. The calculation is performed on the 5-digit level and more aggregated levels are calculated by summing up the sub-items.

Table 81: Calculations in years without HBS. Example, Year 2017

Consumption heading (ECOICOP)	Volume indicator 2016	Volume indicator 2017	Change of volume indicator	Change of price (CPI)	Change of quality	Change of value	NA 2016	NA 2017
01.2.1 Coffee, tea and cocoa							405	418
01.2.1.1.ND Coffee	9.9	9.6	0.970	1.095	1.000	1.062	326	344
01.2.1.2.ND Tea	No separate indicator, one-half of the change in the volume indicator of coffee is taken		0.985	1.020	1.000	1.005	47	47
01.2.1.3.ND Cocoa	11.7	11.8	1.008	0.881	1.000	0.888	32	27

The calculation of food was greatly hampered by the discontinuation of statistics on the food industry, after which as detailed data have not been available. However, it now appears that it will become easier in future when so-called scanner data become available for the calculation, first as a comparison indicator for value change (does not cover all sales) and later possibly directly as a basis for value data if the coverage of the data is sufficiently good.

5.7.2.3 *Business statistics system/ Register of Enterprises and Establishments*

5.7.2.3.1 Statistical data of the Register of Enterprises and Establishments as source data

When examining the product flow from the producer to the consumer, retail trade functions are an important interconnection point in the transition of products from the distribution stage to final consumption. Therefore, when deriving consumption expenditure estimates, it is sensible to use data that describe the sales of retail trade as the basic data source. These data are the establishment-specific turnover data of various actors in retail trade that are available from Statistics Finland's Register of Enterprises and Establishments. Corresponding turnover data of certain service industries are also quite useful. The establishment-specific turnover data by industry are available at the most detailed classification level.

5.7.2.3.2 Distributing industry-specific turnover data by product

The basis for the consumption expenditure calculation of trade and service industries is formed by establishment-specific turnover data. Because data on the distribution of turnover between different products are not compiled in statistics by industry, product-specific sales for each industry must be estimated as precisely as possible to enable consumption expenditure calculation. This takes place as an annually repeated iterative process by exploiting, for instance, data obtained from trade organisations and trade groups on sales distribution and on demand. The detailed classification of industries in the register of establishments helps in the division of product

categories. The product division is expressed both in euro and as relative shares of products (%) in the industry's turnover, so that the division can be used as the base for the product division in the following statistical year.

Table 82: Turnover by product based on the Register of Establishments, in 2018. Example:

	47191 Self-service department stores (over 2,500 m2)	47192 Department stores (over 2,500 m2)	47711 Retail sale of women's clothing	47712 Retail sale of men's clothing	47713 Retail sale of children's clothing	47719 Relail sale of clothing in non-specialized stores	Other industries, total	Official sales of the industries excluding taxes, total
Turnover (EUR million)	1,605	796	237	152	63	1,041		
Distribution by product (%):								
03.1.2 Garments								
03.1.2.1.SD Garments for men	5.2	5		94		26.25		
03.1.2.2.SD Garmens for women	11.25	11.5	94			56.75		
03.1.2.3.SD Garments for infants (0 to 2 years) and children (3 to 13 years)	1.61	1.95	2	2	96	9		
Distribution by product (EUR million):								
03.1.2 Garments								
03.1.2.1.SD Garments for men	83.5	39.8	54.1	142.9	9.8	2763.	392.5	932.0
03.1.2.2.SD Garmens for women	180.6	91.5	222.8	8.9	1.8	590.8	614.4	1,700.1
03.1.2.3.SD Garments for infants (0 to 2 years) and children (3 to 13 years)	25.8	15.5	4.7	3.0	60.5	93.7	191.0	394.2

5.7.2.3.3 Revisions required by the consumption expenditure calculation in product-specific sales data

The product-specific turnover formed as described above only gives the base for turning the data into households' consumption expenditure. In order to achieve a comparable consumption expenditure estimate, revisions must be made in the data, which are:

- Add product-specific value added tax and other taxes based direct on the volume of sales to the sum of tax-free sales (taxes are not, however, added to the share of sales that has been bought as tax-free purchases by tourists from outside the European Economic Area).
- An estimate of the value of products sold outside the point-of-sale system is added.
- Estimate the share of sales of each product in retail trade (and sales of services) that belongs to households, mainly based on HBS as well as SUT calculations.

- In order to form the entire product-specific consumption expenditure of households, an estimate of the value of products purchased by households from outside the examined industries is added.

Table 83: From turnover in the Register of Establishments to households' consumption expenditure, in 2018. Example.

	Official sales of the industries excluding taxes, total	of which tax-free purchases by tourists from outside the European economic territory	VAT %	Official sales of the industries with taxes, total	Share of unrecorded sales relative to recorded sales	Of the sales of households' consumption expenditure	Households purchases from the mentioned industries	Households purchases from elsewhere	Households' consumption expenditure calculated from the sales of the Register of Establishments
	EUR million	EUR million		EUR million	Ratio	Ratio	EUR million	EUR million	EUR million
03.1.2 Garments	3,026.3	77.2		3,734			3,700		3,700
03.1.2.1.SD Garments for men	932.0	16.3	24	1,152		0.992	1,143		1,143
03.1.2.2.SD Garmens for women	1,700.1	52.0	24	2,093		0.991	2,077		2,077
03.1.2.3.SD Garments for infants (0 to 2 years) and children (3 to 13 years)	394.2	8.9	24	487		0.987	480		480

The result is an estimate of households' consumption expenditure derived from the statistics of the Register of Enterprises and Establishments. In order to determine the final estimate in accordance with the National Accounts, the figure is compared with similar consumption expenditure estimates derived from other sources, and the selection is made based on the comparison process. For the years when HBS is available, it is used for comparisons. Also, for example, there are statistical data on the sales of garments that are utilised in the calculation next to turnover data.

A corresponding calculation method is used as the primary method for the products listed in the following table. These data based on the calculation are also produced for all foods and they are compared with the data produced by the calculation done specifically for foods.

Table 84: Products, whose calculation method is A and their revision from turnover data to consumption expenditure estimates, in 2018

	Official sales of the industries excluding taxes, total	of which tax-free purchases by tourists from outside the European economic territory	VAT %	Other taxes based direct on the volume of sales	Official sales of the industries with taxes, total	Share of unrecorded sales relative to recorded sales	Of the sales of households' consumption expenditure	Households purchases from the mentioned industries	Households purchases from elsewhere	Households' consumption expenditure calculated from the sales of the Register of Establishments
		TAX FREE				Ratio	Ratio	EUR million	EUR million	EUR million
01.1.9.6.ND Other food products n.e.c.	830.5	0	14		947		0.987	934		934
03.1.1.0.SD Clothing materials	57.9	0	24		72		0.920	66		66
03.1.2.1.SD Garments for men	932.0	16.3	24		1,152		0.992	1,143		1,143
03.1.2.2.SD Garments for women	1,700.1	52.0	24		2,096		0.991	2,077		2,077
03.1.2.3.SD Garments for infants (0 to 2 years) and children (3 to 13 years)	394.2	8.9	24		487		0.987	480		480
03.1.3.X.SD Other articles of clothing and clothing accessories	248,7		24		308		0,985	304		304
03.2.1.1.SD Footwear for men	207,8	2,2	24		257		0,938	241		241
03.2.1.2.SD Footwear for women	297,3	3,0	24		368		0,938	346		346
03.2.1.3.SD Footwear for infants and children	78,1	1,5	24		96	0,05	0,960	97	9.7	107
05.1.1.1.D Household furniture	1,049.3	7.4	24		1,299		0.795	1,033		1,033
05.1.1.2.D Garden furniture	97.9		24		121		0.831	101		101
05.1.1.3.D Lighting equipment	93.6		24		116		0.922	107		107
05.1.1.9.D Other furniture and furnishings	285.0	3.0	24		353		0.756	267		267
05.1.2.X.D Carpets and other floor coverings	144.8		24		180		0.858	154		154
05.2.0.1.SD Furnishings fabrics and curtains	76.2		24		94		0.990	93	2.8	96
05.2.0.2.SD Bed linen	191.3		24		237		0.996	236	14.2	251
05.2.0.3.SD Table linen and bathroom linen	78.1		24		97		0.892	86	2.6	89
05.2.0.9.SD Other household textiles	38.6		24		48		0.950	46		46
05.4.0.1.SD Glassware, crystal-ware, ceramic ware and chinaware	96.9	1.5	24		120		0.990	119		119
05.4.0.2.SD Cutlery, flatware and silverware	42.7		24		53		0.524	28		28
05.4.0.3.SD Non-electric kitchen utensils and articles	206.4		24		256		0.955	244		244
05.6.1.1.ND Cleaning and maintenance products	294.5		24		365		0.816	298		298
05.6.1.2.ND Other non-durable small household articles	457.0		24		567		0.859	487		487
06.1.2.X.ND Other medical products	60.6		24	3	78		0.932	74		74
06.1.3.X.D Therapeutic appliances and equipment	534.8		24		663		0.822	545		545
07.1.2.0.D Motorcycles	329.3		24	31	439		0.409	179		179
07.1.3.0.D Bicycles	178.2		24		221		0.909	201		201
07.2.1.1.SD Tyres	722.5	0.3	24		896		0.319	286		286
07.2.1.2.SD Spare parts for personal transport equipment	1,978.7	1.1	24		2,453		0.243	595		595
07.2.1.3.SD Accessories for personal transport equipment	110.7	0.1	24		137		0.183	25		25
09.1.3.3.D Software	45.5		24		56		0.750	42		42

09.1.3.4.D Calculators and other information processing equipment	0.0		24		0		0.900	0		0
09.1.4.1.SD Pre-recorded recording media	142.9		24		177		0.591	105		105
09.1.4.2.SD Unrecorded recording media	3.4		24		4		0.500	2		2
09.1.4.9.SD Other recording media	20.9		24		26		1.000	26		26
09.2.1.X.D Major durables for outdoor recreation	591.6		24		734		0.721	529		529
09.2.2.X.D Musical instruments and major durables for indoor recreation	154.1		24		191		0.897	171		171
09.3.1.1.SD Games and hobbies	101.0		24		125		0.985	123	6.2	130
09.3.1.2.SD Toys and celebration articles	258.3		24		320		0.985	315	15.8	331
09.3.2.X.SD Equipment for sport, camping and open-air recreation	579.9	11.9	24		716		0.974	697	34.9	732
09.3.3.1.SD Garden products	98.4		24		122		0.923	113		113
09.3.3.1.ND Plants and flowers	377.6		24		468		0.923	432		432
09.3.4.2.ND Products for pets	477.8		24		592		0.827	490	4.9	495
09.5.1.X.SD Books	347.6		10		382		0.896	342	3.4	346
09.5.3.0.ND Miscellaneous printed matter	86.0		24		107		0.988	105	1.1	106
09.5.4.X.ND Stationery and drawing materials	41.1		24		51		0.981	50		50
12.1.3.1.SD Non-electric appliances	111.0		24		138		0.904	124		124
12.1.3.2.ND Articles for personal hygiene and wellness, esoteric products and beauty products	1,070.0	3.0	24		1,326		0.843	1,117		1,117
12.3.1.1.D Jewellery	182.5	13.4	24		223		0.999	223		223
12.3.1.2.D Clocks and watches	69.3	6.0	24		85		0.927	78		78
12.3.2.1.SD Travel goods	120.3	0.7	24		149		0.840	125		125
12.3.2.2.SD Articles for babies	44.8		24		56		0.944	52		52
12.3.2.9.SD Other personal effects n.e.c.	75.5		24		94		0.955	90		90

5.7.2.3.4 Comparison and reconciliation: consumption expenditure estimates derived from different sources

For the years for which a Household Budget Survey exists, the data deriving from other data sources and calculation methods based on these are compared and revised in accordance with the results of the Household Budget Survey. Reasons for the differences between calculation estimates used in intermediate years and the data of the Household Budget Survey are sought and the revision are allocated to the appropriate calculation items.

More detailed data have been available on retail trade sales (e.g. sales distribution by product) for the years when the base year of the Consumer Price Index has changed and the data have been used in the calculations for those years (until the next data are received). The aim of Statistics Finland is, however, to make agreements with the largest trade groups to receive data annually, and the idea is to examine how and with what type of timetable these data could be utilised in future calculations of households' consumption expenditure. Currently, Statistics Finland receives scanner data from one trade group that will be utilised as one estimate for value change, initially for daily consumer goods. Because to begin with the data have only come from one trade group, the change, and in particular the level, cannot be used as such as the basis of the calculation. The data have been used as comparison data in preparing the time series revision as far as

they have been available but to a larger extent they will be part of the calculations in future.

The data calculated based on the results of the 2012 Household Budget Survey were not revised based on the 2016 Household Budget Survey but the time series 2013 to 2016 were revised in accordance with the calculations produced by the 2016 Household Budget Survey. The annual changes by product caused by the data were also considered in the revised time series.

There is no separate calculation on products bought online as the data are assumed to be included both in the Household Budget Survey and in the turnover of trade enterprises. Some online stores are in their own industry and the online stores that are connected with a store operating in a physical location are in the same industry as the physical store. The figures are included in the consumption calculation through turnover data (method A).

5.7.2.4 *Production accounts of the National Accounts*

For many products – this applies in particular to services – the calculation can also be based on running utilisation of the production accounts of the National Accounts. The basic level of consumption expenditure must also in this case be defined by using direct data sources of consumption (e.g. the Household Budget Survey) side by side whenever possible.

In the method the industries producing each of the examined products are first charted by sector. Then, the share of the output of the producer industries of each sector that is allocated as households' consumption expenditure is derived as follows:

- Industry 1, industry 2, industry 3...
    - Output at basic prices
        - Breakdown of output into products:
            - Product 1, product 2, product 3...
                - Breakdown of product into various uses
                    - Other use than consumption
                    - Public consumption expenditure
                    - Consumption expenditure of non-profit institutions
- = Households' consumption expenditure at basic prices
    - plus value added tax and other taxes on products, net
- = Households' consumption expenditure at purchaser's prices

This way, households' consumption expenditure for each examined product can be collected and summed up from industry-specific calculations:

- Households' consumption expenditure for each product is derived by summing up the consumption expenditure of all industries in the product in question
    - Product 1: households' consumption expenditure from all industries
    - Product 2: households' consumption expenditure from all industries
    - Product 3: households' consumption expenditure from all industries
    - …

Whenever possible, the consumption expenditure derived in this manner is compared and reconciled with other data; here comparison with the Household Budget Survey:

- Comparison and reconciliation in the years when the Household Budget Survey is available:
    - Product 1 calculated with the output distribution method
        - plus/minus revisions caused by differences in the population and so on
- = Product 1, data from the Household Budget Survey

Examples on the application of the method in calculating consumption expenditure are presented in connection with the heading-specific methodological examination.

5.7.2.5 *Other sources*

Other data sources and methods than the above-described general methods are used in many consumption headings. In all cases, the aim is, however, as extensive data comparison as possible. These methods are described under the product heading in question in connection with the methodological examination of the product classification.

Estimates on products included in the hidden economy made for the entire economy are also used in compiling households' consumption expenditure (narcotics and prostitution come directly to these calculations). No particular revisions are done related to the intermediate consumption of the underground economy.

The table below lists the other main data sources and their producers.

Table 85: The main complementing data sources and their producers

Identifier	Name of DATA SOURCE	NAME OF COMPILER/PUBLISHER
1	Balance Sheet for Food Commodities	Natural Resources Institute Finland, LUKE
2	Scanner data	Trade groups (not published, only for Statistics Finland's use)

3	Consumer Price Index	Statistics Finland
4	National accounting production accounts	Statistics Finland
5	Statistics on production and consumption	Lihatiedotus, Siipikarjaliitto, Finnish Beekeepers' Association, ICO (International Coffee Organization)
6	Statistics of the Federation of the Brewing and Soft Drinks Industry	Federation of the Brewing and Soft Drinks Industry
7	MARSI survey (produced annually)	Agency for Rural Affairs
8	Yearbook of alcohol and drugs	National Institute for Health and Welfare
9	Tobacco statistics	National Institute for Health and Welfare & Statistics Finland
10	Home appliance statistics	Kodintekniikkaliitto
11	Indices of turnover of trade, data on turnover of trade by industry	Statistics Finland
12	Social protection and health expenditure, Finnish statistics on medicines	National Institute for Health and Welfare, Social Insurance Institution
13	Vehicle register, imported used vehicles by persons who have lived abroad, prices of vehicles	Finnish Vehicle Administration, Finnish Customs, Finnish Information Centre of Automobile Sector
14	Sales volumes of fuels	Finnish Petroleum Federation
15	Statistics describing passenger volumes and transport kilometres	VR, HSL, Finavia, Finnish Maritime Administration
16	Mass media statistics, cultural statistics, statistics of the Film Foundation	Statistics Finland, Film Foundation
17	Profit and loss account data	Veikkaus, RAY, PAF, Hippos
18	Statistics on hotel and restaurant activities	Finnish Hospitality Association (MaRa)
19	Tourism statistics	Statistics Finland

5.7.2.6 *Final consumption expenditure figures*

The final National Accounts are completed in accordance with the supply and use tables. The change needs indicated by the supply and use tables in the consumption expenditure calculations are allocated to the calculation items compliant with the method.

The level of preliminary households' consumption expenditure is determined as a result of the summary process of the entire balance of supply.

The summary process of the National Accounts is described in CHAPTER 6.

5.7.3 Detailed calculations by COICOP item

The basic calculation method is presented for each product heading and the complementing sources used are listed. In addition, calculation by product heading of which some are examples of calculations used for several products are presented. New calculation level categories according to ECOICOP have been introduced for all items in this section. These headings and codes were used for the first time in the release made in

September 2019. The calculation examples presented here concern the year 2018.

5.7.3.1 *01 FOOD AND NON-ALCOHOLIC BEVERAGES*

The main sources for calculating food are, on the one hand, the Household Budget Survey (that can be considered extremely reliable in terms of consumption data for food) and, on the other hand, calculation based on volume and price indicators. Scanner data (gradually starting from 2015) are also included as a new data source. Comparison data are also calculated for food using turnover data of shops, and, when necessary, data based on volume and price indicators are revised based on turnover data. So both A and B methods are used in the calculation of food, of which A is primary in the years when the Household Budget Survey exists and B in the years where there is no Household Budget Survey.

The complementary sources used are listed in Section 5.7.2.5.

Table 86: The calculation methods of category C01 Food and non-alcoholic beverages and complementary sources used

Year 2018	**Value**		**Basic calculation method**		**Complementary sources used**																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
01 FOOD AND NON-ALCOHOLIC BEVERAGES	13,627	x																					
01.1 Food	12,383	x																					
01.1.1 Bread and cereals	1,895	x																					
01.1.1.1.ND Rice	70		x	(B/01)	x	x	x																
01.1.1.2.ND Flour and other cereals	65		x	(B/01)	x	x	x																
01.1.1.3.ND Bread	691		x	(B/01)	x	x	x																
01.1.1.4.ND Other bakery products	567		x	(B/01)	x	x	x																
01.1.1.5.ND Pizza and quiche	259		x	(B/01)	x	x	x																
01.1.1.6.ND Pasta products and couscous	135		x	(B/01)	x	x	x																
01.1.1.7.ND Breakfast cereals	67		x	(B/01)	x	x	x																
01.1.1.8.ND Other cereal products	41		x	(B/01)	x	x	x																
01.1.2 Meat	2,157	x																					
01.1.2.1.ND Beef and veal	290		x	(B/01)x	x	x	x		x														
01.1.2.2.ND Pork	271		x	(B/01)x	x	x	x		x														
01.1.2.3.ND Lamb and goat	25		x	(B/01)	x	x	x		x														
01.1.2.4.ND Poultry	381		x	(B/01)	x	x	x		x														
01.1.2.5.ND Other meats	101		x	(B/01)	x	x	x																
01.1.2.6.ND Edible offal	5		x	(B/01)	x	x	x		x														
01.1.2.7.ND Dried, salted or smoked meat	841		x	(B/01)	x	x	x		x														
01.1.2.8.ND Other meat preparations	243		x	(B/01)	x	x	x		x														
01.1.3 Fish and seafood	640	x																					
01.1.3.1.ND Fresh or chilled fish	334		x	(B/01)	x	x	x																

01.1.3.2.ND Frozen fish	15		x	(B/01)	x	x	x															
01.1.3.3.ND Fresh or chilled seafood	3		x	(B/01)	x	x	x															
01.1.3.4.ND Frozen seafood	3		x	(B/01)	x	x	x															
01.1.3.5.ND Dried, smoked or salted fish and seafood	167		x	(B/01)	x	x	x															
01.1.3.6.ND Other preserved of processed fish and seafoodbased preparations	118		x	(B/01)	x	x	x															
01.1.4 Milk, cheese, and eggs	2,227	x																				
01.1.4.1.ND Whole milk (Milk, whole, fresh – includes UHT)	45		x	(B/01)	x	x	x															
01.1.4.2.ND Low fat milk (Milk, low fat, fresh – includes UHT)	410		x	(B/01)	x	x	x															
01.1.4.3.ND Preserved milk	2		x	(B/01)	x	x	x															
01.1.4.4.ND Yoghurt	307		x	(B/01)	x	x	x															
01.1.4.5.ND Cheese and curd	859		x	(B/01)	x	x	x															
01.1.4.6.ND Other milk products	462		x	(B/01)	x	x	x		x													
01.1.4.7.ND Eggs	142		x	(B/01)	x	x	x		x													
01.1.5 Oils and fats	298	x																				
01.1.5.1.ND Butter	162		x	(B/01)	x	x	x															
01.1.5.2.ND Margarine and other vegetable fats	89		x	(B/01)	x	x	x															
01.1.5.3.ND Olive oil	20		x	(B/01)	x	x	x															
01.1.5.4.ND Other edible oils	27		x	(B/01)	x	x	x															
01.1.5.5.ND Other edible animal fats	-		x	(B/01)	x	x	x															
01.1.6 Fruit	1,093	x																				
01.1.6.1.ND Fresh or chilled fruit	812		x	(B/01)	x	x	x															
01.1.6.2.ND Frozen fruit	32		x	(B/01)	x	x	x															
01.1.6.3.ND Dried fruit and nuts	166		x	(B/01)	x	x	x				x											
01.1.6.4.ND Preserved fruit and fruitbased products	83		x	(B/01)	x	x	x															
01.1.7 Vegetables	1,209	x																				
01.1.7.1.ND Fresh or chilled vegetables other than potatoes and other tubers	754		x	(B/01)	x	x	x				x											
01.1.7.2.ND Frozen vegetables other than potatoes and other tubers	53		x	(B/01)	x	x	x															
01.1.7.3.ND Dried vegetables, other preserved or processed vegetables	142		x	(B/01)	x	x	x															
01.1.7.4.ND Potatoes	162		x	(B/01)	x	x	x															
01.1.7.5.ND Crisps	98		x	(B/01)	x	x	x															
01.1.7.6.ND Other tubers and products of tuber vegetables	-		x	(B/01)	x	x	x															
01.1.8 Sugar, jam, honey, chocolate, and confectionery	1,058	x																				
01.1.8.1.ND Sugar	37		x	(B/01)	x	x	x															
01.1.8.2.ND Jams, marmalades and honey	81		x	(B/01)	x	x			x													
01.1.8.3.ND Chocolate	326		x	(B/01)	x	x	x															
01.1.8.4.ND Confectionery products	391		x	(B/01)	x	x	x															

01.1.8.5.ND Edible ices and ice cream	215		x	(B/01)	x	x	x															
01.1.8.6.ND Artificial sugar substitutes	8		x	(B/01)	x	x	x															
01.1.9 Food products n.e.c.	1,806	x																				
01.1.9.1.ND Sauces, condiments	173		x		x	x	x															
01.1.9.2.ND Salt, spices and culinary herbs	100		x	(B/01)	x	x	x															
01.1.9.3.ND Baby food	66		x	(B/01)	x	x	x															
01.1.9.4.ND Ready-made meals	533		x	(B/01)	x	x	x															
01.1.9.9.ND Other food products n.e.c.	934		x	(B/01)	x	x	x															
01.2 Non-alcoholic beverages	1,244	x																				
01.2.1 Coffee, tea, and cocoa	420	x																				
01.2.1.1.ND Coffee	348		x	(B/01)		x	x		x													
01.2.1.2.ND Tea	46		x	(B/01)		x	x		x													
01.2.1.3.ND Cocoa and powdered chocolate	26		x	(B/01)	x	x	x															
01.2.2 Mineral waters, soft drinks, fruit and vegetable juices	824	x																				
01.2.2.1.ND Mineral or spring waters	143		x	(B/01)		x	x			x												
01.2.2.2.ND Soft drinks	362		x	(B/01)		x	x															
01.2.2.3.ND Fruit and vegetable juices	319		x	(B/C01)	x	x	x			x												

Table 87: An example of the use of volume and price indicators (method B/01 => 01.1.4.7.ND Eggs) in the calculation of food

Information	2017	2018	Change	Source
Volume: Eggs (million kg, gross)	65.4	64.9	0.992	Balance Sheet for Food Commodities
Price: CPI (2010=100)	102.09	108.22	1.060	CPI
Change in quality			1.000	Estimate
Change in value (sum of the previous)			1.052	
01.1.4.7.ND Eggs	**135**	**142**		

5.7.3.2 *02 ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS*

Alcoholic beverages, tobacco and narcotics are products that cannot be reliably calculated with the Household Budget Survey so other sources are used in the calculation. However, the calculations of these items are also compared with the change percentages deriving from the Household Budget Survey and, if necessary, the calculation is revised based on these data.

Table 88: The calculation methods of category 02 Alcoholic beverages, tobacco and narcotics and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
02 ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS	5,527	**x**																					
02.1 Alcoholic beverages	3,487	x																					
02.1.1 Spirits	771	x																					
02.1.1.X.ND Spirits	771			x (B/021)			x					x											
02.1.2 Wine	1,257	x																					
02.1.2.X.ND Wine	1,257			x (B/021)		x	x					x											
02.1.3 Beer	1,459	x																					
02.1.3.X.ND Beer	1,459			x (B/021)		x	x			x		x											
02.2 Tobacco	1,757	x																					
02.2.0 Tobacco	1,757	x																					
0.2.2.0.X.ND Tobacco	1,757			x (B/022)		x	x						x										
02.3 Narcotics	283	x																					
02.3.0 Narcotics	283	x																					
02.3.0.0.ND Narcotics	283			x (B/023)			x	x															

Table 89: Table 22. Calculation of group 02.1 Alcoholic beverages (method B/021)

Information	**2018**
Yearbook of alcohol and drugs (National Institute for Health and Welfare):	
Value of retail consumption of alcoholic beverages, EUR 1,000	
Liquor	345,004
Other strong alcoholic beverages	284,381
Fortified wines	37,045
Wines	685,874
Ciders (belongs to 02.1.2.X.ND Wines)	149,532
Long drinks (belongs to 02.1.2.X.ND Wines)	309,846
Strong beer	144,008
Medium strength beer	1,202,784
Total (further grouped into the National Accounts headings):	3,220,191
02.1.1.X.ND Spirits, EUR million	629
02.1.2.X.ND Wine, EUR million	1,182
02.1.3.X.ND Beer, EUR million	1,347
Share of entertainment consumption in retail consumption:	
021.1.X.ND Spirits	0.01
02.1.2.X.ND Wine	0.01
02.1.3.X.ND Beer	0.01
Value of retail consumption less entertainment consumption:	
02.1.1.X.ND Spirits, EUR million	623
02.1.2.X.ND Wine, cider, long drinks, EUR million	1,170
02.1.3.X.ND Beer, EUR million	1,333

Alcohol imported by tourists, from separate calculations:	
Alcohol sales in water transport, EUR 1,000:	
02.1.1.X.ND Spirits	95,962
02.1.2.X.ND Wine, cider, long drinks	45,545
02.1.3.X.ND Beer	45,545
Alcohol sales in air transport, EUR 1,000:	
02.1.1.X.ND Spirits	9,311
02.1.2.X.ND Wine, cider, long drinks	3,793
02.1.3.X.ND Beer	805
Total alcohol sales in water and air transport (EUR million)	
02.1.1.X.ND Spirits	105
02.1.2.X.ND Wine, cider, long drinks	49
02.1.3.X.ND Beer	45
Smuggling of alcohol (from hidden economy calculations to the household consumption)**:**	14
Brewery statistics:	
Beer max. 2.8 percentage by volume, domestic sales (incl. imports by breweries), 1,000 litres	6,462
Beer max. 2.8 percentage by volume, share of sales bought by households	0.75
Beer max. 2.8 percentage by volume, share of sales bought by households, 1,000 litres	4,847
Beer max. 2.8 percentage by volume, average consumer price, EUR/l	2.05
Beer max. 2.8 percentage by volume, sale to households, EUR million	10
Soft drinks, domestic sales, 1,000 litres (total)	264,700
Share of alcoholic soft drinks (1.2 to 2.8 percentage by volume) in soft drinks (estimate)	0.01
Alcoholic soft drinks (1.2 to 2.8 percentage by volume), sales 1,000 litres	2,647
Alcoholic soft drinks (1.2 to 2.8 percentage by volume), average consumer price EUR/l	2.07
Alcoholic soft drinks (1.2 to 2.8 percentage by volume), sale to households, EUR million	5
Balancing to the level of supply and use tables:	
02.1.1.X.ND Spirits, EUR million	*+29*
02.1.2.X.ND Wine, cider, long drinks, EUR million	*+33*
02.1.3.X.ND Beer, EUR million	*+70*
Collection of the above:	
02.1 Alcoholic beverages, EUR million	3,487
02.1.1 Spirits, EUR million	771
02.1.1.X.ND Spirits, EUR million	771
02.1.2 Wine, EUR million	1,257
02.1.2.X.ND Wine, EUR million	1,257
02.1.3 Beer, EUR million	1,459
02.1.3.X.ND Beer, EUR million	1,459

Table 90: Calculation of group 02.2 Tobacco (method B/022)

Information	**2018**
Revenue from tobacco tax	1,115

Change in revenue from tobacco tax	1.159
Share of tobacco tax in the selling price of tobacco (%): National Institute for Health and Welfare Appendix table 20a	68.70
Value of retail sales exclusive of VAT (calculated on the basis of the revenue from and share of tobacco tax)	1,623
VAT	24
Value of retail sales of tobacco (incl. VAT) based on revenue from tobacco tax	2,013
Change in value of retail sales of tobacco (incl. VAT) based on revenue from tobacco tax	1.117
Change in the value of retail sales of tobacco (two-year moving average)	1.039
Value change of tobacco products in scanner data	1.011
Change in the value of tobacco products as an average of two change percentages	1.025
Starting data of the previous year's calculation as taken forward by the change percentage	1,675
Share of entertainment consumption in retail consumption (%)	0.001
Value of entertainment consumption in retail consumption (EUR million)	2
Tobacco imported by tourists, from separate calculations:	
Water transport, EUR million	32
Air transport, EUR million	7
Tax-free total, EUR million	39
Value of smuggling (from hidden economy calculations to the household consumption):	
Smuggling of tobacco	38
Smugling of snuff	33
Balancing	**-26**
02.2 Tobacco total, EUR million	**1,757**

Table 91: Calculation of group 02.3 Narcotics (method B/023)

Information	**2018**
From calculations on the underground economy (corporate team):	
02.3 Narcotics total, EUR million	**283**

5.7.3.3 *03 CLOTHING AND FOOTWEAR*

Method A, i.e. the Household Budget Survey and shops' turnover data, is used for clothing and footwear. For the services the production account calculations are used, and the more detailed division of services is base mainly on HBS.

Table 92: The calculation methods of category C03 Clothing and footwear and complementary sources used

Year 2018	**Value**		**Basic calculation method**		**Complementary sources used**																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
03 CLOTHING AND FOOTWEAR	4,839	x																					
03.1 Clothing	4,127	x																					
03.1.1 Clothing materials	66	x																					
03.1.1.0.SD Clothing materials	66		x												x								
03.1.2 Garments	3,700	x																					
03.1.2.1.SD Garments for men	1,143		x												x								
03.1.2.2.SD Garments for women	2,077		x												x								

03.1.2.3. SD Garments for infants (0 to 2 years) and children (3 to 13 years)	480		x											x							
03.1.3 Other articles of clothing and clothing accessories	304	x																			
03.1.3.X.SD Other articles of clothing and clothing accessories	304		x											x							
03.1.4 Cleaning, repair and hire of clothing	57	x																			
03.1.4.X.S Cleaning, repair and hire of clothing	57			x / B (Share of output)				x													
03.2 Footwear	712	x																			
03.2.1 Shoes and other footwear	694	x																			
03.2.1.1.SD Footwear for men	241		x											x							
03.2.1.2.SD Footwear for women	346		x											x							
03.2.1.3.SD Footwear for infants and children	107		x											x							
03.2.2 Repair and hire of footwear	18	x																			
03.2.2.0.S Repair and hire of footwear	18			x / B (Share of output)										x							

For repair services, the calculation starts from production account data (both the Household Budget Survey and other research data have been used in assessing the ratios of sub-items), whereby whether the repair is paid or whether insurance compensated for the repair does not influence the calculations. In the Household Budget Survey, repairs paid through insurance do not belong to repair services but are included in insurance premiums. In National Accounts calculations, the calculation of insurance premiums is not based on households' insurance premiums but the basis is output data, so repair costs are not included in insurance calculations in the National Accounts' consumption expenditure, that is, they are included in consumption expenditure only once.

Table 93: An example of calculations based on production accounts in categories 03, 05, 09 and 12.

NACE95 Repair of computers and personal and household goods / Sector: S11 + S14 / Producer type: T10	**Basic price (EUR million)**	**% share**	**VAT-%**	**EUR million incl. VAT**
P1R Output	321	100	24	398
out of which to 03.1.4.X.S Cleaning, repair and hire of clothing		10		40
out of which to 03.2.2.0.S Repair and hire of footwear		4.4		18
out of which to 05.1.3.0.S Repair of furniture, furnishings and floor coverings		33.3		133
out of which to 05.2.0.4.S Repair of household textiles		3.1		12
out of which to 05.3.3.0.S Repair of household appliances		12.4		49
out of which to 05.4.0.4.S Repair of glassware, tableware and household utensils		3.8		15
out of which to 09.1.5.0.S Repair of audio-visual, photographic and information processing equipment		16.5		66

out of which to 09.2.3.0.S Maintenance and repair of other major durables for recreation and culture		12.3		49
out of which to 12.3.1.3.S Repair of jewellery, clocks and watches		4.2		17
out of which to 12.3.2.3.S Repair of other personal effects		0		0

5.7.3.4 *04 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS*

For housing, the consumption expenditure data are produced by a sector researcher specialised in housing and construction. The sources used and basic calculation principles are explained by product.

Table 94: Calculation methods for category 04 Housing, water, electricity, gas and other fuels

Year 2018	**Value**		**Basic calculation method**	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…
04 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS	33,738	x		
04.1 Actual rentals for housing	7,435	x		
04.1.X Actual rentals for housing	7,435	x		
04.1.X.X.S Actual rentals for housing	7,435			x (B/04)
04.2 Imputed rentals for housing	20,332	x		
04.2.X Imputed rentals for housing	20,332	x		
04.2.X.X.S Imputed rentals for housing	20,332			x (B/04)
04.3 Maintenance and repair of the dwelling	183	x		
04.3.1 Materials for the maintenance and repair of the dwelling	183	x		
04.3.1.0.ND Materials for the maintenance and repair of the dwelling	183			x (B/04)
04.3.2 Services for the maintenance and repair of the dwelling	0	x		
04.3.2.X.S Services for the maintenance and repair of the dwelling	0			x (B/04)
04.4 Water supply and miscellaneous services relating to the dwelling	640	x		
04.4.1 Water supply	426	x		
04.4.1.0.ND Water supply	426			x (B/04)
04.4.2 Refuse collection	191	x		
04.4.2.0.S Refuse collection	191			x (B/04)
04.4.3 Sewage collection	0	x		
04.4.3.0.S Sewage collection	0			x (B/04)
04.4.4 Other services relating to the dwelling n.e.c.	23	x		
04.4.4.X.S Other services relating to the dwelling n.e.c.	23			x (B/04)
04.5 Electricity, gas and other fuels	5,148	x		
04.5.1 Electricity	2,738	x		
04.5.1.0.ND Electricity	2,738			x (B/04)
04.5.2 Gas	0	x		
04.5.2.X.ND Gas	0			x (B/04)
04.5.3 Liquid fuels	385	x		
04.5.3.0.ND Liquid fuels	385			x (B/04)
04.5.4 Solid fuels	426	x		

04.5.4.X.ND Solid fuels	426			x (B/04)
04.5.5 Heat energy	1,599	x		
04.5.5.0.ND Heat energy	1,599			x (B/04)

5.7.3.4.1 Main calculation principles and sources (method *B/04*)

The basis for the calculation of consumption related to households' housing are the housing output of industries "68201 Letting of dwellings" and "68202 Operation of dwellings". The housing output of industry 68201 includes market output, i.e. the gross rents of rented dwellings. The housing output of industry 68202 includes output for own final use, i.e. the imputed gross rents of owner-occupied dwellings that are estimated with the help of the market rents of corresponding rented dwellings. Households consume the housing output of the industry in full as housing services. The outputs of industries 68201 and 68202 are calculated using the so-called stratification method as an outcome of the housing stock divided into categories and the rents per square metre corresponding to the categories. The rents per square metre derive from Statistics Finland's rent statistics.

According to the rent concept of the rent statistics, in addition to the actual rent, separately paid water charges and heating costs are considered part of the rent. Rents do not include other possible usage charges of dwellings, such as sauna, laundry or other such charges or electricity and telephone charges. Gross rents of detached houses do not include heating costs in the output calculations of industries 68201 and 68202.

Table 95: Handling of heating, water supply, waste collection and sewage services in private consumption of housing consumption expenditure and in industries "68201 Letting of dwellings" and "68202 Operation of dwellings"

		Industries 68201 and 68202		Private consumption	
Building type	Service	Included	Transaction	Included	ECOICOP
Blocks of flats, terraced houses and holiday homes	Heating	no	-	yes	04.5
	Water supply	yes	P1, P2	yes	04.1, 04.2
	Waste collection	yes	P1, P2	yes	04.1, 04.2
	Sewage services	yes	P1, P2	yes	04.1, 04.2
Detached houses	Heating	no	-	yes	04.5
	Water supply	on	-	yes	04.4.1
	Waste collection	no	-	yes	04.4.2
	Sewage services	no	-	yes	04.4.1

In accordance with the table above, water supply, waste collection and sewage services are primarily included in actual and imputed rentals in private consumption of attached houses, block of flats and holiday homes expenditure. Water supply, waste collection and sewage services of detached houses are included in water supply etc. costs. Heating costs of all construction types are included in heating costs.

5.7.3.4.1.1 04.1 Actual rents for housing

Actual rents for housing consist of the actual housing rents of dwellings and free-time residences. Their gross value is based on the market output of dwellings and free time residences in industry "68201 Letting of dwellings". In addition, the housing output of sectors "S1311 Central government", "S1313 Local government" and “S13141 Employment pension schemes” are recorded in actual rents for housing.

The actual rents for housing of dwellings (excl. free-time residences) come from the stratification calculations. The actual rents for housing of free-time residences, i.e. the rents of rented free-time residences are calculated from the data of the Household Budget Survey (consumption expenditure, EUR/household * number of households). The rents consist of the items "rent" and "plot rent" pertaining to free-time residences. The housing output of sectors S1311, S1313 and S13141 derive from administrative data.

5.7.3.4.1.2 04.2 Imputed rents for housing

Imputed rents for housing consist of imputed housing rents of owner-occupied dwellings and free-time residences used by their owners. Their gross value is the output for own final use of dwellings and free time residences in industry "68202 Operation of dwellings".

The imputed rents for housing of dwellings (excl. free-time residences) come from the stratification calculations.

The imputed rents for housing of free-time residences are calculated from the data of the Household Budget Survey (consumption expenditure, EUR/household * number of households). The imputed rents consist of the items repair costs, water supply and sewerage charges, fire insurance premium (share of service fee), waste charges andchimney sweeping costs pertaining to free-time residences In addition, a certain share of consumption of fixed capital of industry "68202 Operation of dwellings" evaluated as belonging to free-time residences is added to the imputed rents for housing of free-time residences, i.e. the output of owner-occupied free-time residences. The third part of output of free-time residencies consists of mark-up of owner occupied free-time residences. The mark-up is assessed to be 10 per cent of the combined costs of information from the Household Budget Survey and consumption of fixed capital addition.

5.7.3.4.1.3 04.3 Materials and services for the maintenance and repair of dwelling

Costs arising from small repairs and maintenance of dwellings that are carried out by the tenant or owner-occupied dweller themselves are included in private consumption expenditure. The costs are divided into two groups: costs for materials related to the maintenance and repair of dwelling, and costs for services related to the maintenance and repair of dwelling.

According to SNA2008's and ESA 2010's Classification of Individual Consumption According to Purpose, COICOP, **materials for the**

maintenance and repair of dwelling (04.3.1) are, for example, paints, varnishes, wallpapers, windowpanes, mortars, fillers, cement, floor and wall tiles, and so on. **Services for the maintenance and repair of dwelling** (04.3.2) are services by plumbers, electricians, carpenters, painters, and so on,

The costs of materials and services related to the maintenance and repair of dwelling are calculated from the **Household Budget Survey's** data "repairs made by tenants" (includes repair and maintenance of rented dwelling and dwelling provided as a benefit in kind). The value of small repairs carried out by owner-occupiers is estimated based on costs per square metre (repairs by renters divided by rented square metres) and owner-occupied square metres.

Materials for the maintenance and repair of dwelling are not included in gross rents. The costs of services for the maintenance and repair of dwelling are included in the intermediate consumption of industries "68201 Letting of dwellings" and "68202 Operation of dwellings", so the item in question is not included in private consumption.

5.7.3.4.1.4 04.4 Other services relating to housing

Other services relating to housing are **water supply** (04.4.1), **waste collection** (04.4.2), **sewage services** (04.4.3) and **other services relating to housing** (04.4.4). According to COICOP, water supply covers the water supply of dwellings, however, not hot water and steam from district heating plants. Waste collection covers collection and processing of waste. Sewage services cover collection and processing of sewage. Other services relating to housing (04.4.4) are caretaker services, care of green spaces, cleaning and lighting of stairways, maintenance of lifts and refuse chutes, security services, snow removal and chimney sweeping.

Water supply, waste collection and sewage services costs are included in actual and imputed rents for housing if they are paid for in connection with the maintenance charge or rent. If paid separately, these costs are recorded in the cost items water supply (04.4.1) and waste collection (04.4.2). Separately paid sewage service costs are included in the cost item water supply (04.4.1). The source for separately paid water supply, waste collection and sewage service costs is the Household Budget Survey.

Sauna, laundry or other such charges of housing companies, residential building companies and directly rented dwellings are recorded in the item "other services relating to housing (04.4.4)". The item is calculated based on the square metre specific cost items and square metre data of the dwelling stock that derive from the statistics on financial statements of housing corporations.

5.7.3.4.1.5 04.5 Electricity, gas and other fuels

The energy costs of dwelling are classified into five categories: **electricity** (04.5.1), **gas** (04.5.2), which according to COICOP's definition are town and natural gas, butane, propane, and so on, **liquid fuels** (04.5.3), which include fuel oil for heating and lighting, **solid fuels** (04.5.4), which include hard coal, coke, briquette, fuel wood, wood coal, peat, and so on, **hot**

water, steam and ice (04.5.5), that is, hot water and steam from district heating plants and ice for cooling. Electricity, gas and hot water, and steam from district heating plants and ice also include, for example, the costs for renting and reading meters.

Heating costs of detached houses, attached houses, blocks of flats and free-time residences are recorded in energy costs (04.5).

Energy costs of detached houses and blocks of flats are based on square metre cost information from Finance of housing companies and square metre information from Housing stock. The division of energy costs into categories 04.5.1 – 04.5.5 rests on renovation building surveys, which offer information on the share of various heating systems. Major part of heating costs **is** recorded into ’04.5.5 Heat energy’.

Energy costs of free-time residencies are based on the information of the Household Budget Survey (HBS). From the HBS data concerning free-time residencies, the following categories are included in energy costs of free-time residencies: electricity used in heating (04.5.1), light fuel oil (04.5.3) and solid fuels (04.5.4).

Energy costs of attached houses are based on the HBS information. From the HBS the following categories are included in energy costs of detached houses: electricity (04.5.1), light fuel oil (04.5.3), solid fuels (04.5.4) and separate heat energy costs (04.5.5). Besides heating, the electricity costs (04.5.1) cover also domestic electricity, the part of household electricity used in other needs than heating.

5.7.3.5 *05 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE*

Method A, that is, the Household Budget Survey and shops’ turnover data (for daily consumer goods also scanner data), is used for furnishings and household equipment, while method B is used for household services. For appliances the data from association of household appliance salers (KOTEK) is used.

Table 96: The calculation methods of category C05 Furnishings, household equipment and routine household maintenance and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
05 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE	5,433	x																					
05.1 Furniture and furnishings, carpets and other floor coverings	1,795	x																					
05.1.1 Furniture and furnishings	1,508	x																					
05.1.1.1.D Household furniture	1,033		x												x								

05.1.1.2.D Garden furniture	101		x											x							
05.1.1.3.D Lighting equipment	107		x											x							
05.1.1.9.D Other furniture and furnishings	267		x											x							
05.1.2 Carpets and other floor coverings	154	x																			
05.1.2.X.D Carpets and other floor coverings	154		x											x							
05.1.3 Repair of furniture, furnishings and floor coverings	133	x																			
05.1.3.0.S Repair of furniture, furnishings and floor coverings	133			x / B (Share of output)										x							
05.2 Household textiles	494	x																			
05.2.0 Household textiles	494	x																			
05.2.0.1.SD Furnishings fabrics and curtains	96		x											x							
05.2.0.2.SD Bed linen	251		x											x							
05.2.0.3.SD Table linen and bathroom linen	89		x											x							
05.2.0.4.S Repair of household textiles	12			x / B (Share of output)										x							
05.2.0.9.S Other household textiles	46		x											x							
05.3 Household appliances	938	x																			
05.3.1 Major household appliances whether electric or not	788	x																			
05.3.1.1.D Refrigerators, freezers and fridge-freezers	191		x	(KOTEK)										x							
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines	268		x	(KOTEK)									x								
05.3.1.3.D Cookers	137		x	(KOTEK)									x								
05.3.1.4.D Heaters, air conditioners	81		x	(KOTEK)									x								
05.3.1.5.D Cleaning equipment	90		x	(KOTEK)									x								
05.3.1.9.D Other major household appliances	21		x	(KOTEK)									x								
05.3.2 Small electric household appliances	101	x																			
05.3.2.X.SD Small electric household appliances	101		x										x								
05.3.3 Repair of household appliances	49	x																			
05.3.3.0.S Repair of household appliances	49			x / B (Share of output)										x							
05.4 Glassware, tableware and household utensils	406	x																			
05.4.0 Glassware, tableware and household utensils	406	x																			
05.4.0.1.SD Glassware, crystal-ware, ceramic ware and chinaware	119		x											x							
05.4.0.2.SD Cutlery, flatware and silverware	28		x											x							
05.4.0.3.SD Non-electric kitchen utensils and articles	244		x											x							
05.4.0.4.S Repair of glassware, tableware and household utensils	15			x / B (Share of output)										x							
05.5 Tools and equipment for house and garden	625	x																			
05.5.1 Major tools and equipment	259	x																			
05.5.1.X.D Major tools and equipment	259		x											x							
05.5.2 Small tools and miscellaneous accessories	366	x																			
05.5.2.X.SD Small tools and miscellaneous accessories	366		x											x							
05.6 Goods and services for routine household maintenance	1,175	x																			
05.6.1 Non-durable household goods	785	x																			
05.6.1.1.ND Cleaning and maintenance products	298		x			x								x							
05.6.1.2.ND Other non-durable small household articles	487		x			x								x							
05.6.2 Domestic services and household services	390	x																			

05.6.2.1.S Domestic services by paid staff	89			x (B/ 0562)																		
05.6.2.2.S Cleaning services	84			x (B/ 0562)																		
05.6.2.3.S Hire of furniture and furnishings	-			Assumed to be zero																		
05.6.2.9.S Other domestic services and household services	217			x (B/ 0562)																		

Table 97: Example of using the data of Kodintekniikkaliitto KOTEK (association of household appliance saler) in calculations in categories 05, 08 and 00

Information	2017	2018	Change
Annual data of Kodintekniikkaliitto (sales volume)			
Refrigeration equipment (quantity)	327,491	344,818	1.053
Clothes washing machines (quantity)	222,244	236,472	1.064
Clothes drying machines (quantity)	42,878	46,390	1.082
Dish washing machines (quantity)	172,828	185,098	1.071
Mobile phones (quantity)	251,260	191,468	0.762
Smartphones (quantity)	2,303,120	2,078,560	0.902
Flat screen televisions (quantity)	379,700	389,005	1.025
DVD-players and Blu-ray players (quantity)	42,918	32,002	0.746
Digital television adaptors (quantity)	27.261	20,500	0.752
Quantities summed into ECOICOP categories and change in sales volume (%)			
05.3.1.1.D Refrigerators, freezers and fridge-freezers (quantity total)	327,491	344,818	1.053
05.3.1.2.D Clothes washing machines, clothes washing machines, and dish washing machines (quantity total)	437,950	467,960	1.069
08.2.0.X.D Telephone and telefax equipment (quantity total)	2,554,380	2,270,028	0.889
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision (quantity total)	449,879	441,507	0.981
Annual data of Kodintekniikkaliitto (sales value, EUR)			
Refrigeration equipment	146,386	152,536	1.042
Clothes washing machines	94,700	99,881	1.055
Clothes drying machines	24,131	25,255	1.047
Dish washing machines	81,555	85,415	1.047
Mobile telephones	19,853	12,313	0.620
Smartphones	851,550	812,226	0.954
Flat screen televisions	244,921	253,008	1.033
DVD players and Blu-ray players	4,479	3,403	0.760
Digital television adaptors	6,574	4,813	0.732
Sales value summed into ECOICOP categories and change in sales volume (%)			
05.3.1.1.D Refrigerators, freezers and fridge-freezers	146,386	152,536	1.042
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines	200,386	210,551	1.051
08.2.0.X.D Telephone and telefax equipment	871,403	824,539	0.946
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision	255,974	261,224	1.021
Change in prices calculated through value change and volume change (KOTEK)			
05.3.1.1.D Refrigerators, freezers and fridge-freezers			0.990
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines			0.983
08.2.0.X.D Telephone and telefax equipment			1.064
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision			1.041

Price change of the CPI (as comparison data)			
05.3.1.1.D Refrigerators, freezers and fridge-freezers			0.972
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines			0.969
08.2.0.X.D Telephone and telefax equipment			0.795
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision			0.899
Value changes used as comparison data			
05.3.1.1.D Refrigerators, freezers and fridge-freezers (source: retail trade / turnover indicator / sales volume of electrical household appliances)			1.071
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines (source: retail trade / turnover indicator / sales volume of electrical household appliances)			1.071
08.2.0.X.D Telephone and telefax equipment (source: turnover indicators / scanner data)			1.167
09.1.1.2.D equipment for the reception, recording and reproduction of sound and vision (source: retail trade / turnover indicator / sales volume of electrical household appliances)			1.071
Value change used in the calculation, corrected if necessary and the figures obtained through it			
05.3.1.1.D Refrigerators, freezers and fridge-freezers	183	191	1.044
05.3.1.2.D Clothes washing machines, clothes drying machines, and dish washing machines	255	268	1.051
08.2.0.X.D Telephone and telefax equipment	482	463	0.961
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision	353	360	1.020

Table 98: Calculation of category 05.6.2 Domestic services and household services (method B/0562)

Information	%	P1R	VAT-%	Milj eur in 2018
TOL 81 Services to buildings and landscape activities / T10 / S11+S14 (=> 05.6.2 Domestic services and household services)	1.28	3,590	24	**57**
TOL 9601 Washing and dry-cleaning of textiles and fur products / T10 / S11+S14	23.4	349	24	101
Share of washing and dry-cleaning of clothes (=> 03.1.4.0.S Garmen repair and hire)	17			17
Share of other washing and dry-cleaning (=> 05.6.2 Domestic services and household services)	83			**84**
TOL 97_98 Household service activities / T20 / S14 (=> 05.6.2 Domestic services and household services)	43.2	370	24	**160**
Wages and salaries paid by municipalities as a substitute payer (source: municipalities' data, separated into a separate entity for the WAR calculation)				**89**
05.6.2 Domestic services and household services				**390**
Division of 05.6.2				
05.6.2.1.S Domestic services by paid staff (wages and salaries paid by municipalities as a substitute payer)				89
05.6.2.2.S Cleaning services (share based on HBS 2016)				84
05.6.2.3.S Hire of furniture and furnishings (share based on HBS 2016)				0
05.6.2.9.S Other domestic services and household services (share based on HBS 2016)				217

5.7.3.6 *06 HEALTH*

In terms of goods related to health, calculation method A, that, is the Household Budget Survey and shops' turnover data, is utilised, and in terms of services, method B based on production side data is used.

Table 99: The calculation methods of category C06 Health and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
06 HEALTH	5,748	x																					
06.1 Medical products, appliances and equipment	1,897	x																					
06.1.1 Pharmaceutical products	1,278	x																					
06.1.1.0.ND Pharmaceutical products	1,278			x (B/0611)											x	x							
06.1.2 Other medical products	74	x																					
06.1.2.X.ND Other medical products	74		x												x								
06.1 Therapeutic appliances and equipment	545	x																					
06.1.3.X.D Therapeutic appliances and equipment	545		x												x								
06.2 Out-patient services	2,782	x																					
06.2.1 Medical services	892	x																					
06.2.1.X.S Medical services	892			x (B/ Share of output)				x															
06.2.2 Dental services	1,082	x																					
06.2.2.0.S Dental services	1,082			x (B/ Share of output)				x															
06.2.3 Paramedical services	808	x																					
06.2.3.X.S Paramedical services	808			x (B/ Share of output)				x															
06.3 Hospital services	1,069	x																					
06.3.0 Hospital services	1,069	x																					
06.3.0.0.S Hospital services	1,069			x (B/ Share of output)				x															

Households' consumption expenditure does not include health insurance reimbursements on medical services and medicines. They are subtracted in connection with the calculation of households' consumption expenditure and recorded in the consumption expenditure of social security funds.

Table 100: Calculation of category 06.1.1 Pharmaceutical products (method B/0611)

Information	+/-	2018	Source
KELA: Outpatient prescription medicines (EUR million)	+	2,189	KELA's pocket statistics/FIMEA's statistics on medicines
KELA: Sickness insurance compensations (EUR million)	-	1,460	KELA's pocket statistics/FIMEA's statistics on medicines
KELA: Outpatient over-the-counter medicines (EUR million)	+	355	KELA's pocket statistics/FIMEA's statistics on medicines

Nicotine preparations (EUR million)	+	50	FIMEA's statistics on medicines
From turnover data to pharmaceutical sales:			
50% of other sales of dispensing chemists (EUR million)	+	74	Turnover data (Statistics Finland): NACE 47730 Dispensing chemist in specialised stores
40% of retail sale of medical and orthopaedic goods (EUR million)	+	70	Turnover data (Statistics Finland): NACE 47740 Retail sale of medical and orthopaedic goods in specialised stores
Households' consumption expenditure, pharmaceutical products, EUR million	=	**1,278**	

Table 101: Calculation of health services

Information	**+/-**	**2018**
Health care payments		
Outpatient and hospital fees total, EUR million (source: production account calculations)	+	4,669
Social transfers in kind to health care services, EUR million	-	788
Outpatient and hospital fees total, excl. the Social Insurance Institution's reimbursements, EUR million	=	3,881
Finnish Institute for Health and Welfare: Structure of households' outpatient and hospital fees:		
- medical service, %		23.0
- dental service, %		28.1
- paramedical service, %		20.9
- hospital (inpatient) service, %		28.0
Adjustments (based on comparable data):		
06.2.1.X.S Medical services	-	1
06.2.2.0.S Dental services	-	9
06.2.3.X.S Paramedical services	-	3
06.3.0.0.S Hospital services	-	17
Households' consumption expenditure, EUR million:		
06.2.1.X.S Medical services		**892**
06.2.2.0.S Dental services		**1,082**
06.2.3.X.S Paramedical services		**808**
06.3.0.0.S Hospital services		**1,069**
Total		3,851

5.7.3.7 *07 TRANSPORT*

For transport services, the method is based on the use of the calculation items of the production accounts of certain transport industries as indicators of consumption expenditure (B/ Share of output) and on the volume change (passenger volumes, amount of fuels) and on the price change of the CPI, as a product of which value change is calculated (B/ Transport).

For transport equipment, both existing registration data (method B) and shops' turnover data (method A) are used. When determining the consumption levels, the Household Budget Survey is used as comparison data.

For used cars, the calculation is still based on the old method, where the change in the sales volume of used cars is used as the volume indicator and the price change is the CPI data, and based on these, value change is

calculated that is used for the previously estimated level (in addition, imports of used cars and one half of the benefit from use of cars are included in the calculation). At the moment the aim is to work on a model where the sale of used cars would (1) be divided direct between households (not included), (2) between households via the car dealer (the margin is included) and (3) between other sectors and households (included in its full value), but so far the division is based merely on assumptions and there is no reason to change them yearly, so the change in volume in each category is the same (i.e. change in the number of used cars).

The scrapping bonus has been available in Finland since 2015, although it varies slightly, so in the calculation it has been taken into account only as a lump sum deducted from the total level (scrapping bonus/car * number of scrapped cars), not separately in the prices of cars.

Table 102: The calculation methods of category 07 Transport and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
07 TRANSPORT	14,060	x																					
07.1 Purchase of vehicles	3,888	x																					
07.1.1 Motor cars	3,508	x																					
07.1.1.1.D New motor cars	2,137			x (B/07111)			x										x						
07.1.1.2.D Second-hand motor cars	1,371			x (B/07112)			x										x						
07.1.2 Motor cycles	179	x																					
07.1.2.0.D Motor cycles	179		x												x								
07.1.3 Bicycles	201	x																					
07.1.3.0.D Bicycles	201		x												x								
07.1.4 Animal drawn vehicles	-	x																					
07.1.4.0.D Animal drawn vehicles	-																						
07.2 Operation of personal transport equipment	7,647	x																					
07.2.1 Spare parts and accessories for personal transport equipment	906	x																					
07.2.1.1.SD Tyres	286		x												x								
07.2.1.2.SD Spare parts for personal transport equipment	595		x												x								
07.2.1.3.SD Accessories for personal transport equipment	25		x												x								
07.2.2 Fuels and lubricants for personal transport equipment	3,604	x																					
07.2.2.1.ND Diesel	1,038			x (B/ Transport)			x											x					
07.2.2.2.ND Petrol	2,445			x (B/ Transport)			x											x					
07.2.2.3.ND Other fuels for personal transport equipment	47			x (B/ Transport)			x											x					
07.2.2.4.ND Lubricants	74			x (B/ Transport)			x											x					

07.2.3 Maintenance and repair of personal transport equipment	2,201	x																			
07.2.3.0.S Maintenance and repair of personal transport equipment	2,201		x											x							
07.2.4 Other services in respect of personal transport equipment	936	x																			
07.2.4.1.S Hire of garages, parking spaces and personal transport equipment	372			x (B/ Share of output)				x													
07.2.4.2.S Toll facilities and parking meters	88			x (B/ Share of output)				x													
07.2.4.3.S Driving lessons, tests, licences and road worthingess tests	476			x (B/ Share of output)				x													
07.3 Transport services	2,525	x																			
07.3.1 Passanger transport by railway	528	x																			
07.3.1.1.S Passanger transport by train	460			x (B/ Transport)			x										x				
07.3.1.2.S Passanger transport by underground and tram	68			x (B/ Transport)			x										x				
07.3.2 Passanger transport by road	896	x																			
07.3.2.1.S Passanger transport by bus and coach	648			x (B/ Transport)				x													
07.3.2.2.S Passanger transport by taxi and hired car with driver	248			x (B/ Transport)				x													
07.3.3 Passanger transport by air	560	x																			
07.3.3.X.S Passanger transport by air	560			x (B/ Transport)			x										x				
07.3.4 Passanger transport by sea and inland waterway	286	x																			
07.3.4.X.S Passanger transport by sea and inland waterway	286			x (B/ Transport)			x										x				
07.3.5 Combined passanger transport	139	x																			
07.3.5.0.S Combined passanger transport	139			x (B/ Transport)				x													
07.3.6 Other purchased transport services	116	x																			
07.3.6.0.S Other purchased transport services	116			x (B/ Share of output)				x													

Table 103: Calculation of category 07.1.1.1.D New motor cars (method B/07111)

Value	Data source	+/-	2018	Description
FIRST REGISTRATIONS OF MOTOR VEHICLES				
Number or registered passenger cars	Statistics Finland: Motor vehicles	+	120,505	
of which to enterprises or associations, institutions and public sector, quantity	Statistics Finland: Motor vehicles, vehicle register, Ministry of Finance's VAT calculations	-	53,388	
Residual: to private households, quantity		=	67,117	

of which imported used vehicles by persons who have lived abroad, quantity	Finnish Customs	-	546	
Residual to households at full price, quantity		=	66,571	
PRICES				
List price for households for new (EUR)	Finnish Information Centre of Automobile Sector		33,400	
Price of list price paid by households, %	Estimate	*	90.3	
Average price paid by households (EUR)		=	30,152	
CONSUMPTION EXPENDITURE				
Households' new taxed normally, EUR million (volume * price)		+	2,007	
From benefit from use of a company car to the New motor cars heading (50%), EUR million		+	140	The total sum of benefits in kind included in the wagebill in accordance with the National Accounts has been divided into consumption expenditure headings. Here is the share of the product "Motor cars" of the benefits in kind.
Scrapping bonus (total)	Finnish Information Centre of Automobile Sector	-	(10)	In 2018, the bonus (EUR 1,500) was paid for 6,700 cars
=> 07.1.1.1D New motor cars, EUR million		**=**	**2,137**	

Table 104: Calculation of category 07.1.1.2.D Second-hand motor cars (method B/07112)

Value	+/-	2017	2018	Description
Sales volume of used cars		631,071	634,062	Finnish Information Centre of Automobile Sector (Traficom as the source for them)
Change in the sales volume of used cars from the previous year			1.005	
CPI (2015=100): 07.1.1.2 Used cars		99.31	97.32	
Change in the price of used cars			0.980	CPI
Change in the value of used cars (as a product of volume change and price change)			0.985	
Estimate of used cars in the calculation of used cars sold in Finland (EUR million)	+	819	807	Level estimated based on various sources, continued with value change calculated as the result of the sales volume and price change of used cars
Average price of imported used cars (EUR)		20,200	21,100	Finnish Information Centre of Automobile Sector
Change in average price			1.045	
Number of imported used cars (number)		29,368	39,689	National Board of Customs / Statistics Finland
Change in the number			1.351	

Change in value (as product of price change and volume change)			1.412	
Corrected value change (one-half of change according to the caution principle)			1.206	
Estimate on the value of imported used cars (EUR million)	+	346	417	Value change is used to the previously calculated level
Value of personal cars imported (price * number), EUR million	+	7	7	Information on the number from Trafi, price 45% of the price of a new car
BENEFITS IN KIND				
From benefit from use of a company car to the Second-hand motor cars heading (50%), EUR million		+	140	The total sum of benefits in kind included in the wagebill in accordance with the National Accounts has been divided into consumption expenditure headings. Here is the share of the product "Motor cars" of the benefits in kind.
=> 07.1.1.2.D Second-hand motor cars, EUR million			**1,371**	

Table 105: Example of calculating transport fuels (method B/Transport)

Value	**Change**	**2017**	**2018**
Example: diesel	Coeff		
Level approved for the previous year (. EUR mil.)			957
Sale of diesel oil (m3)	1.016	3,068,540	3,117,516
One-half of change in diesel oil sales (majority of diesel oil goes elsewhere than to households => only one-half of change to calculations)	1.008		
CPI 07.2.2.1 Diesel (change)	1.076		
Change in value (=volume change * price change)	1.085		
07.2.2.1.ND Diesel (EUR million)			**1,038**

Table 106: An example of calculating transport services (method B/Transport)

Information		**2018**
Example: Sea travel	Coeff	EUR million
Level approved for previous year		296
Finnish Maritime Administration: international passenger transport by boat (change)	0.990	
CPI C07.3.4 Sea travel (change)	0.976	
Change in value (=change in volume * price change)	0.967	
07.3.4.0.S Passanger transport by sea and inland waterway, EUR million		**286**

5.7.3.8 *08 COMMUNICATION*

For postal services, the basis for calculation is the change in the CPI and the change in the sales data published by Posti, in addition to which production account calculations are used as comparison data.

The calculation of telecommunications equipment starts from the KOTEK data (value, volume) and the price change of the CPI is used as comparison data.

For telecommunication services, the calculation starts from the volume data published by the Finnish Transport and Communications Agency Traficom concerning different subscriptions and the CPI price data. In addition, the development of turnover data for industries 611 (Operation and services of wired networks) and 612 (Operation and services of wireless networks) has been monitored as comparison data.

Table 107: The calculation methods of category 08 Communication and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
08 COMMUNICATION	2,760	x																					
08.1 Postal services	114	x																					
08.1.0 Postal services	114	x																					
08.1.0.1.S Letter handling services	79			x (B/ postal services)											x								
08.1.0.2.S Other postal services	35			x (B/ postal services)											x								
08.2 Telephone and telefax equipment	463	x																					
08.2.0 Telephone and telefax equipment	463	x																					
08.2.0.X.D Telephone and telefax equipment	463		x											x									
08.3 Telephone and telefax services	2,183	x																					
08.3.0 Telephone and telefax services	2,183	x																					
08.3.0.1.S Wired telephone services	30			x (B/ volume * price)											x								
08.3.0.2.S Wireless telephone services	1,488			x (B/ volume * price)											x								
08.3.0.3.S Internet access provision services	416			x (B/ volume * price)											x								
08.3.0.4.S Bundled telecommunication services	249			x (B/ volume * price)											x								
08.3.0.5.S Other information transmission services	-																						

Table 108: Example of calculating postal services (method B/postal services)

information		2018
Example: letter handling services	Coeff	EUR million
Level approved for the previous year (EUR mil.)		75
Traficom: change in the relative number of letters sent	0.921	
CPI 08.1.0.1 Letter handling service / price change	1.141	
Change in value (=volume change * price change)	1.050	
08.1.0.1.S Letter handling services, EUR million		**79**

Table 109: Example of calculating communication services (method B/ volume * price)

information		**2018**
Example: Internet access provision services	Coeff	EUR million
Level approved for the previous year		420
Finnish Transport and Communications Agency Traficom: Change in the number of households' fixed line subscriptions	1.005	
CPI 08.3.0.3 Price change in Internet access provision services	0.986	
Change in value (=volume change * price change)	0.991	
08.3.0.3.S Internet access provision services, EUR million		**416**

5.7.3.9 *09 RECREATION AND CULTURE*

A majority of goods related to recreation and culture are calculated using method A, apart from a few exceptions. The calculation methods of these exceptions are explained below. The source for the acquisition of software is also turnover data, so output data are not used in the calculation.

The main source for services related to recreation and culture are production account calculations, so method B is used. In the calculation of package tours both method A (Household Budget Survey and turnover data) and method B (production account data) are used, and the final estimate is compiled utilising data from both methods.

The television licence fee became the public broadcasting tax on 1 January 2013, after which it is recorded differently in the National Accounts and is no longer included in households' consumption expenditure.

Table 110: The calculation methods of category 09 Recreation and culture and complementary sources used

Year 2018	**Value**		**Basic calculation method**		**Complementary sources used**																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
09 RECREATION AND CULTURE	12,043	x																					
09.1 Audio-visual, photographic and information processing equipment	1,343	x																					
09.1.1 Equipment for the reception, recording and reproduction of sound and picture	469	x																					
09.1.1.1.D Equipment for the reception, recording and reproduction of sound	77		x											x									
09.1.1.2.D Equipment for the reception, recording and reproduction of sound and vision	360		x											x									
09.1.1.3.D Portable sound and vision devices	-		x												x								
09.1.1.9.D Other equipment for the reception, recording and reproduction of sound and vision	32		x												x								
09.1.2 Photographic and cinematographic equipment and optical instruments	55	x																					
09.1.2.X.D Photographic and cinematographic equipment and optical instruments	55		x											x	x								
09.1.3 Information processing equipment	620	x																					

09.1.3.1.D Personal computers	394		x										x								
09.1.3.2.D Accessories for information processing equipment	184		x										x								
09.1.3.3.D Software	42		x										x								
09.1.3.4.D Calculators and other information processing equipment	-		x										x								
09.1.4 Recording media	133	x																			
09.1.4.1.SD Pre-recorded recording media	105		x											x				x			
09.1.4.2.SD Unrecorded recording media	2		x											x							
09.1.4.3.SD Other recording media	26		x											x							
09.1.5 Repair of audio-visual, photographic and information processing equipment	66	x																			
09.1.5.0.S Repair of audio-visual, photographic and information processing equipment	66		x					x													
09.2 Other major consumer durables for recreation and culture	801	x																			
09.2.1 Major durables for outdoor recreation	529	x																			
09.2.1.X.D Major durables for outdoor recreation	529		x											x							
09.2.2 Musical instuments and major durables for indoor recreation	171	x																			
09.2.2.X.D Musical instruments and major durables for indoor recreation	171		x											x							
09.2.3 Maintenance and repair of other major durables for recreation and culture	101	x																			
09.2.3.0.S Maintenance and repair of other major durables for recreation and culture	101		x					x													
09.3 Other recreational items and equipment, gardens and pets	2,647	x																			
09.3.1 Games, toys and hobbies	461	x																			
09.3.1.1.SD Games and hobbies	130		x											x							
09.3.1.2.SD Toys and celebration articles	331		x											x							
09.3.2 Equipment for sport, camping and open-air recreation	732	x																			
09.3.2.X.SD Equipment for sport, camping and open-air recreation	732		x											x							
09.3.3 Garden, plants and flowers	545	x																			
09.3.3.1.SD Garden products	113		x											x							
09.3.3.2.ND Plants and flowers	432		x											x							
09.3.4 Pets and related products	571	x																			
09.3.4.1.SD Purchase of pets	76		x											x							
09.3.4.2.ND Products for pets	495		x											x							
09.3.5 Veterinary and other services for pets	338	x																			
09.3.5.0.S Veterinary and other services for pets	338			x (B/Share of output)				x													
09.4 Recreational and cultural services	4,534	x																			
09.4.1 Recreational and sporting services	1,358	x																			
09.4.1.X.S Recreational and sporting services	1,358			x (B/Share of output)				x													
09.4.2 Cultural services	1,133	x																			

09.4.2.1.S Cinemas, theatres, concerts	655			x														x			
09.4.2.2.S Museums, libraries, zoological gardens	84			x														x			
09.4.2.3.S Television and radio licence fees, subscriptions	322			x (B/09423)														x			
09.4.2.4.S Hire of equipment and accessories for culture	-			x (B/ 0914&0942)														x			
09.4.2.5.S Photographic services	72		x										x					x			
09.4.2.9.S Other cultural services	-			x (B/Share of output)				x													
09.4.3 Games of chance	2,043	x																			
09.4.3.0.S Games of chance	2,043			x (B/0943)															x		
09.5 Newspapers, books and stationery	1,357	x																			
09.5.1 Books	346	x																			
09.5.1.X.SD Books	346		x										x					x			
09.5.2 Newspapers and periodicals	855	x																			
09.5.2.1.ND Newspapers	484			x (B/0952)														x			
09.5.2.2.ND Magazines and periodicals	371			x (B/0952)														x			
09.5.3 Miscellaneous printed matter	106	x																			
09.5.3.0.ND Miscellaneous printed matter	106		x										x								
09.5.4 Stationery and drawing materials	50	x																			
09.5.4.X.ND Stationery and drawing materials	50		x										x								
09.6 Package holidays	1,361	x																			
09.6.0 Package holidays	1,361	x																			
09.6.0.0.S Package holidays	1,361			x (B/ Transport)			x										x				x

Table 111: Calculation of product 09.4.2.3 (method B/09423)

Information	Change	+/-	2017	2018
Cable television activities:				
Finnish Transport and Communications Agency Traficom: cable television subscriptions and IPTV subscriptions (total number)	1.031		2,093,000	2,157,000
CPI: 09.4.2.3.1 Subscriptions to cable TV and pay-TV (change)	1.011			
Change in value (=volume change * price change)	1.042			
Pay-TV expenditure (excl. VAT)			162.8	1703.3
Pay-TV expenditure (incl. VAT 24%)		+	201.9	211.2
Other television expenditure:				
Other households' payments (e.g. interactive programmes, estimated as a ratio to pay-TV expenditure 15%, incl. VAT 24%)		+	39.1	40.8
International imports (Netflix, Spotify, etc.)		+	70	70
09.4.2.3.S Television and radio licence fees, paid broadcasts		=	**311**	**322**

Table 112: Calculation of product 09.4.3 Games of chance (method B/0943)

Information	+ / -	%	EUR million in 2018
Ålands Penningautomatförening (PAF)			
Turnover of the PAF group, EUR million			111.8
of which turnover from Åland			2.6

of which turnover from cruise ships			12.2
of which turnover from online games			74.7
PAF group's share of profits in turnover		70.6	
To consumption expenditure			
from turnover from Åland (excl. profits)	+	100	0.7
from turnover from cruise ships (excl. profits)	+	50	1.7
from turnover from online games	+	75	56.0
Veikkaus Oy (Veikkaus, Hippos and Fintoto merged starting from 1 January 2017)			
Turnover from games, EUR million	+		3,154.7
Players' winnings, EUR million	-		1,395.7
Bingos			
Turnover, EUR million	+		98.2
Prizes	-	74.8	73.5
Balancing: international online games, EUR million	+		201
09.4.3.0.S Games of chance, EUR million	=		**2,043**

Table 113: Calculation of products 09.5.2.1.ND Newpapers and 09.5.2.2.ND Magazines and periodicals (method B/0952)

Information		**value in 2018**
Sources: Statistics Finland/Mass media and its basic data sources	**%**	**EUR million**
NEWSPAPERS		
Turnover form newspapers		901
Income distribution of newspapers:		
Advertisements	45.0	
Subscriptions and single-copy sales	55.0	495.6
of which subscriptions	87.0	431
of which single-copy sales	13.0	64
Subscribed Finnish newspapers:		
Households' share of subscriptions (excl. VAT)	90.5	390
VAT	10	39
=> Finnish newspapers subscribed for by households at purchaser's price		**429**
Subscribed international newspapers:		
International newspapers subscribed for by households, EUR million		2
VAT	0	0
=> International newspapers subscribed for by households at purchaser's price		**2**
Newspaper bought as single copies (without VAT):		52.9
Newspapers bought by households as single copies	80.2	42.4
VAT (VAT was lower from 24 to 10 starting from 1st July 2019)	24	10.2
=> Newspapers bought by households as single copies at purchaser's price		**53**
09.5.2.1.ND Newspapers, EUR million		**484**
MAGAZINES AND PERIODICALS		
Turnover from magazines and periodicals, EUR million		**450**
Income distribution:		
Subscription fees	77.0	347
Single-copy sales	6.0	27

Ad income	17.0	74
Subscribed Finnish magazines and periodicals:		
Households' share of subscriptions	79.5	275
VAT	10	28
=> Finnish magazines and periodicals subscribed for by households at purchaser's price		**303**
Subscribed international magazines and periodicals:		
International magazines and periodicals subscribed for by households, EUR million		5
VAT	0	0
=> International magazines and periodicals subscribed for by households at purchaser's price		**5**
Magazines and periodicals bought as single copies:		
Finnish magazines and periodicals bought by households as single copies (data from Lehtipiste Oy), incl. VAT		51.1
International magazines and periodicals bought by households as single copies (data from Lehtipiste Oy), incl. VAT		11.9
=> Magazines and periodicals bought by households as single copies total		**63**
09.5.2.2.ND Magazines and periodicals, EUR million		**371**

5.7.3.10 *10 EDUCATION*

The basis for calculation is the data of the National Accounts' production accounts (calculation method B). The shares included from output are estimated based on data from previous calculations, the Household Budget Survey and public sector researchers (what the market output or sales of non-market products contain).

Table 114: Calculation method of category 10 Education

Year 2018	Value		Basic calculation method		Complementary sources used																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10 EDUCATION	472	x																					
10.X Education	472	x																					
10.X.X Education	472	x																					
10.X.X.X.S Education	472			x (B/Share of output																			

Table 115: Calculation of product 10.X.X.X.S (method B/share of output)

Group	Information	Description	Value in 2018
a) S11 Non-financial corporations - TOL 85 Education	Output	basic prices, EUR million	927
	of which driving lessons 17.8%	basic prices, EUR million	165
	of which 99.5% to households' expenditure	households' consumption expenditure at basic prices, EUR million	164
	of which transition to purchaser's price: VAT (24 %) and other taxes on products	net, EUR million	40

	=> To item 07.2.4.3.S Driving lessons etc:	**households' consumption expenditure at purchaser's prices, EUR million**	204
	rest of the output to other education	milj. eur	762
	of which 31% to households' expenditure	households' consumption expenditure at basic prices, EUR million	236
	of which transition to purchaser's price: VAT (24 %) / VAT (0 %) and other taxes on products	net, EUR million	51
	=> To item 10.X.X.X.S Education:	**households' consumption expenditure at purchaser's prices, EUR million**	287
b) S15 Non-profit institutions serving households - TOL 85 Education	Sales of non-market products	basic prices, EUR million	65
	of which 100 % to households' expenditure	households' consumption expenditure at basic prices, EUR million	65
	of which transition to purchaser's price: VAT and other taxes on products (VAT 0 %)	net, EUR million	0
	=> To item 10.X.X.X.S Education:	**households' consumption expenditure at purchaser's prices, EUR million**	**65**
c) S1311 Valtionhallinto – TOL 85 Koulutus	Market output	basic prices, EUR million	243
	of which 7,5 % to households' expenditure	households' consumption expenditure at basic prices, EUR million	18.2
	Sales of non-market products	perushintaan, milj. eur	0
	of which transition to purchaser's price: VAT and other taxes on products (VAT 24 %)	net, EUR million	4.4
	=> To item 10.X.X.X.S Education:	**households' consumption expenditure at purchaser's prices, EUR million**	**22.6**
d) S1313 Local government – TOL 85 Education	Market output	basic prices, EUR million	246
	of which 3,3 % to households' expenditure	households' consumption expenditure at basic prices, EUR million	8
	Sales of non-market products	basic prices, EUR million	91
	of which 90 % to households' expenditure	households' consumption expenditure at basic prices, EUR million	82
	of which transition to purchaser's price: VAT and other taxes on products (VAT 0 %)	net, EUR million	0
	=> To item 10.X.X.X.S Education:	**households' consumption expenditure at purchaser's prices, EUR million**	90
e) S1313 Local government - TOL 841_842 Public administration	Sales of non-market products	basic prices, EUR million	317
	of which 2,4 % to households' expenditure	households' consumption expenditure at basic prices, EUR million	7.6

	of which transition to purchaser's price: VAT and other taxes on products (VAT 0 %)	net, EUR million	0
	=> To item 10.X.X.X.S Education:	**households' consumption expenditure at purchaser's prices, EUR million**	7.6
10.X.X.X.S Education	**Of the output to households' consumption expenditure**		
	10a) S11 - TOL 85 Education	EUR million at purchaser's price	287
	10b) S15 - TOL 85 Education	EUR million at purchaser's price	65
	10c) S1311 – TOL 85 Education	EUR million at purchaser's price	22.6
	10d) S1313 – TOL 85 Education	EUR million at purchaser's price	90
	10e) S1313 – TOL 841_842 Public administration	EUR million at purchaser's price	7.6
	Total 10.X.X.X.S Education	EUR million at purchaser's price	**472**

5.7.3.11 *11 RESTAURANTS AND HOTELS*

The basis for the calculation is the production accounts of the National Accounts (basic calculation method B), in addition to which, statistics on hotel and restaurant activities (number 18 of the list of other sources in Section 5.7.2.5), statistics on tourism (number 19 of the list of other sources in Section 5.7.2.5) and the Household Budget Survey are used as complementary sources.

Table 116: The calculation methods of category 11 Restaurants and hotels and complementary sources used

Year 2018	**Value**		**Basic calculation method**		**Complementary sources used**																	
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
11 RESTAURANTS AND HOTELS	7,889	x																					
11.1 Catering services	7,243	x																					
11.1.1 Restaurants, cafes and the like	6,099	x																					
11.1.1.1.S Restaurants, cafes and dancing establishments	4,767			x (B/11)																		x	x
11.1.1.2.S Fast food and take away food services	1,332			x (B/11)																		x	x
11.1.2 Canteens	1,144	x																					
11.1.2.0.S Canteens	1,144			x (B/11)																		x	
11.2 Accommodation services	646	x																					
11.2.0 Accommodation services	646	x																					
11.2.0.1.S Hotels, motels, inns and similar accommodation services	538			x (B/11)																		x	x
11.2.0.2.S Holiday centres, camping sites, youth hostels and similar accommodation services	108			x (B/11)																		x	x
11.2.0.3.S Accommodation services of other establishments	-																						

Table 117: Calculation of products in category 11 (method B/11)

Industry	Information	2018
I	**Accommodation and food service activities**	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	8,596
55	**Accommodation activities**	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	1,981
	of which accommodation sales,% (based on accommodation statistics)	67.1
	of which restaurant sales, %	32.9
	of which accommodation sales (heading 11.2.0), EUR million, excl. VAT	1,329
	of which restaurant sales (heading 11.1.1), EUR million, excl. VAT	652
	Households' leisure accommodation purchases of accommodation sales, %	44.2
	Share of households' consumption expenditure in restaurant sales, %	44.2
	Heading 11.2.0 Accommodation services, EUR million, excl. VAT	588
	Heading 11.1.1 Restaurants, cafes and the like, EUR million, excl. VAT	288
56	**Restaurant activities**	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	6,615
	Households' share in sales, %	79.8
	Households' share in sales, EUR million, excl. VAT	5,279
	of which heading 11.1.2 Canteens, %	12.3
	of which heading 11.1.1 Restaurants, cafes and the like, %	87.7
	Heading 11.1.2 Canteens, EUR million, excl. VAT	649
	Heading 11.1.1 Restaurants, cafes and the like, EUR million, excl. VAT	4,629
Others	**Restaurant services from other industries (from separate calculations)**	
	TOL 841_842 Public administration (EUR million, incl. VAT) => canteens	249
	TOL 85 Education (EUR million, incl. VAT) => canteens	12
	TOL 93 Sporting activities (EUR million, incl. VAT) => canteens	8
	TOL 94 Activities of membership organisations (EUR million, incl. VAT) => canteens	15
	Of restaurant services in water transport as households' consumption expenditure (EUR million, VAT 0%) => restaurants and cafes	58
	TRANSITION TO PURCHASER'S PRICE (in terms of taxable items raised with the applicable VAT per cents)	
	The elevation coefficient of accommodation services in accordance with the VAT per cent, at tax free price	1.10
	11.2.0 Accommodation services, EUR million (FNA2019)	646
	Share based on accommodation statistics (%): 11.2.0.1.S Hotels, motels, inns and similar accommodation services	83.3
	Share based on accommodation statistics (%): 11.2.0.2.S Holiday centres, camping sites, youth hostels and similar accommodation services	16.7
	Share based on accommodation statistics (%): 11.2.0.3.S Accommodation services of other establishments	0
	The elevation coefficient of restaurant services in accordance with the VAT per cent, at tax-free price	1.24
	11.1.1 Restaurants, cafes and the like, HFCE from industry 56 EUR million incl. VAT	5,742
	Share based on statistics from FHR (%): 11.1.1.1.S Restaurants, cafes and dancing establishments	76.8
	Share based on statistics from FHR (%): 11.1.1.2.S Fast food and take away food services	23.2

	11.1.1 Restaurants, cafes and the like, HFCE from industry 55 EUR million => 11.1.1.1.S Restaurants, cafes and dancing establishments	357
	11.1.1 Restaurants, cafes and the like, EUR million incl. VAT (FNA2019)	6,099
	The elevation coefficient of canteen services in accordance with the VAT per cent, at tax-free price	1.24
	11.1.2 Canteens, EUR million incl. VAT (FNA2019)	1,144
	TOTAL:	
	11 RESTAURANTS AND HOTELS	**7,889**
	11.1 Catering services	**7,243**
	11.1.1 Restaurants, cafes and the like	**6,099**
	11.1.1.1.S Restaurants, cafes and dancing establishments	4,767
	11.1.1.2.S Fast food and take away food services	1,332
	11.1.2 Canteens	**1,144**
	11.1.2.0.S Canteens	1,144
	11.2 Accommodation services	**646**
	11.2.0 Accommodation services	**646**
	11.2.0.1.S Hotels, motels, inns and similar accommodation services	538
	11.2.0.2.S Holiday centres, camping sites, youth hostels and similar accommodation services	108
	11.2.0.3.S Accommodation services of other establishments	0

For accommodation services, the value change is also calculated as comparison data on the basis of the data in the accommodation statistics, through volume change (change in the number of overnight stays in hotels, etc., and on the other hand, in other accommodation establishments) and price change (change in average prices of rooms and overnight stays). For 2018, through the production account calculation, the value change for category 11.2.0.1 was 4.7 per cent (value change calculated through comparison data 3.7%) and for category 11.2.0.2, 8.0 per cent (value change calculated through comparison data 4.4%). If the differences in the calculation based on the production account and the results calculated through the comparison data differ significantly from each other, the reason for this is sought and, if necessary, the calculation is checked.

5.7.3.12 *12 MISCELLANEOUS GOODS AND SERVICES*

For miscellaneous goods method A, that is, utilisation of the Household Budget Survey and turnover data from shops, is used.

Miscellaneous services are calculated with method B, where production account data, centralised calculations, calculations by experts and other sources are utilised.

The FISIM calculation is produced centrally and the data are carried forward to the consumption expenditure calculation. The market output data of industries 64 and 66 and asset transfer tax data are used in the calculation of other financial services n.e.c.

Table 118: The calculation methods of category 12 Miscellaneous goods and services and complementary sources used

Year 2018	Value		Basic calculation method		Complementary sources used																		
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
12 MISCELLANEOUS GOODS AND SERVICES	11,882	x																					
12.1 Personal care	2,531	x																					
12.1.1 Hairdressing salons and personal grooming establishments	1,210	x																					
12.1.1.1.S Hairdressing for men and children	219			x (B/Share of output)																			
12.1.1.2.S Hairdressing for women	750			x (B/Share of output)																			
12.1.1.3.S Personal grooming treatments	241			x (B/Share of output)																			
12.1.2 Electric appliances for personal care	80	x																					
12.1.2.X.SD Electric appliances for personal care	80		x											x									
12.1.3 Other appliances, articles and products for personal care	1,241	x																					
12.1.3.1.ND Non-electric appliances	124		x												x								
12.1.3.2.ND Articles for personal hygiene and wellness, esoteric products and beauty products	1,117		x			x									x								
12.2 Prostitution	155	x																					
12.2.0 Prostitution	155	x																					
12.2.0.0.S Prostitution	155			x (B/122)																			
12.3 Personal effects n.e.c.	585	x																					
12.3.1 Jewellery, clocks and watches	318	x																					
12.3.1.1.D Jewellery	223		x												x								
12.3.1.2.D Clocks and watches	78		x												x								
12.3.1.3.S Repair of jewellery, clocks and watches	17		x	x (B/Share of output)																			
12.3.2 Other personal effects	267	x																					
12.3.2.1.SD Travel goods	125		x												x								
12.3.2.2.SD Articles for babies	52		x			x									x								
12.3.2.3.S Repair of other personal effects	-			x (B/Share of output)																			
12.3.2.9.SD Other personal effects n.e.c.	90		x												x								
12.4 Social protection	2,187	x																					
12.4.0 Social protection	2,187	x																					
12.4.0.0.S Social protection	2,187			x (B/Share of output)																			
12.5 Insurance	2,731	x																					
12.5.1 Life insurance	1,106	x																					
12.5.1.0.S Life insurance	1,106			x (B/ Insurance)																			
12.5.2 Insurance connected with dwelling	425	x																					

12.5.2.0.S Insurance connected with dwelling	425			x (B/ Insurance)																		
12.5.3 Insurance connected with health	241	x																				
12.5.3.X.S Insurance connected with health	241			x (B/ Insurance)																		
12.5.4 Insurance connected with transport	893	x																				
12.5.4.1.S Motor vehicle insurance	805			x (B/ Insurance)																		
12.5.4.2.S Travel insurance	88			x (B/ Insurance)																		
12.5.5 Other insurance	66	x																				
12.5.5.0.S Other insurance	66			x (B/ Insurance)																		
12.6 Financial services n.e.c.	2,998	x																				
12.6.1 FISIM	440	x																				
12.6.1.1.S FISIM on loans	358			See chapter 3.8.1.7																		
12.6.1.2.S FISIM on deposits	82			See chapter 3.8.1.7																		
12.6.2 Other financial services n.e.c.	2,558	x																				
12.6.2.0.S Other financial services n.e.c.	2,558			x (B/Share of output)																		
12.7 Other services n.e.c.	695	x																				
12.7.0 Other services n.e.c.	695	x																				
12.7.0.0.S Other services n.e.c.	695			x (B/Share of output)																		

Table 119: Calculation of group 12.2 Prostitution (method B/112)

Description	**2018**
From calculations on the underground economy (corporate team):	
12.2 Prostitution total, EUR million	**155**

The data on insurance for households' consumption expenditure (method *B/insurance*) are produced in connection with the production account calculations of insurance by the sector researcher in question. The insurance category-specific figures of private consumption are calculated from output, while output is based on profit and loss account data. One data source in production account calculations is the Financial Supervisory Authority’s Insurance reporting. Data on household shares of direct insurance’s premiums written can be found from Finance Finland’s data.

Non-life insurance:

In terms of non-life insurance, the source data provide households' share in premium income. The corresponding share of non-life insurance output and premium tax are calculated as households' consumption expenditure.

Life insurance:

The output of life insurance at current prices is included almost as it is in households' consumption expenditure. A small share of the output comes from the rest of the world sector. The share of the rest of the world sector in output is estimated based on the premium income received from abroad.

Table 120: Example: Breakdown of the output of industry "9602_9609 Other service activities" into use items (method B/share of output)

Output at basic prices, EUR 1,527 million (S11+S14, market producers)			
Breakdown of output into products:			
Hairdresser, barber and other personal hygiene services (residual), EUR 1,268.9 million	Funeral services, EUR 133.0 million (goes to Other service n.e.c)	Recreational and sporting services, EUR 30.5 million	Pet services (for example day care and spas etc.) EUR 94.7 million
- of which 76.9 % households' consumption expenditure (services, no product purchases)	- of which 99.5% households' consumption expenditure	- of which 100 % households' consumption expenditure	- of which 100 % households' consumption expenditure
Received:			
Households' consumption expenditure at basic prices, EUR 975.8 million	Households' consumption expenditure at basic prices, EUR 131.6 million	Households' consumption expenditure at basic prices, EUR 30.5 million	Households' consumption expenditure at basic prices, EUR 94.7 million
VAT (24 %) EUR 234.2 million	VAT (0 %) EUR 0 million	VAT (24 %) EUR 7.3 million	VAT (24 %) EUR 0 million – VAT should be EUR 22.7 million, but is mistakenly missing
Households' consumption expenditure at purchaser's prices, EUR 1,210 million	Households' consumption expenditure at purchaser's prices, EUR 132 million	Households' consumption expenditure at purchaser's prices, EUR 38 million	Households' consumption expenditure at purchaser's prices, EUR 49 million
Of the goods included in industry "9602_9609 Other service activities" the following are allocated to households' consumption expenditure:			
09.3.5.0.S Veterinary and other services for pets (part of this class)			EUR 95 million
09.4.1.X.S Recreational and sporting services (part of this class)			EUR 38 million
12.1.1 Hairdressing and other personal grooming establishments (detailed division below has been done according to HBS)			EUR 1,234 million
12.1.1.1.S Hairdressing for men and children (18.1%)			EUR 219 million
12.1.1.2.S Hairdressing for women (62%)			EUR 750 million
12.1.1.3.S Personal grooming treatments (residual, 19.9%)			EUR 241 million
12.7.0.0.S Other services n.e.c. (part of this class)			EUR 132 million

5.7.3.13 *P311Y–P3Y SUMMARY AND BALANCING ITEMS*

By summing up aggregate level data, item P31 / DC / S14 consumption expenditure of households in Finland is achieved. A more detailed breakdown into durability categories is obtained as the sum of heading-specific calculations.

Data from the tourism balance compiled by Statistics Finland are used quarterly when calculating tourism expenditure so that the annual data are calculated as the sum of the quarters. Consumption expenditure of resident households in the rest of the world includes households' free-time consumption from the tourism balance less an estimate on hotel expenditure included in package tours. Consumption expenditure of non-resident households in Finland is all foreign consumption in the tourism balance, that is, both professional and free-time consumption.

The consumption expenditure of non-profit institutions is calculated from the production account calculation and carried forward in the calculation system to the calculation of private consumption expenditure, so the data are "taken as is" and they are not calculated in the calculation of final consumption expenditure.

Table 121: Calculation and sources of summary and balancing items

Year 2018	Value		Basic calculation method		Complementary sources used
Consumption heading (ECOIOCP)	EUR million	Summary level	A	B/…	
P31 / DC / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND	9,750	x			Sum C01…C012
D DURABLE GOODS	33,707	x			Sum of 5-digit level headings ending with the letter D
SD SEMI-DURABLE GOODS	65,219	x			Sum of 5-digit level headings ending with the letters SD
ND NON-DURABLE GOODS	9,342	x			Sum of 5-digit level headings ending with the letters ND
S SERVICES	118,018	x			Sum of 5-digit level headings ending with the letter S
TUR TOURISM EXPENDITURE	663	x			Difference: P33 – P34
P33 / S14 Consumption expenditure of resident households in the rest of the world	3,705			x (B/TUR)	Data from the tourism balance
P34 / S14 Consumption expenditure of non-resident households in Finland	3,042			x (B/TUR)	Data from the tourism balance
P31 / NC / S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS	118,681	x			
P31 / S15 Consumption expenditure of non-profit institutions	5,256			x (transfer from production account)	Transfer: calculated in the production account, transferred from calculation system to here.
P31DC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE IN FINLAND	123,274	x			
P31NC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE	123,937	x			

- P31 / DC / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND

= Sum of product-specific consumption expenditure (01+02+…+12)

- D DURABLE GOODS

  = Sum of durable goods (sum of the products whose heading codes are in the form 12.3.4.5.D).

- SD SEMI-DURABLE GOODS

  = Sum of semi-durable goods (sum of the products whose heading codes are in the form 12.3.4.5.SD).

- ND NON-DURABLE GOODS

  = Sum of non-durable goods (sum of the products whose heading codes are in the form 12.3.4.5.ND).

- S SERVICES

  = Sum of services (sum of the products whose heading codes are in the form 12.3.4.5.S).

Table 122: Calculation of tourism expenditure (method B/TUR)

information	value in 2018	Source
Free-time consumption expenditure of resident households in the rest of the world, EUR million	4,001	Statistics Finland's tourism balance (included in the balance of payments)
Hotel expenditure included in package tours abroad, EUR million	296	Estimate, the item is included in the heading 09.6.0.0.S Package tours of households' consumption expenditure
Difference: Consumption expenditure of resident households in the rest of the world, EUR million	3,042	
TUR S14 TOURISM EXPENDITURE	**663**	
P33 S14 Consumption expenditure of resident households in the rest of the world	**3,705**	
P34 S14 Consumption expenditure of non-resident households in Finland	**3,042**	**Statistics Finland's tourism balance (included in the balance of payments)**

- P31 / NC / S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS

  = P31 / DC / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND
  + TUR / S14 EXPENDITURE ON TOURISM

- P31 / S15 Consumption expenditure of non-profit institutions

  = Consumption expenditure of non-profit institutions in accordance with the sector accounts of the National Accounts

- P31 / DC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE IN FINLAND

= P31 / DC / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND
+ P31 / S15 Consumption expenditure of non-profit institutions

- P31 / NC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE

  =P31 / NC / S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS
  + P31 / S15 Consumption expenditure of non-profit institutions

5.8 NPISH final consumption expenditure

The consumption expenditure of non-profit institutions serving households consists of "other non-market output" and payable social transfers in kind (purchased market output).

Other non-market output of non-profit institutions serving households is obtained by subtracting market output, output for own final use, and sales of non-market products from the output, which leaves other non-market output as the residual. Payable social transfers in kind (purchased market output) are added to this other non-market output, which results in the consumption expenditure of non-profit activities. All of the consumption expenditure of non-profit activities is private consumption.

Sector S.15, social transfers in kind (purchased market output) includes food aid received from the EU, the value of which is annually received through the Finnish Food Authority (part of which was previously known as Agency for Rural Affairs (Mavi)).

The calculation of non-profit institutions and the calculation methods based on which the residual item "other non-market output" is achieved are explained in Section 3.10.

Table 123: Non-profit institutions' consumption expenditure and sub-items of which consumption expenditure is formed, in 2014 to 2018, EUR million

Information	2014	2015	2016	2017	2018
P31 / K / S15 Private consumption expenditure	5,236	5,168	5,279	5,222	5,256
P132 / R Other non-market output	5,233	5,165	5,276	5,219	5,253
D632 / K / S15 Social transfers in kind (purchased market output)	3	3	3	3	3

Table 124: Non-profit institutions' consumption expenditure P31K by NACE, in 2014 to 2018, EUR million

Activity	2014	2015	2016	2017	2018
M Professional, scientific and technical activities	99	43	26	24	26
O Public administration and social security	44	43	46	50	51
P Education	939	933	916	871	839
Q Human health and social work activities	831	755	807	692	705
R Arts, entertainment and recreation	764	801	849	896	856
S Other service activities	2,559	2,593	2,635	2,689	2,779
Sector S15 Total	5,236	5,168	5,279	5,222	5,256

Sources and method used in the calculation are described in Section 3.10 Non-profit institutions serving households (S15).

Table 125: NPISH (S15) final consumption expenditure according to the process tables in 2018, EUR million

NPISH (S15) final consumption expenditure			2018
Basis for NA Figures	Surveys & Censuses		0
	Administrative Records		860
	Combined Data		3,118
	Extrapolation and Models	Benchmark extrapolations	3
		Commodity Flow Model	0
		CFC(PIM)	408
		Dwellings - stratification method	276
		FISIM	0
		Insurance	0
		Other E&M	534
		Total Extrap+Models	1,221
	Other		80
	Total (sources)		5,279
Adjustments	Data validation		495
	Conceptual	Allocation of FISIM	22
		Allocation of insurance	0
		Other conceptual	0
		Total conceptual	22
	Exhaustiveness	N1	0
		N2	0
		N3	0
		N4	0
		N5	0
		N6	0
		N7	-580
		Total exhaustiveness	-580
	Balancing		40
	Total (adjustments)		-23
Final estimate			5,256

5.9 Government final consumption expenditure

The Finnish General government sector comprises central government, local government and social security funds. The sub-sector of social security funds has been further divided into employment pension schemes and other social security funds.

The units belonging to the general government sector are described in section 3.9. The same section describes how the delimitation of the general government sector in line with ESA 2010 rules is ensured.

Government final consumption expenditure consists of "other non-market output" and payable social transfers in kind (purchased market output).

"Other non-market output" is derived when market output, output for own final use and sales of non-market products are subtracted from output.

Government final consumption expenditure is divided into private and collective consumption expenditure. The division is made on the basis of the classification of the functions of general government to individual and collective.

Table 126: Government final consumption expenditure in 2014 to 2018, EUR million

Sector	2014	2015	2016	2017	2018
S13 General government	50,705	51,545	51,489	51,568	53,492
S1311 Central government	13,805	14,131	13,984	13,651	14,027
S1313 Local government	33,414	33,844	33,982	34,381	35,810
S1314 Social security funds	3,486	3,570	3,523	3,536	3,655
…S13141 Employment pension schemes	674	686	679	684	665
…S13149 Other social security funds	2,812	2,884	2,844	2,852	2,990

Table 127 General government final consumption expenditure according to the process tables in 2018, EUR million

General government final consumption expenditure			2018
Basis for NA Figures	Surveys & Censuses		4,090
	Administrative Records		7,846
	Combined Data		29,608
	Extrapolation and Models	Benchmark extrapolations	0
		Commodity Flow Model	0
		CFC(PIM)	7,926
		Dwellings - stratification method	0
		FISIM	0
		Insurance	0
		Other E&M	48
		Total Extrap+Models	7,974
	Other		1,263
	Total (sources)		50,781
Adjustments	Data validation		2,766
	Conceptual	Allocation of FISIM	161
		Allocation of insurance	0
		Other conceptual	-428
		Total conceptual	-267
	Exhaustiveness	N1	0
		N2	0
		N3	0
		N4	0
		N5	0
		N6	0
		N7	211
		Total exhaustiveness	211
	Balancing		1

	Total (adjustments)	2,711
Final estimate		53,492

Table 128: General government final consumption expenditure by subsector accroding to processes in 2018, EUR million

General government final consumption expenditure		S1311	S1313	S13141	S13149	S13
Basis for NA Figures	Surveys and Censuses	3,474	616	0	0	4,090
	Administrative Records	7,682	164	0	0	7,846
	Combined Data	-477	29,857	228	0	29,608
	Benchmark extrapolations	0	0	0	0	0
	Models	4,242	3,630	82	20	7,974
	Other	-1,830	-218	341	2,970	1,263
Adjustments		937	1,760	14	0	2,711
Final estimate		**14,028**	**35,809**	**665**	**2,990**	**53,492**

5.9.1 Central government (S1311)

Government final consumption expenditure consists of the sector's other non-market output and social transfers in kind (purchased market output, D632K). Other non-market output of the sector remains as a residual in the production and income formation accounts when market output, output for own final use, and sales of non-market products are subtracted from output at basic prices. The state’s social transfers in kind consist of legal aid allowances and education and health care services purchased for others than central government's own personnel.

Market output mainly consists of income that derive from business output, rents or various charges for consumption. Sales of non-market products consist primarily of income from output under public law. The data source for these items is central government's bookkeeping and financial statement material.

Output for own final use is, firstly, R&D services and software produced for own use, and secondly, costs related to services related to the upkeep of conscripts (in industry 841_842) that are also shown as wages and salaries in kind in industry 844 (see Section 3.9.1.3).

Consumption expenditure is divided into private and collective consumption expenditure. Private consumption expenditure is calculated as a sum of other non-market output of the individual tasks according to the general government's function classification (in practice, education, health care services, social work and cultural activities). Social transfers in kind are also included in private consumption expenditure. Other non-market output of central government’s other tasks is collective consumption expenditure. Individual tasks include function categories G0701, G0702, G0703, G0704, G0801, G0802, G0901, G0902, G0903, G0904, G0905, G0906, G1001, G1002, G1003, G1004, G1005, G1006 and G1007.

Also see Section 0.

5.9.2 Local government (S1313)

Market output (P11R) includes such sales proceeds from produced goods and services that cover production costs. Thus, the item includes income types “sales proceeds from central government, municipalities, joint municipal authorities, others”, “external rent income”, “other income” and “internal sales proceeds” from the statistics on local government finances. Turnover and other operating income of enterprises classified in the sector less subsidies received, current transfers from central government and other adjustments are included in the item.

Output for own final use (P12R) includes software produced by municipal corporations for own use, as well as construction and development activities. The item includes “production for own use” from statistics on local government finances. The item also contains the value of R&D assets produced by the local government sector, which is calculated in a centralised manner.

Sales of non-market products (P131R) include such sales proceeds from goods and services that have not covered production costs. These are, for example, payments collected by municipalities for public services (e.g. health centre fees). Income type "fees and charges" from the statistics on local government finances is recorded here.

Other non-market output (P132R) is derived by subtracting market output, output for own final use and sales of non-market products from output.

Social transfers in kind (D632K) include municipalities' and joint municipal authorities' "purchases of customer services from others” and service vouchers granted by municipalities for paid subsidies. Services purchased from enterprises classified as belonging to the sector are consolidated from the item.

So, this describes the difference between the costs generated from production of goods and service and the sales proceeds collected from them by municipal corporations. The consumption expenditure of local government is derived by adding up "other non-market output" and "social transfers in kind purchased from the market" (D632K) that are customer services purchased by municipalities and joint municipal authorities from the markers for their inhabitants.

Consumption expenditure is divided into private and collective consumption expenditure. The division is made on the basis of the classification of the functions of general government to individual and collective.

5.9.3 Social security funds (S1314)

5.9.3.1 *Employment pension schemes (S13141)*

The activities of the employment pension schemes sector (S.13141) are primarily classified in industry 843, compulsory social security (Standard Industrial Classification TOL 2008). The exception is real estate

investment activities of employment pension schemes, which is classified in industry 68209, buying and selling of own real estate, letting of other real estate (Standard Industrial Classification TOL 2008).

Employment pension schemes' (S.13141) consumption expenditure is as large as employment pension schemes' (S.13141) non-market output (P.13). Non-market output consists of the following items of the employment pension schemes sector's compulsory social security industry (843, TOL 2008): output for own final use (P.12), FISIM (P.119), other intermediate consumption (P.22), consumption of fixed capital (P.15C) and compensation of employees (D.1). The description of the calculation of the listed items can be found in Section 3.9.3.1 Employment pension schemes (S.13141).

5.9.3.2 *Other social security funds (S13149)*

The consumption (S13149) expenditure of other social security funds comes from adding up other non-market output (P132R) and social transfers in kind purchased from the market (D632K). Consumption expenditure is divided into private and collective consumption expenditure. The division is made based on individual and collective tasks according to the general government task classification. The majority of the consumption expenditure of other social security funds is private consumption expenditure. Collective consumption expenditure includes only the consumption expenditure related to the research and development of social security and a small share of compensation of employees and intermediate consumption.

Market output (P11R) consists of sales proceeds from the Social Security Institution’s service, sales and real estate profits. The data source is the Social Insurance Institution's bookkeeping data.

Output for own final use (P12R) consists of software and R&D investments produced for own use. The centralised calculation of R&D investments is described in Section 5.10.3.8. Other output of the sector for own final use has been estimated for the latest years based on earlier annual data.

Sales of non-market products (P131R) consist of the Social Insurance Institution's application income, usage fees and mixed other income. The data source is the Social Insurance Institution's bookkeeping data.

Other non-market output (P132R) is derived as a residual: by subtracting market output, output for own final use and sales of non-market products from **output (P1R)**. The calculation of sector output (P1R) is described in Section 3.9.3.2.3.

Social transfers in kind - purchased market production (D632K) consist of individual goods and services bought from markets that social security funds transfer as social transfers in kind to households. Social transfers in kind are separated into their own group from social insurance benefits and social allowances. Below is a table of the social benefits in kind (D632K) which social security funds transfer to households. The data sources are the

Social Insurance Institution's bookkeeping data, the Kelasto database and other publications.

Table 129: Social transfers in kind paid by sector S13149 - purchased market output, EUR million

	2014	2015	2016	2017	2018
Medicines	1,306	1,378	1,412	1,387	1,460
Doctor's services	73	73	59	41	39
Dental services	122	95	56	68	66
Examination and treatment	63	70	43	40	40
Travel and ambulance transport	305	293	270	280	286
All compensation for medical treatment, total	1,869	1,909	1,840	1,816	1,891
Individual rehabilitation	310	339	342	332	355
Social transfers in kind, total	2,179	2,248	2,182	2,148	2,246
Maternity packages	7	7	6	6	7
School transportation subsidy	51	47	50	47	46
Rehabilitation travel costs of front veterans	1	1	0	0	0
Subsidies for farmers' working condition surveys	3	3	3	2	2
Maintenance and travel allowances	11	12	11	8	5
Interpretation services for the disabled	39	43	43	45	45
Social allowances in kind, total	112	113	113	108	105
D632K SOCIAL TRANSFERS IN KIND, PAYABLE	**2,291**	**2,361**	**2,295**	**2,256**	**2,351**

5.10 Acquisitions less disposals of produced fixed assets

5.10.1 Overview

"Acquisitions of tangible fixed assets minus transfers" in accordance with ESA 2010 consists of six sub-groups in the Finnish National Accounts: residential building, other buildings and structures, transport equipment, machinery and equipment, weapon systems, cultivated biological assets and intellectual property products.

5.10.2 Main data sources and their conversion to national accounts results

Data sources and their transformation to the concepts of the National Accounts are also described in Section 5.10.3.

5.10.2.1 *Structural statistics*

The form of the structural statistics asks about increases and decreases in fixed assets during the year by asset type. Gross fixed capital formation (increases minus decreases) is calculated by industry and product type.

Increases in fixed assets are acquisitions and capital improvement of purchased (both new and used) and produced fixed assets. Capital improvements cover activated repairs, installations and conversions, which increase the value of fixed assets and remain effective for more than twelve months. Increases are reported at acquisition prices, the value includes the total expenses of the acquisition, that is the price including installation and

other such costs. The value of fixed assets produced by the establishment for itself is calculated based on the production costs. Fixed assets acquired from establishments within the enterprise are valued as if they had been acquired from outsiders. If this is not possible, the valuation is carried out based on production costs.

Decreases in fixed assets during the financial year arising from business transactions are valued at the actual transaction price or other compensation. The asset is considered to be handed over at the time when the fixed asset is removed from the establishments' control.

The classification of fixed assets varies in the inquiry of the structural statistics by industry. For example, in manufacturing, the classification is:

- Intangible assets
- Land and water areas
- Civil engineering
- Buildings and structures
- Machinery and equipment
- Other tangible assets
- Advance payments and acquisitions in progress on buildings and structures
- Advance payments on other tangible assets

Of the item "Intangible assets" only the sub-item "Software" is utilised in the National Accounts. Software is recoded as part of software and database investments (N1173).

The item "land and water areas" is not gross fixed capital formation. The contents of the item "other tangible assets" varies by industry. They are usually not included in investments. In terms of the largest items, the aim is to determine separately what types of investments they actually are. "Advance payments on other tangible assets" are primarily advance payments on machinery and equipment and they are not by definition included in gross fixed capital formation.

Advance payments on buildings and the item "buildings and structures" are included in the building construction, except in industries "D Energy supply" and "E Water supply and sewerage", where they are considered to be related to civil engineering. Also, in some other industries, part of the item "buildings and structures" belongs to civil engineering. In principle, the item "buildings and structures" also includes residential buildings but they have not thus far been separated due to lack of data. The item "machinery and equipment" is considered to be machines, equipment and transport equipment.

Investments in "machinery and equipment" are divided into three parts in the structural statistics inquiry: "Computers, servers, data network equipment and peripheral equipment", "Telecommunication, audio, video and other ICT equipment", and "other machinery and equipment". In

practice, respondents do not separate the machinery and equipment investments but all of the investments are recoded in "other machinery and equipment".

Fixed asset data on enterprises outside the inquiry are taken from the register on business taxation. Data on increase and decreases in fixed assets are received divided into "real estate, buildings and structures", "machinery and equipment" and "other fixed assets". Buildings are recorded in building construction except in industries D and E, where they are recoded in civil engineering. Other fixed assets are recoded in machinery.

In manufacturing, no gross fixed capital formation is estimated for industrial establishments of non-industrial enterprises with under 20 employees and missing small enterprises. Small enterprises are not likely to have much of them, and in terms of missing establishments it is assumed that the data are included in the investments of the enterprise's main industry.

So the data to calculate the items of the above-mentioned gross fixed capital derive primarily from structural statistics. If revisions are made, they are based on studies and enterprise/establishment comparisons of individual enterprises.

The use of structural statistics in calculating gross fixed capital formation is hindered by the different statistical units of structural statistics and the National Accounts: in the structural statistics, the unit is the enterprise, and in the National Accounts, the establishment. This is not, however, considered to seriously disturb the calculation on an overall level.

5.10.2.2 *Central government S.1311*

The main source for gross fixed capital formation is the central bookkeeping data in accordance with the state's business and budget bookkeeping.

The division into industries is done with the help of the main categories, figure and subsections of budget bookkeeping. If there is no budget account, the industry and task is determined based on the agency code. The recordings in budget bookkeeping combined with the changes in the balance sheet accounts of business bookkeeping are utilised when calculating tangible investments. Value added tax paid on investment assets is added to investments.

Other sources for central government investments:

- Universities' financial statement material
- Business structures statistics
- Data collection from some extrabudgetary units, as for example Senate Properties
- Enterprises' financial statements (as comparison data with structural statistics)
- R&D calculations of the National Accounts

The source for product type N111 Residential buildings in the state's central bookkeeping data are, for example, accounts "Residential buildings" and "Advance payments on residential buildings".

5.10.2.3 *Economic statistics on municipalities and joint municipal authorities*

The gross fixed capital formation of local government is formed with the help of the data from the economic statistics on municipalities and joint municipal authorities, from which the investment breakdown of operational economy (table 02) and investment breakdown of municipal enterprises (table 15) are used as the source. The data are divided into asset acquisitions and sales by asset type.

Energy supply, water supply and local transport operations in enterprise form are excluded from the local government activities as they belong to the non-financial corporations sector.

The following examines the calculation of local government sector investments by product type from the main source:

Residential buildings are calculated as the difference between purchases and sales of residential buildings in the economic statistics on municipalities and joint municipal authorities.

Other building construction than residential buildings is calculated as the difference between purchases and sales of other buildings than residential buildings in the economic statistics.

Civil engineering and other buildings are registered in the difference between purchases and sales of the product type fixed structures and equipment in the economic statistics.

Transport equipment comes from the difference between the purchases and sales of transport equipment.

Other machinery and equipment are derived by subtracting the sales of other machines and equipment from their purchases in the economic statistics.

The economic statistics also provide data on the purchases and sales of computers, communications equipment and software.

Research and development investments of local government are calculated in a centralised manner and are described in more detail in Section 5.10.3.8.

The breakdown of value added tax paid by municipalities by product type and industry comes from table 02 and item "value added tax of the rebate system" of the economic statistics on municipalities and joint municipal authorities that describes the value added tax rebates received by municipalities from the state concerning investments. This paid and returned value added tax is added to investments.

For enterprises classified as belonging to the sector, the data on gross fixed capital formation come from breakdowns from the enterprise data warehouse and financial statements of the units.

In addition to municipal corporations, the data of the economic statistics on municipalities and joint municipal authorities are used in the following industries of the non-financial corporations sector: electricity, gas, steam and air conditioning, and water supply, sewerage and waste management (E municipal electrical and water plants) and transport (TOL4931+4939 and TOL522 municipal transport departments and harbours).

5.10.2.4 *Other data sources and methods*

5.10.2.4.1 Agriculture

Data on building construction come from Statistics Finland's building construction statistics: new building production in agriculture, forestry and fishing. Renovations must be estimated. Data on decreases come from agricultural enterprise and income statistics.

5.10.2.4.2 Forestry

Construction investments of forestry concerning the non-financial corporations and households sectors come from Statistics Finland's structural statistics.

5.10.2.4.3 Financial and insurance activities

R&D (research and development) investments (acquisitions minus transfers) are calculated as a separate calculation entity for the entire national economy. The figures of financial intermediation and insurance activities are also based on this centralised calculation. A description of R&D calculations can be found in Section 5.10.3.8.

In financial activities (S.121–S.127), other investments (acquisitions minus transfers) come from the Finrep data collected by the Financial Supervision Authority. In insurance activities (S.128–S.129), other investments are roughly estimated based on the previous time series (buildings, software, other acquisitions).

5.10.2.4.4 Real estate activities

In industries "68201 Letting of dwellings" and "68202 Operation of dwellings", other building construction investments include newbuilding of storage and sauna buildings of housing companies, housing co-operatives and real estate companies. Their tax-free value is estimated with the help of Statistics Finland's statistics on building and dwelling production. Value added tax is added in the same way as to residential building investments.

In the industry "681+68209 Buying and selling of own real estate, letting of other real estate", the investment item "other building construction" is first calculated from the structural statistics as the difference between increases and decreases in buildings and structures. After this, the combined demand and supply of other building construction investments of all industries is balanced with this industry so that the combined other building construction investments of all industries correspond with their supply.

The investment supply of other building construction includes the other building construction investments of the entire economy (all building construction apart from residential buildings and free-time residences). Other building construction investments consist of newbuilding, renovation building, commissions and asset transfer costs. They are calculated in the same manner as residential building investments (Section 5.10.3.1.)

5.10.2.4.5 Central government

The source of product type N1121 Other buildings in the state's central bookkeeping data are, for example, accounts "Office buildings", "Building construction" and "Industrial buildings". A majority of central government's other building construction investments come from Senate Properties and university property companies, whose main source is the structural statistics.

5.10.2.4.6 Social security funds

Social security funds' R&D investments are calculated centrally, and this calculation process is described in more detail in Section 5.10.3.8 of the methodological description.

Employment pension schemes' construction investments derive from TELA's and the Financial Supervision Authority's investment monitoring data. Other investments (computer equipment, software, etc.) derive from the annual preliminary inquiry of the employment pension schemes. The data of both materials are already available in the first release of the annual preliminary data of the National Accounts in March.

Investment data derive from the Social Insurance Institution of Finland for gross fixed capital formation of other social security funds (S13149). The data are separated into acquisitions and decreases by type of investment. In 2018, the investments of other social security funds totalled EUR 31 million.

5.10.2.4.7 Non-profit institutions serving households

Other building construction N1121: The data on newbuilding and renovation building are based on newbuilding data and the existing time series. The investments of renovation building are derived by calculating a 50 per cent share of other building construction investments from the year before. Newbuilding investments are derived by multiplying the 50 per cent share of building construction investments from the year before with the applied change percentage. This change percentage is the original change in the data divided by ten. Sector and industry-specific data are used from the newbuilding data. The financial statement material of Evangelical-Lutheran congregations contains data on newbuilding and renovation building.

5.10.3 Detailed estimation methods used by AN code

ESA 2010 accordant "acquisitions of tangible fixed assets minus transfers" consist of the following sub-categories in the Finnish National Accounts:

- N111 Residential buildings

- N112 Other buildings and structures
    - N1121 Other building construction
    - N1122 Civil engineering
    - N1123 Land improvements
- N113 Machinery, equipment and transport equipment
    - N1131 Transport equipment
    - N11321 Computers and peripheral equipment
    - N11322 Other communications technology equipment
    - N1139 Other machinery and equipment
- N114 Weapon systems
- N115 Cultivated biological assets
    - N1151 Animal resources
- N117 Other intellectual property products
    - N1171 Research and development
    - N1172 Mineral exploration and evaluation
    - N1173 Software and databases
    - N1174 Entertainment, literary and art originals
    - N1179 Other intellectual property products

Tilastokeskus

Table 130: Gross fixed capital formation by product type and industry in 2018, EUR million, at current prices

Asset	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	Total
N1	1,584	391	7,050	2,408	769	1,164	2,074	2,022	314	2,957	580	22,945	1,341	808	4,126	2,704	1,753	964	229	**56,183**
N111	0	0	0	0	0	0	0	0	0	0	0	16,838	0	0	-9	-1	6	2	0	**16,836**
N112	857	153	827	1,173	595	144	521	553	104	330	-6	5,724	95	109	2,746	921	1,223	645	95	**16,809**
…N1121	541	63	740	458	152	129	480	340	99	139	-6	5,410	91	102	280	901	1,180	427	93	**11,619**
…N1122	55	90	87	715	440	15	41	213	5	191	0	218	4	7	2,367	17	39	210	2	**4,716**
…N1123	261	0	0	0	3	0	0	0	0	0	0	96	0	0	99	3	4	8	0	**474**
N113	690	139	2,647	1,056	148	898	1,055	1,311	183	1,208	125	344	294	588	748	200	385	166	93	**12,278**
…N1131	225	11	114	56	22	125	95	1,035	11	34	0	39	18	214	78	9	20	14	2	**2,122**
……N11321	11	3	101	10	5	4	32	10	4	711	63	6	30	28	43	22	21	6	2	**1,112**
……N11322	8	4	177	32	3	6	26	18	6	148	28	5	10	15	6	10	8	10	8	**528**
…N1139	446	121	2,255	958	118	763	902	248	162	315	34	294	236	331	621	159	336	136	81	**8,516**
N114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	302	0	0	0	0	**302**
N1151	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	**27**
N117	19	99	3,576	179	26	122	498	158	27	1,419	461	39	952	111	339	1,584	139	142	41	**9,931**
N1171	14	18	2,735	61	16	27	76	10	1	290	104	4	788	9	109	1,522	22	24	10	**5,840**
N1172	0	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**77**
N1173	5	4	841	118	10	95	422	148	26	735	357	35	164	102	230	62	117	23	31	**3,525**
N1174	0	0	0	0	0	0	0	0	0	394	0	0	0	0	0	0	0	95	0	**489**
N1179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Table 131: Gross fixed capital formation by asset category and sector in 2018, EUR million, at current prices

Asset	S1	S11	S12	S13	S14	S15
N1	56,183	28,953	580	9,959	16,170	521
N111	16,836	2,264	0	-25	14,457	140
N112	16,809	9,612	-6	5,837	1,114	252
…N1121	11,619	7,754	-6	3,050	586	235
…N1122	4,716	1,795	0	2,673	235	13
…N1123	474	63	0	114	293	4
N113	12,278	10,324	125	1,286	452	91
…N1131	2,122	1,748	0	152	222	0
……N11321	1,112	960	63	78	7	4
……N11322	528	463	28	14	7	16
…N1139	8,516	7,153	34	1,042	216	71
N114	302	0	0	302	0	0
N1151	27	12	0	0	15	0
N117	9,931	6,741	461	2,559	132	38
…N1171	5,840	3,719	104	1,981	0	36
…N1172	77	77	0	0	0	0
…N1173	3,525	2,759	357	370	37	2
…N1174	489	186	0	208	95	0
…N1179	0	0	0	0	0	0

5.10.3.1 *N111 Residential buildings*

Residential building investments consist of newbuilding, renovation building, commissions and asset transfer costs. Investments are valued at purchaser's price so they include value added tax to the extent that it is not deductible.

The tax-free value of newbuilding of residential buildings comes from Statistics Finland's statistics on building and dwelling production that contain the new price values of newbuilding by owner and building type. The new price refers to the amount of money needed for constructing a new building with the desired characteristics. The new price covers construction (area, building and three-dimensional structures), building technology (HEPAC and information systems, house equipment), project services (construction, development and planning services) and connections to networks.

The value of renovations at basic prices derives from the output calculations of the building construction industry (412+431_439) of the National Accounts. The value of renovations is divided to the owner types based on the structure of newbuilding. The costs or the constructor are added to the value at basic prices. The share of the costs of the constructor is estimated to be around six per cent. The assumption is based on expert estimates.

Value added tax is added to the tax-free values of newbuilding construction and renovations by type of owner as follows:

Owner types 1 (private self-employed in agriculture), 4 (real estate company), 5 to 6 (enterprise), 7 (municipal enterprise) and 8 (state-owned enterprise): fields liable to pay value added tax so the taxes are deductible, which means value added tax is not included in the calculations.

Owner types 2 (other private person or heirs), 3 (housing company or housing co-operative), 9 to 14 (bank or insurance corporation, municipality or joint municipal authority, the state, social security fund, religious body, foundation or association and other) and the defence forces, that is, fields not liable to pay value added tax: value added tax is added.

Commissions are calculated from the output of industry "6831 Real estate agencies". The share of dwellings in commissions come from the data of the association of real estate agencies (number of mediated dwellings of all mediation tasks). Value added tax is added to the commissions. Commissions are divided to the owner types based on the structure of newbuilding.

Asset transfer costs derived from the State Treasury's property tax data. The asset transfer costs are included in investment product types as follows: 50 per cent to residential buildings, 40 per cent to other buildings and ten per cent to land improvements. The division is based on expert estimates.

The sector distribution of residential building investments are based on the sector information of the newbuilding volume index in terms of newbuilding, commissions and asset transfer costs. In terms of renovations, the sector data of the housing stock are used.

5.10.3.2 *N1121 Other building construction*

Gross fixed capital formation directed at other building construction is first calculated for all industries from their own data sources. The derived sum of building construction investments is balanced with the supply data of other building construction as described later under real estate services.

Investments in other building construction, civil engineering and transport equipment, machinery and equipment are calculated in most market output industries based on the structural statistics. The calculation of these three investment good types are otherwise also often based on the same data sources. Therefore, the calculation of the investments of the two following sections (5.10.3.3 and 5.10.3.4) is also explained here.

Instead of, or in addition to, the structural statistics, other data sources are used for some market output industries, the use of which is explained later. Industries of non-market production also have their own data sources.

The joint construction investment database of the National Accounts is used to define the magnitude of agricultural building investments. The figure has been raised based on a study on own-account construction by the Institute of Engineering in Agriculture and Forestry.

5.10.3.3 *N1122 Civil engineering*

Calculation of civil engineering investments by sectors S11 and S14 is described in Section "5.10.2.1 Structural statistics" above. Here, the calculation is explained to the extent other data sources and methods are used.

5.10.3.3.1 Agriculture

The data source for civil engineering and land improvements (underdraining) is the data from the statistics on the finances of agricultural and forestry enterprises.

5.10.3.3.2 Forestry

Civil engineering investments of the non-financial corporations and households sectors come from METLA's database on forestry and forest improvement work.

5.10.3.3.3 Transport

Part of the structural statistics' item "buildings and structures" is civil engineering and not building construction. In transport, civil engineering investments are separated as follows:

In land transport, the construction of underground and tram lines, as well as conduit networks are separated into civil engineering. Building of rail and road networks is considered civil engineering investments of public activities.

In industries serving transport, construction of security of supply storages, harbours and airports are included in civil engineering investments. Investments in security of supply storages mainly consist of protective storages built by the state and the funds used for building derive from central government's bookkeeping and financial statement material. For harbours, the calculation is based on data from the statistics on finances of municipalities. In terms of airports, calculations are based on Finavia's financial statement data. Finavia Oyj is a fully state-owned limited company that maintains and develops the airports it owns and Finland's aviation safety system.

5.10.3.3.4 Information and communication

Civil engineering in telecommunications consist of acquisition of fixed and moveable equipment of which the first-mentioned belongs to civil engineering and the latter to machinery and equipment investments. Due to different recording practices, the civil engineering investments of telecommunications cannot be calculated from the financial statements of the enterprises in the field. Therefore, the civil engineering investments of industry "61 Telecommunications" are based on expert estimates.

5.10.3.3.5 Housing

GFCF in Civil engineering in NACE ”68202 Operation of dwellings” refers to new construction and renovation made in gardens of detached

houses. GFCF figures are based on renovation building survey on residential buildings (see chapter 3.7.3).

5.10.3.3.6 Non-profit institutions serving households

Civil engineering N1122 are directed at the industry maintenance of road network (NACE 846). The data are based on state subsidies for maintaining and improving private roads.

5.10.3.3.7 Central government

The source for product type N1122 Civil engineering in the state's central bookkeeping data is, for example, the accounts "Structures", "Road structures" and "Railway structures".

5.10.3.4 *N1123 Land improvements*

5.10.3.4.1 Non-financial corporations

In industry "089 Extraction of peat, etc." of sector "S11 Non-financial corporations", the estimate on land improvements is based on the financial statements of enterprises operating in the industry.

5.10.3.4.2 Households

10 per cent of asset transfer costs are recorded in GFCF in N1123 of NACE “68202 Operation of dwellings“ (see chapter 5.10.3.1).

Asset transfer costs derived from the State Treasury's property tax data. The asset transfer costs are included in investment product types as follows: 50 per cent to residential buildings, 40 per cent to other buildings and ten per cent to land improvements. The division is based on expert estimates.

5.10.3.4.3 Non-profit institutions serving households

Of the sector's land improvement investments N1123 a part comes from the forestry industry, the investments of which are produced in the calculation of forestry. The other part of land improvements are carried out in the industry of religious communities (NACE 9491) the data of which are based on the financial statements data of Evangelical-Lutheran parishes.

5.10.3.5 *N113 Machinery, equipment and transport equipment*

The calculation of machinery, equipment and transport equipment investments by sectors "S11 Non-financial corporations" and "S14 Households" is described in above Section "5.10.3.2 Structural statistics". Here, the calculation is explained to the extent that other data sources and methods are used.

Structural statistics and other central data sources do not contain financial leasing investments, so they must be added to the machinery, equipment and transport equipment investments of various industries. In some cases, the financial leasing object may be a building construction or civil engineering. Financial leasing investments are calculated as the difference between financial leasing acquisitions and sales. Financial leasing

investments are allocated to industries using financial leasing. The source for financial leasing investments is Statistics Finland's annual statistics on financial leasing.

The structural statistics and other central data sources do not include the sub-items of machinery investments either. In the National Accounts, machinery investments are divided into four sub-items: "N1131 Transport equipment", "N11321 Computers and peripheral equipment", "N11322 Other communications technology equipment" and "N1139 Other machinery and equipment".

Data from the vehicle register and foreign trade statistics of the Finnish Customs are used when estimating the item "N1131 Transport equipment". To other respects, the division of machinery investments into sub-items is largely based on expert estimates.

5.10.3.5.1 Agriculture

The data source for transport equipment and other machinery and equipment is the statistics on the finances of agricultural and forestry enterprises. The division into transport equipment and machinery is done based on data on first time registrations of tractors. Investment data on computers and peripheral equipment are based on estimates.

5.10.3.5.2 Forestry

Investments in machinery and equipment of forestry concerning the non-financial corporations and households sectors come from Statistics Finland's structural statistics.

5.10.3.5.3 Non-profit institutions serving households

The availability of extensive data on investments in machinery, equipment and transport equipment of sector S15 is scant. The balance sheet data of tangible and intangible assets and depreciation on them are available from the data provided by associations and foundations in the 6C business tax form. Annual investment levels are even, as the investment data of the 6C form are considered indicative and change percentages are not used as such. The financial statement data of Evangelical-Lutheran congregations contains data on other investments (machinery, equipment, transport equipment, computer equipment and software).

5.10.3.5.4 Central government

The source of product types N113 Machinery, equipment and transport equipment in the state's central bookkeeping data is, for example, the accounts "Motor cars and other transport equipment", "Computer equipment and peripheral equipment", "Other machinery and equipment".

5.10.3.6 *N114 Weapon systems*

5.10.3.6.1 Central government

The accumulation of account "4560 Defence equipment" of the state's central bookkeeping data is used as the source from which, based on the

sub-division delivered by the Finnish Defence Forces, items classified as intermediate consumption are removed.

5.10.3.7 *N1151 Cultivated biological assets*

Investment in cultivated biological assets occurs in Finland in two market producer industries: in agriculture (01) and recreational, cultural and sporting activities (92).

5.10.3.7.1 Industry “01 Agriculture”

In agriculture, investments in animals are calculated using an indirect compilation method that is described in the Manual on Economic Accounts for Agriculture and Forestry (Rev. 1.1.). According to the manual, all imported animals apart from horses are treated as capital animals. In agriculture, among bovine animals only heifers for dairy and mother cow and over two-year-old bulls are classified as capital animals. Correspondingly, in pig farming sows and boars are included in capital animals. For other parts, domestic animals are so-called stock animals. The gross capital formation of capital animals is calculated so that the so-called culling discount is added to the change in value of capital animals, i.e. the difference between the production value and slaughter value of capital animals.

In the industry of recreational, cultural and sporting activities, investments in cultivated biological assets are trotting horses. Horse investments are calculated as the outcome of the annual change in the number of horses and the average price of horses to which the difference between the market and slaughter prices of slaughtered horses is added.

In Finland, vineyards, orchards and plantations that produce repeated crops have not been treated as investments as there is so little of them.

5.10.3.7.2 Industry "93 Recreational, cultural and sporting activities"

The non-financial corporations sector's investments in trotting and riding horses are recorded in the industry "93 Recreational, cultural and sporting activities". Smallish investments are based on estimates.

5.10.3.8 *N1171 Research and development*

5.10.3.8.1 Capitalisation of R&D expenditure

According to ESA 2010, research and development expenditure (R&D) is recorded as gross fixed capital formation (GFCF), not as intermediate consumption as in ESA 1995. The calculation of R&D investments and output is steered by Manual on measuring R&D in ESA 2010 published by Eurostat.

The method applied in the calculation of R&D is cost based. The value of R&D activities in commercial research laboratories has been calculated based on remuneration costs of personnel and other acquisition costs (e.g. materials and supplies, services bought from elsewhere). All items that belong to R&D investments and output are calculated annually, in other

words, data from previous years are not used in the calculation as an assumption of future development.

R&D inputs purchased from outside that have been used as an intermediate input in producing one's own research and development investment are still left in intermediate consumption.

5.10.3.8.2 Data sources

The main data source for R&D calculations is the data of the Frascati Manual Survey (FM Survey). The survey is conducted to produce statistics on Research and development in Finland according to the Frascati manual. The Frascati Manual contains an internationally recognised methodology and guidelines for collecting data on R&D.

The import and export data of R&D services derive from the Statistics on international trade in services. In addition, data from the National Accounts, Structural Business Statistics and the Structure of Earnings statistics are used.

5.10.3.8.3 Compiling the output of R&D

The output of research and development activities is divided into two items: output for own final use and market output.

$$R\&D\ OUTPUT = R\&D\ OUTPUT\ FOR\ OWN\ FINAL\ USE\ P12 + R\&D\ MARKET\ OUTPUT\ P11$$

R&D's market output P11 consists of exports and the non-financial corporation sector's internal domestic R&D trade. The data are derived from the Frascati Manual survey data and the statistics on international trade in services.

$$R\&D\ MARKET\ OUTPUT = EXPORTS + DOMESTIC\ R\&D\ TRADE$$

R&D's output for own final use is derived as a residual when market output and some other items, which are detailed in the following paragraphs, are deducted from Frascati Manual Intramural expenditures on R&D. In the non-financial corporations (S11) and Financial and Insurance corporations (S12) sector R&D's output for own final use is calculated as follows:

$$\begin{aligned}&\boldsymbol{R\&D\ OUTPUT\ FOR\ OWN\ FINAL\ USE}\\&= FRASCATI\ MANUAL\ INTRAMURAL\ EXPENDITURES\ ON\ R\&D\\&- CAPITAL\ EXPENDITURE + CONSUMPTION\ OF\ FIXED\ CAPITAL\\&+ OPERATING\ SURPLUS - OTHER\ SUBSIDIES\ ON\ PRODUCTION\\&- EXPENDITURE\ ON\ OWN\\&- ACCOUNT\ PRODUCTION\ OF\ SOFTWARE\\&+ EXTRAMURAL\ PURCHASES\ OF\ R\&D\\&- \boldsymbol{R\&D'S\ MARKET\ OUTPUT}\end{aligned}$$

In other words, it is assumed that exports of R&D and extramural R&D expenditure are not part of R&D output for own final use. However, the data sources used for the calculation include these items. That is why they have to be deducted here.

5.10.3.8.3.1 Frascati Manual Intramural expenditures on R&D (Table 132, 1)

The item is the total expenditure of own research and development drawn from the FM Survey data. This forms the majority of R&D's output and investments. The item comprises remuneration expenditure, materials, supplies, overheads on buildings, other overheads, purchased services, machinery, equipment, buildings and other acquisition costs of fixed assets.

5.10.3.8.3.2 Payments for licences to use intellectual products (principally R&D assets, such as patents) that should be recorded as GFCF (Table 132, 2)

According to Manual on Measuring Research and Development "usually the bought-in R&D will be incorporated as a component in the final R&D produced on own account, and so these payments will be recorded as intermediate consumption, to ensure that there is no double-counting of GFCF. So in practice, this row will usually be zero." This is also the case in Finland.

5.10.3.8.3.3 Expenditure on own-account production of software (Table 132, 3)

The total R&D expenditure derived from the FM Survey data are multiplied with the share of programmers' wages and salaries out of total wages and salaries in the industry or with the share of programmers out of all wage and salary earners in the industry. The latter data are derived from the structural statistics on wages and salaries. This includes data on the number of persons and the wages and salaries of persons working in software designing or programming (code ISCO213, Computing professionals of the Structure of Earnings statistics) in enterprises included in the sample of the the FM Survey. It has been estimated that R&D expenditure may include wages and salaries of such persons and they should be removed as they are recorded elsewhere in the accounts. Software development is not an R&D activity.

5.10.3.8.3.4 Payments to postgraduate students not included in FM data (Table 132, 4)

All of these should be included in the FM data.

5.10.3.8.3.5 Capital expenditure (Table 132, 5)

Of the above-mentioned R&D expenditure from FM survey data, the share that is clearly GFCF of assets other than R&D are removed. These include machinery, equipment, buildings and other acquisition costs of fixed assets. These do not belong to R&D expenditure but are recorded in GFCF of the respective assets.

5.10.3.8.3.6 Other taxes on production not included in FM data (Table 132, 6)

There is no tax on R&D activities.

5.10.3.8.3.7 Other subsidies on production (Table 132, 7)

Other subsidies on production (D39) are calculated as the sum of external financing (subsidies, chargeable research) in the FM Survey data. This is financing the enterprise has received from elsewhere and can thus not be included in its expenses.

5.10.3.8.3.8 Extramural purchases of R&D (Table 132, 8)

These are Extramural purchases of R&D that should be recorded as intermediate consumption. This applies only to R&D industry. The variables R&D ordered from Finland and abroad are selected from the data of the FM Survey. They are added only to industry 72 Scientific research and development, it results in the R&D input used in the R&D production of this industry.

5.10.3.8.3.9 Sub-total (Table 132, 9)

Sub-Total (1 to 8).

5.10.3.8.3.10 Estimate of consumption of fixed capital, plus a return to capital for market producers (Table 132: 10, 11, 12)

5.10.3.8.3.10.1 Consumption of fixed capital

Fixed capital is consumed as a result of research and development activities and thus causes an expense that has to be added to R&D expenditure. The perpetual inventory method (PIM) is used to calculate this.

Data sources enabled to start the real calculation of the cfc time series from 1995. Therefore, the stock of capital used in R&D production in 1994 has been assessed in order to determine the consumption of fixed capital. First, the ratio of the net stock of fixed capital of National Accounts to investments by industry was calculated in the following way:

$NS_{1995}^{R\&D} = NS_{1995}^{NA} / GFCF_{1995}^{NA} * capital\ expenditure_{1995}$ – $capital\ expenditure_{1995}$,

where NS is the value of the net stock, $GFCF_{NA}$ is the gross fixed capital formation of the whole economy derived from NA and the capital expenditure is obtained from the FM survey data.

Next, the average depreciation rate D by industry and sector was calculated for 1995:

D = $CFC_{1995}^{NA} / NS_{1995}^{NA}$,

where Cfc is the consumption of fixed capital and NS is the net stock.

Consumption of fixed capital (cfc) for 1995 is achieved by adding the capital expenditure of the current year to the net stock (NST) of the previous year (to be able to calculate the cfc, we assume that the net stock in 1994 is the same as in 1995) and multiplying this with the depreciation rate:

CFC_t = D*(NS_{t-1} + $capital\ expenditure_t$)

The net stock is then accrued and calculated for each subsequent year by adding investments and subtracting cfc from the net stock of the year before:

NS_t = (NS_{t-1} + $capital\ expenditure_t$) – cfc_t

Finally, the consumption of fixed capital is calculated for each year as proportion of the previous year's net stock and current year's capital expenditure as in formula of CFC_t.

5.10.3.8.3.10.2 Return to capital

There are no data on return to capital that enterprises have as a result of R&D activities, so this item must be estimated. The idea is that R&D expenditure also includes the mark up from the activities, that is, the benefit for the enterprise of the R&D activities after expenses. The return to capital estimate is achieved by multiplying the industry-specific R&D expenditure by the ratio of operating surplus and output from the production accounts. A five-year moving average has been used in the calculation of the multiplier to reduce random variation. This multiplier is used to multiply industry-specific R&D expenditure, which results in the return to capital.

5.10.3.8.3.11 Adjustment for exhaustiveness (Table 132, 13)

No adjustments made here.

5.10.3.8.3.12 Other adjustments: R&D market output P11 (Table 132, 14)

Exports of R&D from the ITS statistics, i.e. other research and development services, tailored and untailored research and development services, patents, copyrights based on R&D activity, selling of industrial processes and models (incl. trade secrets), selling of other R&D propriety rights and non-financial corporations sector's internal purchases from the the Frascati Manual Survey data are summed up. As these should not be part of the output of R&D for own final use, they are deducted here. This applies to S11. (See equations 1-3.)

For S13 we subtract here the net sales of R&D between domestic sectors. The market output of non-market producers from industry 72 (scientific research and development) of the central government sector are added as investments in industry 72 of the non-financial corporations sector S11. The corresponding item is subtracted from the R&D expenditure of the central government sector.

5.10.3.8.3.13 R&D differences in the private and public sectors

Until now we have described the calculation procedures of R&D of sectors S11 and S12. Sectors S13 and S15 have their own calculation method that is a little bit simpler. For these sectors only the R&D expenditure and capital expenditure from the FM Survey data, cfc and Expenditure on own-account production of software are taken into account.

Table 132: The calculation items in output of R&D in Finland in 2018, current prices, EUR million

	S11	S12	S13	S15	Total
1 Frascati Manual Intramural expenditure on R&D	4,092	149	2,140	50	6,431
2 Subtract payments for licenses to use intellectual products (principally R&D assets, such as patents) that should be recorded as GFCF					
3 Subtract expenditure on own-account production of software	519	19	4	0	542

4 Add payments to postgraduate students not included in FM data					
5 Subtract capital expenditure	266	1	14	2	283
6 Add other taxes on production not included in FM data					
7 Subtract other subsidies on production	371				371
8 Add extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	12				12
9 Sub-Total (1 to 8): current expenditures	2,948	129	2,122	48	5,247
10 Add estimate of consumption of fixed capital plus a return to capital (for non- market producers only consumption of fixed capital):	647	20	30	1	698
11 — Option 1: As percentage of current expenditures (line 9) or compensation of employees	NA	NA	NA	NA	NA
12 — Option 2: As cost of capital services measured with a PIM	193	20	30	1	244
13 Adjustment for exhaustiveness					
14 Other adjustments	-448		-171		619
15 Total: Output of R&D	3,147	149	1,981	49	5,326

5.10.3.8.4 Estimating GFCF in R&D

The R&D investments of the non-financial corporations sector are derived by adding the market output (P11) produced for the non-financial corporations sector (S11) and the public sector (S13) to R&D produced to own final use. The calculation of R&D investments of the public sector is similar to that of the private sector. The R&D investments of this sector and the non-profit institutions sector (S15) consist of R&D produced for own final use (P12) and, in limited amounts, of market output (P11). The value of R&D activities of the public sector and non-market producers is determined based on production costs. The calculation of R&D investments of non-market producers does not include intermediate consumption or imports/exports. Including these in the calculations in a reliable way has been impossible.

The GFCF in R&D of the S11 and S12 R&D activities are calculated with the following formula:

$$\begin{aligned} GFCF\ in\ R\&D\ &= R\&D\ output\ +\ imports\ of\ R\&D \\ &+\ Net\ purchases\ of\ R\&D\ between\ domestic\ sectors \\ &-\ extramural\ purchases\ of\ R\&D \end{aligned}$$

5.10.3.8.4.1 R&D Output (Table 133, 1)

The output of RD as calculated on row 15 of the table Table 132.

5.10.3.8.4.2 Imports of R&D (Table 133, 2)

This includes the import items Other research and development services, Tailored and untailored research and development services, Patents, Copyrights based on R&D activity, Selling of industrial processes and models (incl. trade secrets), Selling of other R&D propriety rights derived from the statistics on international trade in goods and services.

5.10.3.8.4.3 Trade margins (Table 133, 3)

According to Manual on Measuring Research and Development *"Where trade margins can be identified separately they should be added. In practice the entries in this row are likely to be zero."* This is also the case in Finland.

5.10.3.8.4.4 Taxes on products (Table 133, 4)

According to Manual on Measuring Research and Development *"Figures for rows 4 and 5 should come from the national unit responsible for the allocation of product taxes and subsidies across all products. In practice, row 4 and 5 will normally contain zero values."* This is also the case in Finland.

5.10.3.8.4.5 Subsidies on products (Table 133, 5)

According to Manual on Measuring Research and Development *"Figures for rows 4 and 5 should come from the national unit responsible for the allocation of product taxes and subsidies across all products. In practice, row 4 and 5 will normally contain zero values."* This is also the case in Finland.

5.10.3.8.4.6 Extramural purchases of R&D (Table 133, 6)

These are Extramural purchases of R&D that should be recorded as intermediate consumption. This applies only to R&D industry. The variables R&D ordered from Finland and abroad are selected from the data of the Frascati Manual Survey. Added only to industry 72 Scientific research and development, it results in the R&D input used in the R&D production of this industry.

5.10.3.8.4.7 Acquisitions of R&D not expected to provide a benefit (Table 133, 7)

According to Manual on Measuring Research and Development *"This row will in practice be zero."* This is also the case in Finland.

5.10.3.8.4.8 Changes in inventories of finished R&D (Table 133, 8)

According to Manual on Measuring Research and Development *"In practice, these changes are difficult to identify, and the assumption is generally made that R&D output is acquired as a capital asset as it is produced. So this row will usually have zero values."* This is also the case in Finland.

5.10.3.8.4.9 Exports of R&D (Table 133, 9)

Exports include the same items as imports but as exports, that is items Other research and development services, Tailored and untailored research and development services, Patents, Copyrights based on R&D activity, Selling of industrial processes and models (incl. trade secrets), Selling of other R&D propriety rights derived from the statistics on international trade in goods and services.

Other items are the same as in the calculation of R&D produced for own final use above.

Again, this applies to sectors S11 and S12. Sectors S13 and S15 have their own simpler calculation method. For these sectors, only R&D investments derived from R&D the FM Survey data include merely the item R&D output for own final use. Data on the higher education sector are not included in the data delivered to the accounts by the R&D the Frascati Manual Survey data as they are processed differently in the statistics from the other units. Therefore, the data have been selected from the database table on the statistics' home page and they are not on as detailed level as other data.

5.10.3.8.4.10 Net purchases of R&D between domestic sectors (Table 133, 10)

The market output of non-market producers from industry 72 (scientific research and development) of the central government sector are added as investments in industry 72 of the non-financial corporations sector S11. The corresponding item is subtracted from the R&D expenditure of the central government sector.

5.10.3.8.4.11 Other adjustments

Some other small adjustments were made in sectoral calculations of S12 and S15. These will be removed in the next benchmark revision.

The output and investments of research and development activities of the public sector and the non-profit sector are calculated as follows:

$$R\&D\ OUTPUT = Frascati\ Manual\ Intramural\ expenditures\ on\ R\&D - capital\ expenditure + cfc - expenditure\ on\ own\ account\ production\ of\ software - Net\ purchases\ of\ R\&D\ between\ domestic\ sectors$$

$$R\&D\ OUTPUT = R\&D\ INVESTMENTS$$

Table 133: Calculation items and value of R&D investments in Finland 2018, EUR million

Calculation item	S11	S12	S13	S15	Total
1 R&D output	3,147	149	1,981	49	5,326
2 Add Imports of R&D	619	1			620
3 Add trade margins					
4 Add taxes on products					
5 Subtract subsidies on products					
6 Subtract extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry.	12				12
7 Subtract Acquisitions of R&D not expected to provide a benefit					
8 Subtract changes in inventories of finished R&D					
9 Subtract Exports of R&D	206	1			207
10 Add Net purchases of R&D between domestic sectors	171				171
*other adjustments		-45		-13	58
11 Balance: Total GFCF of R&D	3,719	104	1,981	36	5,840

5.10.3.8.5 Time series of R&D activities

As ESA 2010 was first implemented, the R&D's GFCF and output were calculated retrospectively until 1975. The time series were calculated genuinely starting from the year 1995 with the method described above. For the period 1975 to 1994, an index calculated based on the Frascati Manual Survey data was used. The FM data have been collected since 1971 but the distribution of figures by industry has been estimated retrospectively based on other industrial data in the accounts. Because the cfc time series starting in 1975 require an opening capital stock for 1974, this was estimated with a model instructed by the OECD based on the 1975 investment level and risk of consumption.

In the Frascati Manual Survey data, research and development expenditure has been raised to the level of the whole economy with a turnover coefficient. The missing data for 1996 have been intrapolated on the basis of data for 1995 to 1997. Corresponding raising and intrapolation have been performed on the capital expenditure in the FM data. The annual capital expenditure in the Frascati Manual Survey data have been replaced with cfc, that is, in the calculation, capital expenditure is deducted and cfc is added.

In the method applied in the calculation of the non-financial corporations sector S11 and Financial and insurance sector S12, the share of industry and sector-specific intermediate consumption, which was considered to belong to the investment concept of the accounts, was moved to R&D investments from the National Accounts' earlier time series. In addition, R&D produced for own final use was recorded industry and sector-specifically in transaction P12 Production for own final use.

R&D inputs purchased from outside that have been used as an intermediate product in producing one's own research and development investment and R&D services that are not considered to fulfil the criterion of the investment concept (e.g. internal R&D services of multinational enterprises) were still left in intermediate consumption, however.

Data on the ratio of expenditure on software developers' wages and salaries to the expenditure on wages and salaries of other employees in the industry from the structural statistics on wages and salaries are used in calculating the expenditure on own-account production of software. The required data are available from the structural statistics on wages and salaries as from 2003. Earlier years' missing data by industry on software developers have been imputed with the assumption that the expenditure on software developers' wages and salaries in relation to employees in the industry follow the same development as the expenditure on other researches' wages and salaries in relation to employees in the industry.

5.10.3.9 *N1172 Mineral exploration and evaluation*

In calculating the mineral exploration and evaluation investments of industry 072 mining of non-ferrous metals in sector "S11 non-financial corporations", data on the costs of ore prospecting received from the

Finnish Safety and Chemicals Agency (Tukes) are used. The data from Tukes are based on its own inquiries starting from 2011 and, prior to this, on data from the Ministry of Employment and the Economy (previously the Ministry of Trade and Industry). The time series are available from 1995 onwards. Data estimated previously by the National Accounts based on a special survey have been used backwards from 1994.

Tukes is certain of the coverage of the data on the figures concerning mineral exploration only for the period it has been in operation. In recent years, the survey has been responded to by all enterprises with valid ore prospecting licences (claims). Even in previous years the premise has been that enterprises have reported their annual investments in ore exploration to mining officials. Mineral exploration includes the wages and salaries paid by the enterprises, outsourced services and other costs of the activity in question.

5.10.3.10 *N1173 Software and databases*

5.10.3.10.1 Non-financial corporations

The investments of sector "S11 Non-financial corporations" in software and databases are calculated in two stages.

A majority of the investments come from the data of the structural statistics. The intangible asset item "software" recoded in increases of fixed assets and 30 per cent of the item "IT, designing and programming expenses" are included in investments. Seventy per cent of the item "IT, designing and programming expenses" is recorded in enterprises' intermediate consumption. The 30 per cent share included in investments is assumed to cover investments in both software and databases. The division of designing and programming expenses into investments and intermediate consumption is based on expert estimates.

The second part of the non-financial corporations sector's software and database investments is calculated with the help of wage and salary costs from the structure of earnings statistics. The number of programmers, computer analysts and other IT experts and the compensation of employees paid to them in each industry has been found out from the structure of earnings statistics. In industry "62 Computer programming, consultancy and related activities", ten per cent of the compensation of employees paid to IT experts are accepted as investments, in industries "26 Electronics industry" and "46 Wholesale trade", 25 per cent. In other industries, 50 per cent of compensation of employees paid to IT experts are accepted as investments. The shares accepted as investments are based on expert estimates.

The wages and salaries of programmers included in software investments are removed from research and development investments.

An eight per cent mark-up supplement has been added to the software investments consisting of compensation of employees. The size of the mark-up supplement has been calculated based on the operating surplus

and long-term share of output in industry "62_63 Computer programming, consultancy and related activities".

5.10.3.10.2 Central government

The source of product types N1173 Software and databases in the state's central bookkeeping data are, for example, accounts "Purchased software" and "Self-made and commissioned software".

5.10.3.11 *N1174 Entertainment, literary and art originals*

Entertainment, literary and art originals include films, certain types of TV and radio programmes, literary works and music pieces. Works must fulfil four criteria to be considered originals:

1) The work is protected by copyright
2) The work has primarily been produced as an art object and it is the final version (final product)
3) The work must meet the criteria for capital, i.e. the work is intended to be in production use for over twelve months
4) The work is not included in other capital formation in the National Accounts. Software and valuables are separate calculation items in the National Accounts so they are not included in original works.

The key factor in defining N1174 Entertainment, literary and art originals is the copyright that entitles economic utilisation of the original. Compared to other investments in the National Accounts, investments in N1174 are low.

The lifetime of investments in entertainment, literary and art originals has been set at 10 years. In the capital stock calculations, a geometric consumption model is used so the consumption is larger in the early years.

5.10.3.11.1 Films

All films and short films that meet the criteria mentioned above are included in film originals. Only the final, edited version produced for showing in cinemas, as a television movie or for direct distribution in Blu-ray, DVD or other formats is considered an original. Translated films, re-publications and director’s cut versions are counted as original works if their copyright is different from the original film.

The versions from different stages of film production, such as uncut raw versions, are not counted as original works. A special case are film scripts which are counted as literary originals provided they are protected by a separate copyright.

The production company of the film determines in which country’s National Accounts the original is included. Therefore, films produced by a foreign production company in Finland are not included in original works of films. By contrast, a film shot abroad by a Finnish production company is included in the Finnish National Accounts.

The investment value of films is calculated from the average budget of films and the number of films supported. The budget is estimated to correspond to the production costs of the film. Because the investment value of films is calculated based on production costs, the value does not include the profit margin. In Finland, the Finnish Film Foundation annually lists the films produced in Finland, which the foundation has supported and their budgets. Nearly all films included in production in Finland receive support from the Finnish Film Foundation.

The investment value of films is entered as an addition to output for own use and as investments in industry 59_60 of the non-financial corporations sector (Motion picture, video and television programme production, and Programming and broadcasting activities).

5.10.3.11.2 Radio and television programmes

Radio and television programmes can be divided into two groups, so-called stock programmes and flow programmes. Stock programmes include dramas, documentaries and music, art and educational programmes. Flow programmes, in turn, include various magazine programmes like the news. The lifetime of stock programmes is usually longer than that of flow programmes because they can be shown more than once or in several countries. Thus, stock programmes are considered to meet the lifetime criterion for originals.

The show time of flow programmes is usually under 12 months, which means that they are not counted as fixed capital. For example, advertising is usually not broadcast for one year or the television broadcasting of sports competitions is usually tied to a certain time period, so advertising or sports programmes do not fulfil the criteria of N1174 Entertainment, literary and art originals. Flow programme formats form an exception as they are considered to belong to originals. Formats can be reused and sold onwards.

Radio companies are making fewer and fewer programmes that meet the N1174 criteria. For television programmes, the indicator used for the investment value is the production costs of self-produced programmes and purchase costs of purchased programmes. The data are collected from the annual reports and financial statements of the largest commercial television companies. The investment value does not include the profit margin. The value of self-produced software is entered as an addition to output for own final use and as investments for industry 59_60. Purchased rights are subtracted from intermediate consumption and recorded as an addition to investments in industry 59_60.

The report “Finnish television programming” published by the Ministry of Transport and Communications provides the share of Finnish programmes for each channel and the programme supply of the channels, which is divided into programme types. In the classification, the programme supply classified as stock programmes does not include the formats of flow programmes and they are thus not included in investments in television programmes.

5.10.3.11.3 Original books

All books meet the criteria of originals regardless of the topic, style or publication form. Audio books and e-books also belong to literary originals. Newspapers or magazines are not counted as originals because their lifetime is usually under 12 months.

The investment value of literary works is calculated as the present value of future income from originals. Annual investments are calculated using a formula $W_j = H_j * (1 + r_j - i_j)$ where W_j includes annual investment in year j, H_j annual royalties in year j, r_j nominal growth of royalties compared with the previous year and i_j nominal interest level. The growth in royalties and the interest level are assumed to grow as much, whereby the formula becomes simplified in form $W_j = H_j$, so in year j, the investment is equal to royalties in year j. Future income comprises compensations transmitted through copyright organisations and income from book sales. The investment value calculated on the basis of the products sold takes into account the profit margin. In Finland, organisations collection royalties for literature are Sanasto and Kopiosto. The publishing association provides data on the total annual sales of books from which authors and publishing companies receive a certain share as income.

Compensations and royalties received by authors are entered as an addition to output for own use and as investments in industry 90_91 (Cultural activities) of the households sector. Sales revenues received by publishers and their share of royalties from copyright organisations are divided as an addition to output and as a decrease in intermediate consumption. Income and compensations are also added to investments in industry 58 (Publishing activities) of the non-financial corporations sector.

5.10.3.11.4 Original music pieces

All genres of music that fulfil the criteria of N1174 Entertainment, literary and art originals are considered music originals. Only the final product is considered originals, so products born in intermediate stages of the production or parts of the work are not considered originals. Music in itself is an original and is not bound to a performing artist. Music videos are also originals. Advertisement jingles, etc. do not meet the criteria of originals based on their lifetime.

The investment value of musical works is determined by the same method as the value of original literary works, i.e. as the net present value of future income. The income included in the calculation consists of royalties transmitted through copyright organisations and total sales of music. In Finland, royalties for music are collected by Teosto and Gramex. Gramex collects compensations for records and the use of recordings. In addition to these, Teosto collects compensations for the use of live music. The IFPI Finland provides data on total annual sales of music, from which the shares of income are divided between artists and producers.

The artists' royalties received by artists and their share of compensations paid by copyright organisations are entered as an addition to output for own use and as investments in industry 90_91 of the households sector.

Sales revenues received by producers and their share of compensations paid by copyright organisations are divided as an addition to output for own use and as a decrease from intermediate consumption. Income and compensations are also added to investments for industry 59_60 of the non-financial corporations sector.

5.10.3.11.5 Other originals

Corporate trademarks are not counted as original works of art and entertainment, because they are protected by trademarks. Technical and architectural designs are not included in originals even if they are protected by copyright, as they are part of building production. Models and miniatures are not originals, as they are often used or reproduced in production.

Paintings, sculptures, antiques and jewellery are considered valuables (ESA 2010 and SNA 2008), so they are included in capital formation elsewhere than in *N1174 Entertainment, literary and art originals*.

Photographs intended as works of art protected by copyright are regarded as *N1174 Entertainment, literary and artistic originals*. Kopiosto collects royalties for photocopying and lending of photographs.

Games, such as video games, PC games and console games, are calculated as “original software” in the National Accounts and they are not calculated as *N1174 Entertainment, literary and artistic originals*, because the production processes of games and conventional software are very similar.

5.10.3.12 N1179 Other intellectual property products

The source of product type N1179 of central government in the state's central bookkeeping data is the accounts "Preliminary and formation expenses" and "Other long-term expenses".

5.11 Change in inventories

5.11.1 Overview

The change in inventories is classified by type of inventory in the National Accounts. The types of inventory according to ESA 2010 are materials and supplies (AN.121), work in progress (AN.122), finished products (AN.123), defence equipment inventories (AN.124) and merchandise (AN.125). In the Finnish National Accounts, defence equipment that are not classified as investments are recorded as central government's intermediate consumption at the time of delivery. For this reason, defence equipment inventories (AN.124) are not included in the Finnish National Accounts.

Table 134: Types of inventories with 2018 data S1 Total economy, EUR million

	Opening stock	Closing stock	**Stock change**
N12 Inventories by type of inventory	96,611	99,324	**2,713**
N121 Materials and supplies	10,645	11,374	**729**
N122 Work in progress	69,242	70,528	**1,286**
N123 Finished products	4,596	4,972	**376**
N125 Merchandise	12,128	12,450	**322**

Materials and supplies are divided in more detail into fuels (AN.1211) and other materials and supplies (AN.1219). The non-financial corporations sector's energy industry TOL35 and the central government sector's public administration industry TOL84 have fuel inventories. *Work in progress* is divided into *immature cultivated biological assets* (AN.1221) and *other work in* progress (AN.1229). *Immature cultivated biological assets* include agricultural animals and inventories of agricultural products. Forest growth is also recorded in this type of inventory. Unfinished buildings are not recorded in *other work in progress*, they are recorded as investments according to their progress.

Table 135: Types of inventories with 2018 data S1 Total economy, EUR million

	Opening stock	Closing stock	Stock change
N12 Inventories by type of inventory	96,611	99,324	2,713
N121 Materials and supplies	10,645	11,374	729
...N1211 Fuels	1,756	1,826	70
... N1219 Other materials and supplies	8,889	9,548	**659**
N122 Work in progress	69,242	70,528	**1,286**
... N1221 Immature cultivated biological resources	65,040	65,643	**603**
... N1229 Other work in progress	4,202	4,885	**683**
N123 Finished products	4,596	4,972	**376**
N125 Merchandise	12,128	12,450	**322**

Finished products and work in progress are valued at basic prices, materials and supplies and merchandise at purchaser's prices. Change in inventories is valued at the mean price of the year, so the values of the inventories at the end and beginning of the year are first changed to the mean prices of the year and then the difference between them is calculated.

For all asset categories, opening and closing stocks are changed to the mean price value with the help of supply and use tables. The use table is used to specify products for all assets. The products are valued according to the prices in January, December and mean prices. The method of product division is described in more detail in Section 6.1.2 *Compilation of supply data at basic prices and use data at purchaser's prices by product.* The best possible price index available is used for each product, which is the same price index used for expressing at constant prices. The values are

aggregated for the sector-industry-asset combinations. After that, the coefficient of the opening stock can be calculated for each combination as the ratio between the mean price index and the price index in January, and the coefficient of the closing stock as the ratio between the mean price index and the price index in December.

5.11.2 Agriculture

In terms of domestic animals, the animal stock is divided into capital and stock animals. The number of domestic animals derive from Luke, the Natural Resources Institute Finland. The figures are based on a sample survey carried out in December and on animal registers. The prices of stock animals are mainly based on slaughter prices, while for capital animals the change in inventories is valued at the average prices of the calendar year. Prices for capital animals come from the sales prices of breeding animals provided by the co-operative Faba.

The opening inventory of crop production products for the statistical reference year t is estimated as the volume of cereal from the previous season available for sale by the end of July of year t and correspondingly, the closing stock was estimated as the crop harvested in calendar year t that will be available for sale by the end of July of year t+1. Change in inventories is the difference between the closing and opening stocks. The calculations assume that the farms' inventories will be empty at the end of the crop year, i.e. at the end of July. In addition, storage is assumed to concern only cereal deliveries outside the industry.

Crops are not included in work in progress. Cereal crops cultivated in Finland are mainly sown in spring. The share of cereals sown in autumn (winter wheat and rye) in the whole cereal area varies between 3-8% every year. If the value of grain sown in autumn is estimated based on the production costs used by the end of the year (labour, seed and fertilizer costs, about €200/ha), then the value of the change in the stock of the whole country varies between -10 and +10 million euros in the period 2000-2022, depending on the sowing area. Since the estimated value of the inventory change is so small, it has not been taken into account in the national economy accounts.

5.11.3 Forestry

In Finnish forestry, annual felling represents around two to three per cent of the growing stock. Forest stocktaking concerning the entire growing stock are carried out as continuous stocktaking. It takes a long time for northern forests to grow, for example, it takes on average 90 years for a pine to mature. Reliable data on the volume and prices of fellings are received monthly.

In 2006, the Finnish National Accounts started following the ESA95 (now ESA 2010) practice in compiling forestry accounts. In practice, this means that the output of forestry includes, in addition to the value of the felling volume and activities related to forestry, also the value of change in inventories in terms of growing trees. The value of the change in

inventories is calculated based on data produced by the Natural Resources Institute Finland as a sum of income of the annual change in the growing stock by type of timber and corresponding average stumpage prices. The change in growing stock by type of timber is calculated as the annual difference in growth and fellings.

In adjustment by mean price, the main price source in forestry is the Natural Resources Institute Finland's statistics on volumes and prices in industrial roundwood trade.

5.11.4 Construction

Change in inventories in construction are recorded in building construction and in civil engineering. Unfinished production in the industries is depicted in the production figures. Therefore, only changes in "other materials and supplies" are recorded in change in inventories. Data on change in inventories come from the balance sheet data of structural statistics. In adjustment by mean price, the main price sources are producer price indices for manufactured products and the cost index for civil engineering works.

5.11.5 Other industries in the non-financial corporations and households sectors

The source data for the inventory data of industries in the non-financial corporations and households sectors are the same as in the production account calculation, i.e. the structural business statistics (regional statistics on entrepreneurial activity). The structural statistics are based on financial statement data and current asset data of the balance sheet are utilised in inventory calculations. Inventories in financial statements data are valued mainly by FIFO (first in, first out) method. The popularity of FIFO is due to the regulations of Business Tax Act (360/1968), which gives instruction to determine inventories at true value or based by the FIFO method. If an establishment is included in the inquiry for industrial establishments (T5 data collection), where the opening and closing values of inventories are inquired, the data of the inquiry are used to that extent.

The structural statistics provide the value of current assets by current asset type to the National Accounts; materials and supplies, work in progress, finished products and merchandise. Change in inventories for the industries are calculated through the inventory stock of the establishments, i.e. as the difference between the closing and opening values of the inventories. The closing value of the inventories is the balance sheet value of current assets. The opening value is the corresponding balance sheet value of current assets in the previous year.

In the source data run of inventories it is ensured that the stock data are positive and possible negative data that are erroneous are set to zero. The items that are set to zero are usually small. If no opening inventory data are available from the previous year, the opening value is estimated with the help of the change in inventories in the profit and loss account (finished goods and merchandise inventories) and the closing value of inventories. The opening value of the inventories for the statistical year should match

the closing value of inventories of the year before. In practice, this is not always the case. As a result of enterprise reorganisations, inventories may have moved from one industry to another. In addition, inventories may have been recorded in a different asset or establishment than in the previous year. In principle, the change in inventories calculated through the inventory stocks should equal the change in inventories reported by the enterprise in the profit and loss account (finished goods and merchandise inventories in total). In order to find differences, a revision run is made and the biggest differences are revised manually. Depending on the case, either the opening or closing value of the inventory stock is revised.

Change in inventories is valued at the average prices of the year. Using the average price level eliminates the effect of price increases or decreases between the opening and closing stocks (elimination of holding gain/loss). The stock data of inventories are first calculated at average prices. After this, the difference between the closing and opening stocks is calculated, which gives the change in inventories adjusted by mean price.

- Mean price index = ∑ (price index per month (1, 2, …., 12)) / 12
- Opening stock value adjusted by mean price = opening stock value x (mean price index / price index in January)
- Closing stock value adjusted by mean price = closing stock value x (mean price index / price index in December)
- Net of holding gains less holding losses for opening stock = Opening stock value – adjusted opening stock value
- Net of holding gains less holding losses for closing stock = Closing stock value – adjusted closing stock value

Table 136: Example: Adjustment by mean price of finished products (N123) in the pulp and paper industry (TOL171) in the non-financial corporations sector (S11).

data	Value
Opening stock	602
Closing stock	759
Stock change (=) (A)	167
opening stock adjusted by mean price (-)	641
closing stock adjusted by mean price (+)	732
inventory change in adjusted by mean price (=) (B)	91
difference of inventory changes (A-B)	76
mean price index / price index in January	1,065
mean price index / price index in December	0,952

According to the calculation rules of the National Accounts, the inventory value of work in progress must include a mark-up or an estimate of operating surplus. In the structural statistics, the *work in progress* inventory item is based on the bookkeeping value that is compiled on cost basis including direct and/or indirect costs but not the margin. Therefore, an

imputed mark-up by industry is added to the opening and closing stocks of work in progress in the National Accounts. The mark-up estimate is compiled with formula *1 + mark-up ratio.* The mark-up ratio is calculated as follows;

$$\begin{aligned} &The\ mark\ up\ ratio \\ &\quad = B2N\ Operating\ surplus \\ &\quad / (P2\ Intermediate\ consumption \\ &\quad + D1\ Compensation\ of\ employees \\ &\quad + P51C\ Consumption\ of\ fixed\ capital \\ &\quad + D29\ Other\ taxes\ on\ production \\ &\quad - D39\ Other\ subsidies\ on\ production) \end{aligned}$$

Because *B2N operating surplus* by industry can vary considerably by year, the three-year moving average is used as the mark-up estimate. For example, the average of the mark-up estimate for 2015 to 2017 is used for 2018. If the operating surplus is negative in some year, the mark-up estimate used is 1.02, that is, the mark-up is considered to be minimal. The average mark-up estimate for 2012 to 2018 is around 1.1, that is, around 10 per cent.

The inventory calculation is carried out in the inventory sub-system of the National Accounts' calculation application. Separate classes have been built for the source data and revision types in the inventory system (Table 137). The **data processing** type includes corrections related to changes in finished goods and merchandise inventories and current asset data of the balance sheet caused by the source data. Furthermore, if there are errors in data due to technical difficulties in the sub- system, these corrections are made into this class. **Conceptual revisions** include corrections related to the calculation rules of the National Accounts, like the addition of adjustment by mean price for inventory stocks and the mark-up related to work in progress. Conceptual revisions also include increases/decreases in inventories related to global production. If an enterprise sends goods abroad for processing, its inventories located abroad must be included in the National Accounts. Correspondingly, if manufacturing takes place in Finland on assignment of a foreign enterprise, the products and raw materials in the inventories of a Finnish enterprise do not belong to the inventory calculations of the National Accounts. **Coverage revisions** include transfers of the establishment's inventory stocks from one industry to another and other miscellaneous corrections aiming to improve the coverage.

In the inventory system, changes in inventories are made by establishment and metadata are recorded for each correction. When the corrections have been made, **the final figures** or the final change in inventories are carried forward to the production accounts. The change in finished and unfinished inventories is recorded in output, while the change in inventories of materials and supplies belongs intermediate consumption. The change in inventories of merchandise is taken into account when calculating the trade margin and it affects its output. If the change in inventories of finished products, work in progress and merchandise is positive, this change

increases output and value added. If the change in inventories of materials and supplies is positive, it decreases intermediate consumption, which means that value added grows.

Table 137: Calculation of change in inventories by source, year 2018, EUR million

Process	P52 Change in inventories	N121 Materials and supplies	N122 Work in progress	N123 Finished products	N125 Merchandise
Structural statistics	2,990	1,643	472	498	385
Other sources	633	0	633	0	0
Sources, total	**3,631**	**1,643**	**1,105**	**498**	**385**
Data validation	-604	-654	-31	12	69
a) Holding gains	-437	-163	-16	-163	-95
b) Other components of conceptual adjustments	183	-94	230	63	-16
Conceptual adjustments, total (a+b)	-254	-257	214	-100	-111
Exhaustiveness adjustments	-60	-3	-2	-34	-21
Adjustments, total	**-918**	**-914**	**181**	**-122**	**-63**
Final result	**2,713**	**729**	**1,286**	**376**	**322**

The data of the inventory sub-system serve three calculation methods of GDP: the output, expenditure and income approaches. As explained in the previous paragraph, changes in inventories are carried forward to the production account and are part of the calculation of value added in the output approach. In the expenditure approach, components of total demand are carried forward to the national balance of supply and demand and change in inventories is one of these components. In the income approach, the various income components of GDP are summed up. They are compensation of employees, gross operating surplus and other taxes on production minus other subsidies on production. Through value added, the impact of changes in inventories shifts to the operating surplus and is thus indirectly part of one income component.

5.12 Acquisitions less disposals of valuables

Net acquisitions of valuables by central government (S1311) are based on data from the state's budget and business bookkeeping, and the Finnish National Gallery’s financial statements.

Net acquisitions of valuables by local government (S1313) are based on data from municipalities' bookkeeping.

Net acquisitions of valuables by households (S14) are estimated with the help of Statistics Finland's wealth survey. The current calculations have been made based on the wealth surveys of 1998 (covers the years 1994 to 1998) and 2004 (covers the years 2000 to 2004). The questions of the wealth survey cover the values of antiques, valuable paintings, art objects and considerable collections as cumulative data. The cumulative net prices were divided over the years by dividing the sum with the number of years, as there are no data on the annual distribution of the cumulative sums or on changes.

Net acquisitions of valuables by non-profit institutions (S15) have been calculated for industry *9492_9499 Other associations* (9492 *political organisations, 9499 other associations*) that includes art acquisitions by foundations. The net value of art acquisitions by foundations is based on the changes in the turnover of Finnish art auctions. Besides that, a figure is also calculated for industry *9491 Activities on religious organisations* based on the balance sheets of Evangelical Lutheran Church, but the total value is usually less than 0.5 million EUR, so it will be 0 in the publications.

Table 138: Acquisitions of valuables minus reductions (P53) in 2018, EUR million

Asset	S1 Total economy	…S1311 Central government	…S1313 Local government	…S14 Households	…S15 NPISHs
N13 Valuables	72	6	2	63	1
N131 Precious metals and stones	-	-	-	-	-
N132 Antiques and other art objects	64	-	-	63	1
N133 Other valuables	8	6	2	-	-

5.13 Export of goods

This section describes the calculation of both exports and imports of goods. In the National Accounts, figures concerning exports and imports of goods are produced in the integrated accounting with the Balance of Payments.

Table 139: Export of goods in the Balance of Payments 2018, EUR million

	Intra EU	Extra EU	**Total**
G Goods	35,619	27,307	**62,926**
G11 International merchandise trade statistics (The customs source data, IMTS)	37,884	25,798	**63,682**
G12 Adjustments to merchandise statistics	-2,021	-650	**-2,671**
G14 Goods procured in ports by carriers (IMTS)	303	84	**387**
G2 Net exports of goods under merchanting	-555	1,748	**1,193**
G3 Nonmonetary gold (IMTS)	8	327	**335**

Table 140: Import of goods in the Balance of Payments 2018, EUR million

	Intra EU	Extra EU	**Total**
G Goods	37,595	25,069	**62,664**
G11 International merchandise trade statistics (The customs source data, IMTS)	39,719	26,867	**66,586**
G12 Adjustments to merchandise statistics	-3,278	-2,697	**-5,975**
G13 Coverage adjustments to general merchandise	795	610	**1,405**
G14 Goods procured in ports by carriers	348	280	**628**
G3 Nonmonetary gold (IMTS)	11	9	**20**

Due to level of aggregation and rounding differences between Balance of Payments and National Accounts, following balancing items needs to be added to match the figures in Process Tables.

Table 141: Rounding differences between Balance of Payments and National Accounts, EUR million

Transaction	2018
Export of goods	0
Import of goods	-1

5.13.1 International merchandise trade statistics (IMTS)

The main data source for the trade in goods is the international merchandise trade statistics, which is produced by the Finnish Customs' statistical department.

The foreign trade statistics depict the goods trade (intra-EU and extra-EU) between Finland and other member countries of the European Union (EU) and between Finland and third countries. The foreign trade statistics are an official data source on Finnish imports and exports. The condition of the statistics is that **goods physically move across the Finnish border**.

The statistical data on foreign trade are collected with two different systems in the EU. Statistical data on trade with countries outside the EU are obtained from the customs clearance system. Data on trade between member states are collected with a special procedure known as the INTRASTAT system. The statistical data on intra-EU and extra-EU trade are published as one set of statistics of foreign trade.

Intra-EU trade statistical data are based on regulations imposed by the EU that are valid in all member states as law-like regulations. The reported data are only used for the compilation of statistics.

In Finland, the obligation to report is in practice determined based on the total value of union purchases and union sales that the buyer or seller reports to the Tax Administration in the monthly tax payment control notification. The data are also used to determine the start of the data supply obligation during the statistical reference year.

Finnish Customs annually determines the minimum limit for the data supply obligation. In 2018, the value threshold for the data supply obligation was EUR 500,000 for imports and exports. The total value data of intra-EU trade of small enterprises exempted from the obligation to provide data are included in figures of foreign trade imports and exports as unspecified imports and exports.

In Finland, the price concept of foreign trade statistics is the statistical value both in intra-EU and extra-EU trade. Regional division is determined uniformly based on the concepts of country of origin and country of destination.

5.13.2 Adjustment to the merchandise trade statistics

In the National Accounts (ESA 2010) and Balance of Payments (BPM6) the accounting is based on the change of the economic ownership of the good. In most cases the economic owner of the good changes at the same time, when the good moves across the border. In the case of global production, the good can move across the border without change of the economic ownership, and adjustments for the IMTS are needed.

One type of global production is called processing. Processing can be inward processing (G1222 Processing Finland) or outward processing (G1221). In the inward processing a non-resident principal imports goods to Finland, for example car parts, and exports the final product. The nature of transaction codes (NoT codes) are used to inform whether there is a change in the economic ownership of the goods when they cross the border. Use NoT codes is not obligatory, and in many cases, they are not used as seen in Table 142 (G12212 and G12223).

In the annual formation of supply use tables (SUT) some enterprise level consistency checking is performed, and the enterprise level information is linked to the source processes of trade in goods (G12212, G12222). In case of processing Finland some supplement intermediate products are also detected in the formation of SUT (G12221), and the correction for the adjustment is also added to the process of trade in goods statistics.

Table 142: Adjustments for processing in NA and BoP, EUR million

	Intra EU	Extra EU	**Total**
G122 Adjustments for processing	**-1,710**	**-239**	**-1,949**
G1221 Processing abroad	2,630	979	**3,609**
…G12211 Processing abroad: ITSS	2,857	1,259	**4,116**
…G12212 Processing abroad: Other than IMTS NoT codes	-84	-226	**-310**
…G12213 Processing abroad: IMTS NoT codes	-143	-54	**-197**
G1222 Processing in Finland	-4,889	-1,018	**-5,907**
…G12221 Processing in Finland: Supplements	485	425	**910**
…G12222 Processing in Finland: Other than IMTS NoT codes	-5,278	-1,033	**-6,311**
…G12223 Processing in Finland: IMTS NoT codes	-96	-410	**-505**
G1223 Factoryless production	549	-200	**349**
…G12231 Factoryless production (negative credit)	-202	-2,460	**-2,662**
…G12232 Factoryless production (credit)	751	2,260	**3,011**

The factoryless production is the margin of acquisitions and sales of the products which have economic ownership in Finland, but the physical product is not located in Finland in any part of the production process. The intellectual property products explain more half of the value of the final product. The reporting of the factoryless production is similar with the merchanting, and the information is collected on the inquiry on international trade in services and international flows of goods.

In the chapter 5.17 International trade and global production, the cases on the global production are explained more comprehensive.

5.13.3 Valuation adjustments to the merchandise trade statistics in the imports of goods, CIF-FOB -adjustment

The exports and imports of goods are valued in the balance of payments and the National Accounts based on the FOB price concept. In the foreign trade statistics of Finnish Customs, exports of goods are valued at FOB price and imports according to the CIF price concept. The CIF priced imports of goods are turned into FOB priced in the balance of payments and the National Accounts by subtracting the freight and insurance costs of imports from it. The parameters of the transformation vector are based on a sample survey of goods importers, which Finnish Customs carries out roughly every five years. The survey examines the share of freight and insurance items by commodity and region. The results are adjusted by some other information on international transportation costs.

5.13.4 Coverage adjustments to the merchandise trade statistics in the imports of goods

Some coverage adjustments are added to the general merchandise trade figures (Table 140, G13), as all information is not possible collect in business surveys. The most important coverage adjustments is the estimate of e-commerce in imports.

The e-commerce estimate is based on various sources: commercial surveys, payment card information and postal statistics.

The estimate on illegal activities includes smuggling. The source is based on customs and police administration reports.

The value of vehicles imported by private persons is also included in balance of payments and national accounts, which has not been considered in IMTS. The source for the data is the annual data of the tax authorise vehicle tax unit.

The imports of goods produced by carriers (Table 140, G14) is also included to the business inquiry on international trade in services and international flows of goods. The export side is included to the IMTS-figures.

5.13.5 Certain items to include in and exclude from exports and imports of goods

The ESA 2010 lists products which should be included in (§3.165) and excluded from (§3.166) import and export data in national accounts. The tables below describe the treatment. IMTS refers to the international merchandise trade statistics, which is produced by the Finnish Customs' statistical department. When an item is included in IMTS, it is likewise included in imports and exports of goods in national accounts, and vice versa.

Table 143: Treatment of items listed in ESA 2010 §3.165

Item	Treatment
(a) non-monetary gold	Included in IMTS, in case crossing the border
(b) silver bullion, diamonds and other precious metals and stones	Included in IMTS, in case crossing the border
(c) paper money and coins not in circulation and unissued securities (valued as goods, not at face value)	Included in IMTS, in case crossing the border
(d) electricity, gas and water	Included in IMTS, in case crossing the border
(e) livestock driven across frontiers	Not included, negligible in Finland
(f) parcel post	Included as a part of e-commerce estimate, see 5.13.4
(g) government exports including goods financed by grants and loans	Included in IMTS, in case crossing the border
(h) goods transferred to or from the ownership of a buffer stock organisation	Included in IMTS, in case crossing the border
(i) goods delivered by a resident enterprise to its non-resident affiliates, except for goods for processing	Included in IMTS, in case crossing the border
(j) goods received by a resident enterprise from its non-resident affiliates, except for goods for processing	Included in IMTS, in case crossing the border
(k) smuggled goods or products not reported for taxes like import duties and VAT	Included as a part of illegal activities estimate, see 7.1.3.1.1
(l) other unrecorded shipments, such as gifts and those of less than a stated minimum value	Not included, negligible in Finland

Table 144: Treatment of items listed in ESA 2010 §3.166

Item	Treatment
(a) goods in transit through a country	Excluded in IMTS
(b) goods shipped to or from a country's own embassies, military bases or other enclaves inside the national frontiers of another country	Excluded in IMTS
(c) transportation equipment and other movable kinds of equipment which leave a country temporarily, without any change of economic ownership, e.g. construction equipment for installation or construction purposes abroad	Excluded in IMTS
(d) equipment and other goods which are sent abroad for processing, maintenance, servicing or repair; this applies also to goods processed to order abroad when a substantial physical change in the goods is involved	Excluded for the most important enterprises, see chapter 5.13.2, Table 142
(e) other goods which leave a country temporarily, being generally returned within a year in their original state and without change of economic ownership. Examples are goods sent abroad for exhibition and entertainment purposes, goods under an operating lease, including leases for several years and goods returned without being sold to a non-resident	Excluded in IMTS

(f) goods on consignment lost or destroyed after crossing a frontier before change of ownership occurs	Excluded case-by-case for significant losses

5.14 Exports of services

Table 145: Export and import of services by sources, EUR million

	Export of services			Import of services		
	Intra EU	Extra EU	Total	Intra EU	Extra EU	Total
Services	**13,266**	**13,619**	**26,885**	**19,433**	**10,644**	**30,078**
Manufacturing services: survey	1,617	208	1,825	1,348	309	1,657
Repair and maintenance services: survey	260	234	494	163	79	242
Transport: survey	2,193	1,991	4,184	1,846	473	2,319
Transport: CIF-FOB adjustment				1,513	1,350	2,863
Transport: sea and air passenger transport estimation				588	384	973
Transport: shipping route fees	32	40	71			
Travel: combined survey	1,433	1,656	3,089	3,419	1710	5,129
Travel: coverage adjustments	7	8	14	15	7	23
Construction: survey	1,278	2,294	3,572	940	1611	2,551
Construction: project deliveries adjustment	-1,102	-2,156	-3,259	-708	-1,529	-2,236
Construction: coverage adjustment				91	59	150
Insurance and pension services: combined methodology	109	35	144	36	273	308
Insurance and pension services: CIF-FOB adjustment				100	71	171
Financial services: survey	144	55	199	334	85	420
Financial services: e-commerce estimate				29	19	48
Financial services: FISIM	32	44	76	181	191	371
Charges for the use of intellectual property n.i.e.: survey	542	2,393	2,934	633	268	901
Telecommunication, computer and information services: survey	3,304	3,983	7,287	2650	1,031	3,681
Telecommunication, computer and information services: e-commerce estimate				16	10	26
Other business services: survey	2,948	2,156	5,104	5,821	3,966	9,787
Other business services: project deliveries adjustment	358	505	863			
Personal, cultural and recreational services: survey	60	108	168	88	60	148
Personal, cultural and recreational services: e-commerce and informal economy estimate				307	201	508
Government services n.i.e.: administrative data / estimation	53	66	118	22	14	36

Due to level of aggregation and rounding differences between Balance of Payments and National Accounts, following balancing items needs to be added to match the figures in Process Tables.

Table 146: Rounding differences between Balance of Payments and National Accounts, EUR million

Transaction	2018
Export of services	-1
Import of services	2

5.14.1 Data sources

Finnish data for international trade in services is compiled from a variety of sources. All sources are combined in balance of payments, which is then used as the only source in national accounts rest of the world sector. This approach gives us full coherence between Balance of Payments (BoP) and Rest of the World sector (RoW) on a quarterly level. The only differences between BoP and RoW, not related to unit measure, can be found in SUT and NA counterpart distribution.

5.14.1.1 International trade in services and international flows of goods survey

Main source for international trade in services is Statistics Finland's survey on international trade in services and international flows of goods (ITS survey). As seen in Table 145, the survey covers 87 % of services exports and 65 % of service imports (project deliveries adjustment calculated as a part of survey). Target population of the survey consists of enterprises and general government units resident in Finland. ITS survey is split into quarterly and annual inquiries. Sampling frame is based on administrative information on trade in services (VAT records, Customs declarations and Intrastat). The frame size is approximately 9 000 units each year and it is stratified by activity, size and ownership type. Two sampling methods are used based on the activity. PPS based on VAT intra EU trade in services is used for most activities and SRS is used for activities D and F. Sample size is approximately 3 000 units each year. The data is collected by EBOPS2010 classification and by country.

5.14.1.2 Other sources

The other sources are supplements to the administrative data and surveys which are conducted to the enterprises.

The other sources for international trade in services are CIF-FOB adjustment estimation, e-commerce estimate, informal economy estimate, shipping route fees administrative data, and government services administrative data and estimate.

The imports of the transportation services are produced with the CIF-FOB estimation. The parameters of the model are based on transportation costs survey but also some other sources and comparisons are used to increase credibility of the parameters.

The e-commerce is based on various sources. The main sources are commercial consumer survey on e-commerce, postal survey and card payment data.

Regarding the informal economy, the estimate of imports of prostitution services is included in service imports. The estimate is based on expert information.

The government services are in exports based on the annual report of the foreign minister expenses on consulates and embassies. In the imports the figures are estimated on the basis of embassies and consulates located in Finland.

5.14.2 Recording of services

In ITS survey respondents are instructed to report the service transactions at the time they are rendered. Case by case consistency analysis is made to ensure that the timing of turnover, exports and other sources are in line. If analysis shows discrepancies periodization is made.

5.14.3 Transport

Transportation services exports are included in the ITS survey. Survey respondents are instructed to meet ESA 2010 criteria for transportation services. Transport freight services imports are mainly based on CIF-FOB estimate calculations (Chapter 5.13.3) Transportation services by enterprises, that are not related to foreign trade statistics exports and imports of goods, are collected in ITS survey. Passenger sea and air transport imports are estimated with a model based on share of non-resident departures in harbours and airports.

5.14.4 Manufacturing services, repair services and project deliveries

Manufacturing services and repair services are also collected in ITS survey. The respondents are instructed to report the service fee, which does not include the value of goods. Statistics Finland classifies so called project deliveries under engineering services, in which only the margin is recorded. Projects that establish commercial presence abroad are excluded from the survey (one year limit).

5.14.5 Financial services

FISIM is calculated separately from other financial services (Chapter 3.8.1.7). Other financial services are mainly collected in ITS survey and respondents are instructed to include both explicit and implicit charges. E-commerce estimate is also calculated to get full coverage on business to consumer import transactions.

5.14.6 Insurance services

Imports and exports of insurance services are calculated separately for life insurance, non-life insurance and reinsurance activities. The compilation uses two data sources, Financial Supervisory Authority’s Insurance Reporting data and Solvency II based data table, which relies on

international data exchange. Solvency II based table consists of premiums written and claims paid, and it's used in estimating import of direct insurance. Export of direct insurance and reinsurance is calculated using Insurance Reporting data. Insurance reporting data is also used in estimation of import of reinsurance.

The calculation of export of non-life insurance follows the same logic with the compilation of market output of non-life insurance (see ch.3.8.2). The rest of the world share of premiums written and claims paid are included in Insurance reporting data. The other components of export are estimated using rest of the world share of claims paid, claims incurred, premiums written and earned. Import of non-life insurance consists of insurance activity, where a unit of domestic sector is insured by insurance corporation operating abroad. Import of non-life insurance is calculated as follows: premiums written – claims paid.

Export of life insurance is calculated by multiplying output of life insurance with a multiplier of rest of the world share of premiums written. Import of life insurance is estimated using premiums written by rest of the world insurance corporations (counterpart sector Finland) and a multiplier of domestic life insurance corporations' market output per premiums written.

Export of reinsurance is calculated the same way as export of non-life insurance. Import of reinsurance is a sum of net of reinsurance ceded and estimate of investment income attributable to policyholders. Since the information of rest of the world share of reinsurance ceded is not available, it is assumed that rest of the world share of reinsurance accepted (export) equals the rest of the world share of reinsurance ceded (import).

5.14.7 Travel

Travel exports are calculated based on combined methodology from Border Interview Survey from year 2012 and accommodation statistics. Accommodation statistics include all accommodation establishments in Finland that exceed the bed capacity of 20. Missing information is imputed and data is validated and corrected. Data provides overnight stays by country of residence. Breakdown between expenditure by non-resident business travelers and tourists is based on Border Interview Survey from year 2012. Inflation is taken into account by using consumer price index travel related items.

Calculation of travel imports is based on the Finnish Travel Survey, in which 2350 persons are interviewed monthly. Interviewees' report their expenditure on accommodation, restaurants, travel and others subjects in the country of travel. Missing items are imputed and data is validated and corrected, for example outlier detection. Weights are calculated by person, depending on their representativeness. Stratification is done by age, place of domicile and education. Range of weights is from 3 000 to 7 000. Expenditure on international transportation, such as cruises and flights between two countries, is included in passenger transport, not in travel. Counterpart country distribution of survey data is supplemented by data

from prior surveys, because the survey provides us with limited data by country

Travel data is supplemented with coverage adjustment to include the services of owner-occupied holidays homes of non-residents.

Data on expenditure on health and education is not available.

5.14.8 Intellectual property products

Economic ownership of intellectual property is based on ITS survey. The data is validated in case-by-case analysis on enterprise financial statement and balance sheet, and consistency work made by large cases unit.

The investments in software and databases are calculated in two stages. A majority of the investments come from the data of the structural statistics. The intangible asset item "software" recoded in increases of fixed assets and 30 per cent of the item "IT, designing and programming expenses" are included in investments. Seventy per cent of the item "IT, designing and programming expenses" is recorded in enterprises' intermediate consumption. The 30 per cent share included in investments is assumed to cover investments in both software and databases. The division of designing and programming expenses into investments and intermediate consumption is based on expert estimates. The second part of the non-financial corporations sector's software and database investments is calculated with the help of wage and salary costs from the structure of earnings statistics. The number of programmers, computer analysts and other IT experts and the compensation of employees paid to them in each industry has been found out from the structure of earnings statistics. In industry "62 Computer programming, consultancy and related activities", ten per cent of the compensation of employees paid to IT experts are accepted as investments, in industries "26 Electronics industry" and "46 Wholesale trade", 25 per cent. In other industries, 50 per cent of compensation of employees paid to IT experts are accepted as investments. The shares accepted as investments are based on expert estimates. The wages and salaries of programmers included in software investments are removed from research and development investments. An eight per cent mark-up supplement has been added to the software investments consisting of compensation of employees. The size of the mark-up supplement has been calculated based on the operating surplus and long-term share of output in industry "62_63 Computer programming, consultancy and related activities"

5.14.9 Imputed housing services

There are no actual source data on housing services. Instead, they are estimated based on the balance sheet value of housing wealth. In the estimate, it is assumed that the dwelling is used three months per year and the annual income is 4.2 per cent. As a reference for the model, for example, the calculations presented in Norway's UNECE manual (*The Impact of globalization on national accounts*, 2011, pages 234 to 239) have

been used. Import of housing services amounted to EUR 23 million in 2018, whereas the value of exports was EUR 14 million.

Until 2002, data on the value of housing wealth of Finnish households was collected by Bank of Finland, as households were obliged to exchange money in order to make purchases abroad. It became more difficult to receive data on private persons' international housing and real estate investments when Finland adopted the joint European currency in 2002.

The data attained from Bank of Finland is still used as a reference for the stock value of housing wealth of Finnish households. Statistics Finland has inquired about private persons' international housing ownership in connection with the Household Budget Survey in 2006 and 2012. These data have been used to estimate the development of investments in international dwellings. Housing price indexes from important counterpart countries, such as Spain and Estonia, are additionally used to account for value changes.

The source data for foreign investments in housing in Finland is the National Land Survey's statistics on real estate transactions, which also include data on the buyer's nationality. These figures have been raised by 20 per cent based on an estimate, in order to cover dwelling transactions as well. Statistics Finland’s statistics on prices of dwellings in housing companies is used to estimate changes in value.

5.14.10 Use of Mini-One-Stop-Shop

Mini One-Stop-Shop (MOSS) Scheme is not used in the compilation of international trade in services statistics in Finland.

5.15 Imports of goods

The imports of goods are explained together with exports in Section 5.13.

5.16 Imports of services

The imports of services are explained together with exports in Section 5.14.

5.17 International trade and global production

5.17.1 Background

With the implementation of ESA 2010, the global production brought recording changes to the National Accounts. Goods for processing Finland, goods for processing abroad, merchanting and factoryless goods production are classified as global activities. According to ESA 2010, international phenomena are recoded based on ownership regardless of which country the product is located in. In the new recording method, an important issue is the question of whether the enterprise is a resident or foreign enterprise. According to Finnish Customs, in foreign trade of goods the recording of imports and exports is determined when the product physically crosses a border between countries. In the National Accounts (and balance of payments) import and export recordings are determined

based on who owns, for example, the imported raw materials and exported finished products. As a result, comparison with the total exports and imports in Finnish Customs' international trade is no longer possible because the practices differ based on the definition of ownership.

5.17.2 Classification

The classification of enterprises into the group international activity is based on analyses of enterprise data compiled from various sources. The data sources are the business register, financial statements inquiry for enterprises, inquiry on manufacturing commodities, sales inquiry, statistics on international trade in services, Finnish Customs' foreign trade statistics and enterprises' annual reports, enterprises' web pages and corporate visits. In the National Accounts, the classification of global companies has started from the statistical reference year 2012 when 14 of the most important enterprises involved in manufacturing services in Finland and abroad and one enterprise involved in factoryless goods production were analysed. In case of the enterprise involved in factoryless goods production, the enterprise has for years been treated in the same manner, so it did not bring changes to the figures. The number of enterprises involved in global production has increased considerably in the statistical reference year 2018. Currently, good 50 enterprises belong to the classification. In addition to enterprises involved in goods for processing, there are several enterprises involved in factoryless goods production and merchanting. Primarily, these are large multinational enterprises, but there are also smaller enterprises on the list, for example, textile industry enterprises.

One criterion for the classification goods for processing in Finland is information that the enterprise in question acts as a subcontracted manufacturer for a foreign company. Goods for processing abroad are, in turn, based on a Finnish enterprise having a subcontracted manufacturer abroad. In merchanting, a Finnish enterprise purchases products from a foreign enterprise and the products are resold to an intentional enterprise without the product ever entering or leaving Finland. The physical form of the product is not changed during merchanting either. The classification criterion for enterprises as factoryless producers is that these Finnish enterprises are so-called technology enterprises. They produce products and system entities, where the majority of the product's value consists of planning and research and product development. These enterprises no longer have factory production in Finland as the production process has been moved abroad.

5.17.3 Global phenomena in the data

The handling of global phenomena in the National Accounts requires that the data of enterprises involved in global activities are congruent in various source data. In the reference year 2012, enterprises involved in global activities were calculated for the first time, which also resulted in a lot of manual revisions due to shortcomings in the source data.

In data produced by Statistics Finland, the global production of enterprises is considered already when compiling source data, which means that data

revisions would not have to be made retrospectively in the calculation application of the National Accounts. For example, based on the nature code of the trade event, the items that are imported or exported to be manufactured without a change in ownership are principally removed from the goods trade of Finnish Customs' foreign trade. Goods for processing is not an actual trade event. The product is moved across a border, for example, as part of the production process, after which it may be returned to the country it was sent from or exported to a third country.

The activities of the most important enterprises involved in global production are analysed annually in the National Accounts in detailed examinations. When final data are completed (t + 2 years), global production revisions are made in supply and use tables all the way to product level, which may bring revisions to the exports and imports of goods and services.

The various recording methods of global production according to ESA 2010 are listed below.

- Goods for processing in Finland:
    - The turnover of a Finnish enterprise, the manufacturer, consist of processing fee that is recorded in the output of the production account.
    - The processing fee is recorded in exports of services and productised in the supply and use tables according to the manufacturer's industry-specific production of manufacturing services.
    - The imports of the international owner of the product (principal) are subtracted from the imports of goods trade and possible sales of the finished product in Finland are added according to the final production product of the manufacturer.
    - The exports of the international owner of the product are subtracted from the exports of goods trade and possible raw material purchases from Finland are added according to the raw material purchase products of the manufacturer.
- Goods for processing abroad:
    - The value of goods processed abroad by a foreign processor is added to the production value of the Finnish enterprise.
    - Both the raw material purchased abroad and the processing fee paid to the foreign processor are added to the intermediate consumption of the Finnish enterprise
    - The processing fee is recorded in imports of services and productised in the supply and use tables according to the Finnish contractor's industry-specific manufacturing services.
    - The raw materials purchased abroad by the Finnish principal are added to the imports of goods and recorded according to

the Finnish principal’s domestic raw material purchases, unless more detailed data on the principal’s raw materials purchases abroad are available. The possible processed goods returned to Finland are subtracted from the import of goods.

- The goods prosessed aborad by foreign processor are added to the exports of goods and recorded according to the principal’s domestic production, unless more detailed data on the principal’s processed goods abroad are available. The possible raw materials sent to processor from Finland are subtracted from the export of goods.

- Merchanting:
  - The production value of the Finnish enterprise includes the margin of trading taking place abroad, purchases and sales. Merchanting is inquired in connection with the enterprise inquiry on international trade in services.
  - According to ESA 2010, the merchanting margin is shown as exports of goods trade. According to the instructions, the merchanting margin is added to Finnish Customs' foreign trade. It is productised in the supply and use tables according to the enterprise’s main export goods traded, unless more detailed data on the products sold by merchanting enterprises are available.
- Factoryless goods producers:
  - Factoryless goods producers are not mentioned in the ESA 2010 manual revision. They have named into the own group in OECD's Global Production working group. International instructions for handling factoryless goods producers are not ready yet. A factoryless goods producer refers to an enterprise that no longer has own factories in Finland, but planning, research and product development, administration and marketing are located in Finland. The enterprise orders the product from abroad and receives considerable income from IPP (intellectual property products).
  - The value of production of the Finnish enterprise includes the international margin (the remaining share of production when the costs have been subtracted).
  - The margin of Factoryless goods producers is reported in trade in goods figures (revision 2017). Previously the margin was included in the trade in services figures.

CHAPTER 6 THE BALANCING OR INTEGRATION PROCEDURE, AND VALIDATING THE ESTIMATES

6.0 Introduction

The final figures of the National Accounts are compiled in the supply and use tables framework, where the supply data (domestic output + imports) and the use data (intermediate consumption + consumption expenditure + gross capital formation + exports) are balanced by product. In the income approach, operating surplus/mixed income remains residual even in final data. Then all three approaches produce the same GDP. The supply and use tables are completed in t+24 months. The final figures of the National Accounts in accordance with the balanced supply and use tables are published in t+25 months. The supply and use tables are compiled annually.

Table 147: Balancing of final data by industry and by demand item in 2015 to 2018, as in *Balancing*-process in process tables, EUR million

Gross value added by industry	2015	2016	2017	2018
A Agriculture, forestry and fishing				
B Mining and quarrying				
C Manufacturing			166	-106
D Energy supply			14	-9
E Water supply and waste management				
F Construction			17	
G Trade	-41		47	-31
H Transport	-31		27	-21
I Accommodation and food services activities	-11		13	-7
J Information and communication	-25		32	-17
K Financial and insurance activities			35	133
L Real estate activities	-3			
M Professional, scientific and technical activities	-10		9	-5
N Administrative and support service activities	-6			-25
O Public administration and defence; compulsory social security				1
P Education				3
Q Human health and social work activities	-4		7	
R Arts, entertainment and recreation				2
S Other service activities			1	31
T Activities of households as employers				
Gross value added, Industries total	-131	0	368	-26
P7 Import				
P6 Export				
P3 Total final consumption expenditure	9	12	-10	41

P51 Gross fixed capital formation	50	56	-13	
P52 Changes in inventories				
Demand items total	59	68	-23	41

Level of Details	Before balancing	SUT balancing	Final estimate
GDP PRODUCTION APPROACH			
A21 TOTAL			
Output of goods and services (at basic prices)	**436,210**	**0**	**436,210**
Intermediate consumption (at purchasers' prices)	**234,684**	**212**	**234,896**
Gross value added (at basic prices)	**201,526**	**-212**	**201,314**
A Agriculture, forestry and fishing			
Output of goods and services (at basic prices)	10,631	0	10,631
Intermediate consumption (at purchasers' prices)	5,059	0	5,059
Gross value added (at basic prices)	5,572	0	5,572
B Mining and quarrying			
Output of goods and services (at basic prices)	2,567	0	2,567
Intermediate consumption (at purchasers' prices)	1,576	0	1,576
Gross value added (at basic prices)	991	0	991
C Manufacturing			
Output of goods and services (at basic prices)	120,241	0	120,241
Intermediate consumption (at purchasers' prices)	86,063	106	86,169
Gross value added (at basic prices)	34,178	-106	34,072
D Electricity, gas, steam and air conditio			
Output of goods and services (at basic prices)	9,393	0	9,393
Intermediate consumption (at purchasers' prices)	5,244	9	5,253
Gross value added (at basic prices)	4,149	-9	4,140
E Water supply; sewerage, waste mana			
Output of goods and services (at basic prices)	4,115	0	4,115
Intermediate consumption (at purchasers' prices)	2,271	0	2,271
Gross value added (at basic prices)	1,844	0	1,844
F Construction			
Output of goods and services (at basic prices)	38,684	0	38,684
Intermediate consumption (at purchasers' prices)	23,709	0	23,709
Gross value added (at basic prices)	14,975	0	14,975
G Wholesale and retail trade; repair of m			
Output of goods and services (at basic prices)	34,211	0	34,211
Intermediate consumption (at purchasers' prices)	16,137	31	16,168
Gross value added (at basic prices)	18,074	-31	18,043
H Transportation and storage			
Output of goods and services (at basic prices)	24,919	0	24,919
Intermediate consumption (at purchasers' prices)	15,543	21	15,564
Gross value added (at basic prices)	9,376	-21	9,355
I Accommodation and food service act			
Output of goods and services (at basic prices)	8,773	0	8,773
Intermediate consumption (at purchasers' prices)	5,110	7	5,117
Gross value added (at basic prices)	3,663	-7	3,656
J Information and communication			
Output of goods and services (at basic prices)	23,984	0	23,984
Intermediate consumption (at purchasers' prices)	12,116	17	12,133
Gross value added (at basic prices)	11,868	-17	11,851
K Financial and insurance activities			
Output of goods and services (at basic prices)	13,427	0	13,427
Intermediate consumption (at purchasers' prices)	6,902	0	6,902
Gross value added (at basic prices)	6,525	0	6,525

Level of Details	Before balancing	SUT balancing	Final estimate
GDP PRODUCTION APPROACH			
L Real estate activities			
Output of goods and services (at basic prices)	34,959	0	34,959
Intermediate consumption (at purchasers' prices)	9,144	0	9,144
Gross value added (at basic prices)	25,815	0	25,815
L Imputed rents of owner-occupied d			
Output of goods and services *(at basic prices)*	20,449	*0*	*20,449*
Intermediate consumption *(at purchasers' prices)*	3,749	*0*	*3,749*
Gross value added *(at basic prices)*	16,700	0	*16,700*
M Professional, scientific and technical			
Output of goods and services (at basic prices)	18,887	0	18,887
Intermediate consumption (at purchasers' prices)	8,358	5	8,363
Gross value added (at basic prices)	10,529	-5	10,524
N Administrative and support service a			
Output of goods and services (at basic prices)	12,712	0	12,712
Intermediate consumption (at purchasers' prices)	5,179	4	5,183
Gross value added (at basic prices)	7,533	-4	7,529
O Public administration and defence; co			
Output of goods and services (at basic prices)	21,551	0	21,551
Intermediate consumption (at purchasers' prices)	10,190	4	10,194
Gross value added (at basic prices)	11,361	-4	11,357
P Education			
Output of goods and services (at basic prices)	14,264	0	14,264
Intermediate consumption (at purchasers' prices)	4,079	4	4,083
Gross value added (at basic prices)	10,185	-4	10,181
Q Human health and social work activiti			
Output of goods and services (at basic prices)	30,557	0	30,557
Intermediate consumption (at purchasers' prices)	11,721	4	11,725
Gross value added (at basic prices)	18,836	-4	18,832
R Arts, entertainment and recreation			
Output of goods and services (at basic prices)	5,634	0	5,634
Intermediate consumption (at purchasers' prices)	3,122	0	3,122
Gross value added (at basic prices)	2,512	0	2,512
S Other service activities			
Output of goods and services (at basic prices)	6,352	0	6,352
Intermediate consumption (at purchasers' prices)	3,146	0	3,146
Gross value added (at basic prices)	3,206	0	3,206
T Activities of households as employe			
Output of goods and services (at basic prices)	349	0	349
Intermediate consumption (at purchasers' prices)	15	0	15
Gross value added (at basic prices)	334	0	334
Taxes on products	**32,855**	**0**	**32,855**
Value added type taxes	21,364	0	21,364
Taxes and duties on imports excluding VAT	174	0	174
Taxes on products, except VAT and import taxes	11,317	0	11,317
Subsidies on products	**701**	**0**	**701**
Gross domestic product	**233,680**	**-212**	**233,468**

Level of Details	Before balancing	SUT balancing	Final estimate
GDP EXPENDITURE APPROACH			
Total final consumption expenditure	**177,312**	**117**	**177,429**
Household final consumption expenditur			
Total	**118,564**	**117**	**118,681**
01 - Food and non-alcoholic beverages	13,627	0	13,627
02 - Alcoholic beverages, tobacco and narco	5,512	15	5,527
03 - Clothing and footwear	4,839	0	4,839
04 - Housing, water, electricity, gas and othe	33,738	0	33,738
05 - Furnishings, household equipment and	5,433	0	5,433
06 - Health	5,718	30	5,748
07 - Transport	14,010	50	14,060
08 - Communication	2,760	0	2,760
09 - Recreation and culture	12,021	22	12,043
10 - Education	472	0	472
11 - Restaurants and hotels	7,889	0	7,889
12 - Miscellaneous goods and services	11,882	0	11,882
Transition to national concept	663	0	663
NPISH final consumption expenditure	**5,256**	0	**5,256**
General government final consumption expenditu	**53,492**	0	**53,492**
Gross capital formation	**58,985**	**-17**	**58,968**
Gross fixed capital formation			
Total	**56,200**	**-17**	**56,183**
111 Dwellings	16,936	-100	16,836
112 Other buildings and structures	16,809	0	16,809
113 Machinery and equipment	12,199	79	12,278
114 Weapons systems	302	0	302
115 Cultivated biological resources	27	0	27
117 Intellectual property products	9,927	4	9,931
Changes in inventories	**2,713**	**0**	**2,713**
materials and supplies	729	0	729
work-in-progress	1,286	0	1,286
finished goods	376	0	376
goods for resale	322	0	322
Acquisitions less disposals of valuables	**72**	**0**	**72**
Exports of goods and services	**89,810**	**0**	**89,810**
goods	62,926	0	62,926
services	26,884	0	26,884
Imports of goods and services	**92,746**	**-7**	**92,739**
goods	62,670	-7	62,663
services	30,076	0	30,076
Gross domestic product	**233,361**	**107**	**233,468**
GDP INCOME APPROACH			
Compensation of employees	**108,633**	**0**	**108,633**
Non-Financial Corporations	71,458		71,458
Financial Corporations	2,923		2,923
General Government	28,942		28,942
Households	1,433		1,433
NPISH	3,877		3,877
Gross operating surplus	**83,619**	**0**	**83,619**
Non-Financial Corporations	54,445		54,445
Financial Corporations	3,575		3,575
General Government	8,228		8,228
Households	16,701		16,701
NPISH	670		670
Mixed income		**11,318 ***	**11,318**
Taxes on production and imports	**33,251**	**0**	**33,251**
Subsidies	**3,353**	**0**	**3,353**
Gross domestic product	-	-	**233,468**

* Balancing is not done in SUT framework, derived as residual item.

Figure 18: Final, SUT balancing of final data by components of GDP in 2018 (not directly found in one specific column in process tables), EUR million

6.1 GDP balancing procedure

6.1.1 Compilation of balanced figures of the National Accounts in the supply and use tables framework

The final figures of the National Accounts are compiled annually in the supply and use tables framework, where the supply data (domestic output + imports) and use data (intermediate consumption + consumption expenditure + gross capital formation + exports) are balanced by product. The supply and use tables and the final figures of the National Accounts in

accordance with the balanced supply and use tables are published in the normal schedule at a lag of t+24 months. The supply and use tables in accordance with the ESA 2010 transmission programme are compiled at current and previous year's prices. The balanced supply and use tables for the statistical reference year 2018 were published in April 2021.

The compilation of the balanced supply and use tables follows the order below:

1. Compilation of supply data at basic prices and use data at purchaser's prices by product.
2. Compilation of use data for price formation items
3. Converting use data at purchaser's prices to basic prices.
4. Compilation of unbalanced product balance.
5. Balancing of supply and use data (compilation of the balanced product balance)

6.1.2 Compilation of supply data at basic prices and use data at purchaser's prices by product

The basis for the compilation of supply and use tables (SUT) is the preliminary transaction-specific data (t+21 months) of the National Accounts' sub-systems.

Table 148: Input data by sub-system

Sub-system	Transaction
Output and employment (OJ_VU19_TUOTTYOLL)	P1 Output at basic prices P2 Intermediate consumption at purchaser's price
Rest of the world (OJ_VU19_ULK)	P61 Exports of goods P62 Exports of services P71 Imports of goods P72 Imports of services
Consumption expenditure (OJ_VU19_KULUTUS)	P31NC Household consumption expenditure P3 Consumption expenditure of non-profit institutions
Final consumption expenditure of government (OJ_VU19_JKMENOT)	P3J Final consumption expenditure of government
Investments (OJ_VU19_INV)	P51 Gross fixed capital formation
Inventories (OJ_VU19_INVENTORIES)	P52P53 Change in inventories P52 Net acquisitions of valuables
Sector accounts (OJ_VU19_STILI)	D211 Value added tax D2121 Import duties D214 Other taxes on products D314 Subsidies on products

In the compilation of the SUT, the value data of product transaction specific data concerning the supply and use of the National Accounts are

divided into 836 products according to the National Accounts' classification of products that is based on the CPA2008 (ANNEX 5). The supply and use data are divided into 20 data categories starting with 1 for supply and 51 starting with 2 for use according to the product transactions of the national accounts:

Table 149: Data categories and headings

data	data heading
1010	Output
12101	Imports of goods: customs
12102	Imports of goods: Goods sent abroad for processing, Purchases from abroad
12103	Imports of goods: Goods sent abroad for processing, Imports of finished product into Finland, national accounts
12104	Imports of goods: Goods sent abroad for processing, Imports of finished product into Finland, customs codes
12105	Imports of goods: Goods sent abroad for processing in Finland, Sales of finished product to Finland
12106	Imports of goods: Goods sent abroad for processing, Imports of raw materials into Finland, national accounts
12107	Imports of goods: Goods sent abroad for processing, Imports of raw materials into Finland, customs codes
12108	Imports of goods: for re-exports
12110	Imports of goods: Smuggling
12111	Imports of goods: E-commerce
12112	Imports of goods: Imports of private cars
12199	Imports of goods: Other
12201	Imports of services excl. global items
12202	Imports of services: goods sent abroad for processing, manufacturing fee
12203	Imports of services: Project suppliers' goods exports and expenses abroad
12209	Imports of services: FISIM, loans
12210	Imports of services: FISIM, deposits
12299	Imports of services: Other
1100	C.i.f/f.o.b revision
2010	Intermediate consumption
2110	Household consumption expenditure
2121	Central government's consumption expenditure
2122	Municipalities' consumption expenditure
2123	Social security funds' consumption expenditure
2130	Consumption expenditure of non-profit institutions
2201	Residential buildings, investments
2202	Other buildings, investments
2203	Land and water constructions,
2204	Land improvements, investments
2205	Transport equipment, investments
2206	Computers and peripheral equipment, investments
2207	Other communications technology equipment, investments
2208	Other machinery and equipment, investments
2209	Weapon systems, investments
2210	Animal resources, investments
2211	Tree, crop and plant resources, investments
2212	Transfer expenses of ownership of non-produced assets, investments
2213	Research and development, investments
2214	Mineral exploration and evaluation, investments
2215	Software and databases, investments
2216	Entertainment, literary or artistic originals, investments
2217	Other intellectual property products, investments
2301	Fuels, changes in inventories

2302	Other materials and supplies, changes in inventories
2303	Immature cultivated biological assets, changes in inventories
2304	Buildings in progress, changes in inventories
2305	Machinery, equipment and transport equipment in progress, changes in inventories
2306	Other work in progress, changes in inventories
2307	Finished products, changes in inventories
2308	Defence equipment inventories, changes in inventories
2309	Merchandise, changes in inventories
2310	Precious metals and stones, changes in inventories
2311	Antiques and other art objects, changes in inventories
2312	Other valuables, changes in inventories
24101	Exports of goods: customs
24102	Exports of goods: Goods sent abroad for processing, Sales abroad
24103	Exports of goods: Goods sent abroad for processing, Exports of raw materials from Finland
24104	Exports of goods: Goods sent abroad for processing, Exports of raw materials from Finland, customs codes
24105	Exports of goods: Goods sent abroad for processing in Finland, Purchases from Finland
24106	Exports of goods: Goods sent abroad for processing in Finland, Exports of finished products from Finland
24107	Exports of goods: Goods sent abroad for processing, Exports of finished products from Finland, customs codes
24108	Exports of goods: re-exports
24110	Exports of goods: Factoryless production, margin
24120	Exports of goods: Merchanting, margin
24199	Exports of goods: Others
24201	Exports of services excl. global items
24202	Exports of services: goods sent abroad for processing in Finland, manufacturing fee
24209	Exports of services: FISIM, loans
24210	Exports of services: FISIM, deposits
24299	Exports of services: Others

The other classifying variables in the supply and use tables and their accuracy (number of categories) are the same as in the annual accounts.

Table 150: Other classifications and number of classes

Classification	Number of classes
Industry	181
sector	23
consumption	227
producer type	4
output type	6

The value variables of the supply and use tables are described in following table:

Table 151: Value variables and their labels

Variable	Label
PH	Basic price
D319	Subsidies on products
D214	Other taxes on products (than import duties and VAT)
D2121	Import duties
TH	Producer price
P118W	Wholesale trade margins
P118R	Retail trade margins
P118I	Transport margins
OHIA	At purchaser's price without VAT
D211	Value added tax (VAT)
OH	Purchaser's price

In the initial situation, the supply data are at basic prices and use data at purchaser's prices in accordance with the figures of annual accounts. The use data at purchaser's prices are converted into basic prices with the help of the use data of price formation items in connection with the compilation of SUT.

The product transaction-specific data of the preliminary annual accounts are divided into products based on source data. The source data are mainly the same as in the preliminary annual accounts. Separate sources for product data are, for example, business services and production and raw material data of the commodity statistics. All source data are annual data with the exception of the Household Budget Survey (conducted roughly every five years), which are used as the source for the product data on household consumption expenditure, and the raw material data of the commodity statistics (compiled every two years). The product data of the source data are value data, supply data at basic prices and use data at purchaser's prices. The product data are converted with the help of classification conversion keys in line with the product classification of the supply and use tables.

6.1.2.1 *Output*

The transactions of Annual National Accounts corresponding to the output, output type and products of the supply and use tables are opened in the following table:

Table 152: Annual National Accounts transactions corresponding to the output, output type and products of supply and use tables

data	data heading	output type	product	transaction	transaction heading	Resources/ Use
1010	Output	P11	all excl. 640001 and 640002	P11	Market output	R
1010	Output	P12	all excl. 640001 and 640002	P12	Output for own final use	R
1010	Output	P131	all excl. 640001 and 640002	P131	Non-market products, sales/purchases	R

1010	Output	P132	all excl. 640001 and 640002	P132	Other non-market output	R
1010	Output	P11	640001 Financial intermediation services indirectly measured, loans	P1191	Financial intermediation services indirectly measured, loans	R
1010	Output	P11	640002 Financial intermediation services indirectly measured, loans	P1192	Financial intermediation services indirectly measured, deposits	R

6.1.2.1.1 S11/S14 T10

The outputs of producer type T10 (market producers) in the non-financial corporations sector (S11) and the households sector (S14) in industries 072 to 9602_9609 (excl. industries 412 +432 _439 Building construction and 68202 Letting of dwellings) are divided in the Annual National Accounts into data variables beginning with P11 (market output) according to the breakdown of turnover in the Structural Business Statistics and into data variables beginning with P12 (output for own final use) according to the National Accounts calculations:

Table 153: Value by data variable in 2018, EUR million

data variable	data variable heading	value
P11_12	Changes in inventories of finished goods and work in progress	1,041
P11_131	Trade margin (commercial)	30,913
P11_1313	Changes in inventories, merchandise	332
P11_1321	Product deliveries	99,338
P11_1322	Deliveries of electricity produced	2648
P11_1323	Deliveries of heat produced	2,773
P11_1324	Network activities	2,836
P11_1325	Industrial repair and installation deliveries	4,915
P11_1326	Paid work	4,376
P11_133	Turnover from construction activity	8,416
P11_1341	Commission trade	609
P11_1342	Food service activities	7,251
P11_1343	Accommodation activities	1,279
P11_1344	Other unspecified turnover	99,370
P11_1345	Advertising activities	1,719
P11_141	Rental income excl. rents paid on land	4,259
P11_142	Royalties: returns from patents and licences	3,236
P11_143	Other returns	5,039
P12_21	Self-produced software	788
P12_22	Other production for own use	588
P12_23	Self-produced R&D	3,123

The data variables are divided into products in the following ways:

- P11_12 Changes in inventories of finished goods and work in progress: as P11_P1321.
- P11_131 Trade margin (commercial) is calculated in parts:
    - The values of merchanting included in the data variable are recorded for product 462000 Wholesale trade services, excl. industry 192 Manufacture of refined petroleum products, where the value of the data variable is recorded for product 463000 Fuel wholesale trade services. The values of merchanting are derived by industry from the product calculations of imports and exports.
    - The remaining values of the data variable are recorded for industry-specific trade service products. The data variable of industry 46 Wholesale trade (except of motor vehicles, etc.) is divided into products of 462000 Wholesale trade services and 463000 Fuel wholesale trade services and the data variable of industry 47 Retail trade services (except of motor vehicles, etc.) is divided into products of 471000 Retail trade services and 473000 Fuel retail trade services based on the distribution of the sales margin of the 5-digit industries of the Structural Business Statistics.
- P11_1313 Changes in inventories, merchandise: as P11_P131.
- P11_1321 Product deliveries: industry-specific product distributions are calculated from the production data of the commodity statistics (excl. machinery installation, repair and maintenance service products beginning with 33). See below for more details.
- P11_1322 Deliveries of electricity produced: industry-specific values are recorded for product 351000 Electricity.
- P11_1323 Deliveries of heat produced: industry-specific values are recorded for product 353100 Steam, hot water, ice.
- P11_1324 Network activities: industry-specific values are recorded for product 351200 Electricity transmission and distribution services, except for industry 353 Production and distribution of heat and cold, where the value is recorded for product 353100 Steam, hot water, ice.
- P11_1325 Industrial repair and installation deliveries: industry-specific values are recorded for machinery installation, repair and maintenance services beginning with 33.
- P11_1326 Paid work: industry-specific values are recorded for processing and manufacturing service products ending in 090 or for product 420120 Civil engineering, maintenance. The data variable includes goods sent abroad for processing in Finland, the values of which are derived by industry from the product calculations of imports and exports.

- P11_133 Turnover from construction activities: industry-specific values are recorded for product 420120 Civil engineering, maintenance, excl. 42+431 Civil engineering, etc., where the value is also recorded for product 420110 Civil engineering.
- P11_1341 Commission trade: industry-specific values are recorded for product 461000 Commission trade services.
- P11_1342 Food service activities: industry-specific values are recorded for food service products beginning with 56.
- P11_1343 Accommodation activities: industry-specific values are recorded for accommodation service products beginning with 55.
- P11_1344 Other unspecified turnover is calculated in parts:
    - The distribution data of telecommunications service products beginning with 62 and 63 in industry 61, Telecommunications are calculated from the Finnish Transport and Communications Agency's income and investment data.
    - The market output of research and development services included in the data variable derives from the centralised calculations of the national accounts. Industry-specific values are recorded for product 720001 Research and development services, service.
    - Factoryless goods production included in the data variable derives from the product calculations of imports and exports (products industrial products defined by industry).
    - The product distributions of industries 58 Publishing activities, 62_63 Computer programming, consultancy and related activities, 69 Legal and accounting activities, 702 Management consultancy activities, 71 Technical services, and 78 Employment activities derive from Business services with the 6-digit CPA classification.
    - The remaining values included in the data variable are divided in industries F to S into products with the help of the 5-digit other unspecified turnover data of the Sstructural Business Statistics and the 5-digit industrial classification and the key between the products. In industries B to E, products and their shares are defined as the same for all.
    - P11_1345 Advertising activities: industry-specific values are recorded for product 731200 Sales of advertising space or time, except for industry 73 Advertising and market research, where the product distribution derives from Business services (advertising and marketing research products beginning with 73) with the 6-digit CPA classification.

- P11_141 Rental income excl. rents paid on land: industry-specific values are recorded for product 682030 Renting, operating and sale of other real estate, and for rental and leasing service products beginning with 77 by industry.
- P11_142 Royalties: returns from patents and licences: industry-specific values are recorded for product 774000 Licenses, patents and royalties.
- P11_143 Other returns: industry-specific values are recorded for products 701000 Services of head offices and 702000 Management consulting services.
- P12_22 Other production for own use: industry-specific values are recoded for repair and maintenance services products beginning with 331.
- P12_23 Self-produced R&D: industry-specific values are recorded for product 720002 Research and development services.
- P12_21 Self-produced software: industry-specific values are recorded for product 620100 Computer programming services.

The product shares of the product distribution of industry-specific data variables come either directly from the source statistics (e.g. statistics on manufacturing commodities and business services), as predetermined product shares or from the previous year's SUT.

Outputs of service industries' service products are corrected with the help of industry-specific data on exports of services in the balance of payments.

6.1.2.1.2 Production data of statistics on manufacturing commodities (S11/S14)

The product distribution of the output of manufacturing industries in supply and use tables is defined with the help of the production data of statistics on manufacturing commodities. The product data of the commodity statistics by industry are benchmarked to correspond to the industry data of the data variable P11_1321 Product deliveries. Before benchmarking, product distributions are revised to correspond better with data on enterprises' product exports of Finnish Customs, and internal deliveries between establishments and items of global production are also taken into account.

The main data source is the statistics on industrial output, which are an annually collected inquiry about the output volumes and value of output of the largest enterprises in industry *mining and quarrying B* and *manufacturing C*. The data are collected with the PRODCOM product classification, which is converted with the help of a link table into corresponding products of the National Accounts product classification. The data on Finnish Customs' goods exports and imports and the financial statements data of the business statistics system are used as auxiliary data.

6.1.2.1.3 Central government (S1311)

The source for calculating the product data of the output of industries in the central government sector is the central government's bookkeeping data compiled by the State Treasury. For the calculations of the National Accounts, industry and transaction variables are added to the data. The products of the industries' output are defined based on the industry, type of output and account (income items of the activity).

6.1.2.1.4 Local government (S1313)

The product data of the output of industries in the local government sector are calculated with the help of the data from statistics on the finances of municipalities and joint municipal authorities. The products of the industries' output are defined based on the task classification. In addition to the statistics on the finances of municipalities and joint municipal authorities, the output data of publicly owned companies belonging to the local government sector are calculated from the industry data of the Structural Business Statistics. The calculation of product data follow the calculation method applied to product data in the non-financial corporations sector.

6.1.2.1.5 Other industries/sectors

The product data of the output of other industries/sectors come from the experts of the National Accounts. The product data cover the following industries/sectors:

Table 154: Industries where outputs are broken down into products through experts

industry	industry heading
011_016	Agriculture
017	Hunting
021	Forestry
022	Logging
025	Net growth of forests
03	Fishery
412 +432 _439	Building construction, etc.
68201	Letting of dwellings
68202	Operation of dwellings
97_98	Domestic services

Table 155: Sectors where outputs are broken down into products through experts

sector	sector heading
S121	Central bank
S1221	Deposit banks
S1222	Other credit institutions
S125	Other financial intermediaries
S126	Financial auxiliaries
S127	Captive financial institutions and money lenders

S128	Insurance corporations
S129	Voluntary pension funds
S13141	Employment pension schemes
S13149	Other social security funds
S15	Non-profit institutions serving households

6.1.2.1.6 Output for own final use (excl. S11/S14 T10)

The data by industry, sector and producer type of output type P12 Output for own final use come from the data variables *P12_21 Self-produced software, P12_22 Other production for own use* and *P12_23 Self-produced R&D* of the production accounts of the Annual National Accounts. Self-produced software includes product 620100 Computer programming services. Self-produced R&D includes product 720002 Research and development services. Other production for own use covers industry-specific products.

6.1.2.2 *Imports and exports of goods*

Data on imports and exports of goods derive from the data compiled by the balance of payments statistics, mainly from Finnish Customs' statistics on foreign trade. The balance of payments receives data from Finnish Customs' statistics on foreign trade by country and enterprise at the accuracy of around 10,000 CN headings. The data are converted to the product and region classifications required by the supply and use tables with the help of classification conversion keys.

Import data at CIF price and export data at FOB price are already corrected in the statistics. In such cases, the value of goods imports is changed on the total level from CIF priced to FOB priced by subtracting transport and insurance costs from imports. The CIF/FOB revision item (data category 1100) is also included in the source data of the supply and use tables framework. Based on a survey carried out by Finnish Customs every five years, the CIF/FOB revision is divided separately into transport and insurance services produced by domestic and foreign producers.

The adjustment items of the National Accounts are added to the goods import data that include product purchases of transport equipment (e.g. fuel purchases abroad by Finnish aircraft), the illegal economy, e-commerce, insurance products and private vehicle imports.

Re-exports are separated from data on exports of goods (imports for re-exports data category 12108 and actual re-exports data category 24108). Revisions caused by global production are also made to the imports and exports of goods (see for more details Section 5.17 International trade and global production).

The corrections of global production in terms of goods include goods sent abroad for processing (data categories 12102 to 12104 of imports and data categories 24102 to 24104 of exports); goods sent abroad for processing in Finland (correspondingly 12105 to 12107 and 24105 to 24107);

merchanting margin (export item 24120) and margin of factoryless goods production (export item 24110)

In addition, the product data of foreign trade enterprises of Finnish Customs are reflected against the enterprise-specific product data of the commodity statistics and, if necessary, the product data of Finnish Customs are revised.

Table 156: Data categories and headings of imports

data	data heading
12101	Imports of goods: customs
12102	Imports of goods: Goods sent abroad for processing, Purchases from abroad
12103	Imports of goods: Goods sent abroad for processing, Imports of finished product into Finland, national accounts
12104	Imports of goods: Goods sent abroad for processing, Imports of finished product into Finland, customs codes
12105	Imports of goods: Goods sent abroad for processing in Finland, Sales of finished product to Finland
12106	Imports of goods: Goods sent abroad for processing, Imports of raw materials into Finland, accounts
12107	Imports of goods: Goods sent abroad for processing, Imports of raw materials into Finland, customs codes
12108	Imports of goods: for re-exports
12110	Imports of goods: Smuggling
12111	Imports of goods: E-commerce
12112	Imports of goods: Imports of private cars
12199	Imports of goods: Others
12201	Imports of services excl. global items
12202	Imports of services: goods sent abroad for processing, manufacturing fee
12203	Imports of services: Project suppliers' goods exports and expenses abroad
12209	Imports of services: FISIM, loans
12210	Imports of services: FISIM, deposits
12299	Imports of services: Others
1100	CIF/FOB revision

6.1.2.3 *Imports and exports of services*

Data on imports and exports of services derive by country and enterprise from the data of Statistics Finland’s balance of payment statistics at the accuracy of some 60 ebops headings. The source data for the balance of payments are mainly the statistics on international trade in services. The data are converted to the product and region classifications required by the supply and use tables with the help of classification conversion keys. The service item of the illegal economy and e-commerce (12299) is added to the data on imports of services. Revisions caused by global production are also made to the imports and exports of service (see for more details Section 5.17).

Imports (12201) and exports (24201) of services are thus divided into imports and exports without global items and into actual global items. These are paying the manufacturing fee for goods sent abroad for processing (imports, 12202); receiving the manufacturing fee for goods

sent abroad for processing (exports, 24202), and acquisitions of project suppliers and exports abroad (imports, 12203).

The import and export estimates for financial intermediation services indirectly measured (FISIM) come from the centralised calculations of the National Accounts. The FISIM data are classified into several data categories. The data categories 12209 and 1221 are FISIM imports. In turn, the data categories 24209 and 24210 are FISIM exports.

Table 157: Data categories and headings of exports

data	data heading
24101	Exports of goods: Customs
24102	Exports of goods: Processing abroad, sales of finished goods abroad
24103	Exports of goods: Processing abroad, raw materials sent for processing purchased from Finland
24104	Exports of goods: Processing abroad, raw materials sent for processing purchased from Finland, based on Customs codes
24105	Exports of goods: Processing in Finland, raw materials for processing purchased from Finland
24106	Exports of goods: Processing in Finland, finished goods delivered abroad
24107	Exports of goods: Processing in Finland, finished goods delivered abroad based on Customs codes
24108	Re-exports of goods
24110	Exports of goods: Factoryless goods production, margin
24120	Exports of goods: Goods under merchanting, margin
24199	Exports of goods: Other
24201	Exports of services excl. global items
24202	Exports of goods: Processing in Finland, processing fee
24209	Exports of services: FISIM, loans
24210	Exports of services: FISIM, deposits
24299	Exports of services: Other

6.1.2.4 *Intermediate consumption*

The transactions in the Annual National Accounts corresponding with the intermediate consumption and products of the supply and use tables are described in the following table.

Table 158: Transactions in Annual National Accounts corresponding with the intermediate consumption and products of the supply and use tables

data	data heading	product	transaction	transaction heading	Resources/ Use
2010	Intermediate consumption	all excl. 640001 and 640002	P22	Other intermediate consumption	U
2010	Intermediate consumption	640001 Financial intermediation services indirectly measured, loans	P1191	Financial intermediation services indirectly measured, loans	U
2010	Intermediate consumption	640002 Financial intermediation services indirectly measured, deposits	P1192	Financial intermediation services indirectly measured, deposits	U

6.1.2.4.1 S11/S14 T10

Other intermediate consumption of producer type T10 (market producers) in the non-financial corporations sector (S11) and the households sector (S14) in industries 072 to 9602_9609 (excl. industries *412 +432 _439 Building construction* and *68202 Letting of dwellings*) is divided in the annual accounts into data variables starting with P22 according to the breakdown of expenses in the structural statistics:

Table 159: Breakdown of other intermediate consumption of market producers in sectors S11/S14 into data variables

data variable	heading	value EUR mil., 2018
P22_12	Changes in inventories of materials and supplies	-590
P22_131	Acquisition of materials and supplies	70,913
P22_132	Value of acquisition of packaging materials	1,142
P22_133	Acquisition of fuels	5,897
P22_134	Contracted repair, maintenance and installation work	4,273
P22_136	Subcontracting	21,912
P22_137	Labour rental	2,320
P22_141	Acquisition of electricity for own use	2,588
P22_1410	Entertainment expenses	271
P22_1411	Other expenses than those mentioned above (other operating expenses excl. entertainment expenses)	28,167
P22_142	Acquisition of heat for own use	849
P22_1431	Research and development expenditure recorded directly as an expense	2,565
P22_1432	Capitalised research and development expenditure	280
P22_144	Transport and storage expenses	9,572
P22_1451	Advertising and marketing expenses, recorded as an expense	5,784
P22_1452	Capitalised marketing expenses	14
P22_1453	Sales expenses (commission, etc.)	593
P22_146	Computer, design and programming expenses	3,783
P22_147	Expenses from patents, licences and royalties	858
P22_148	Leasing payments	978
P22_149	Other rents	8,152

The data variables are divided into products in the following ways:

- P22_12 Changes in inventories of materials and supplies: as P22_131.
- P22_131 Acquisition of materials and supplies:
  - The product distributions of industries B and C are calculated from the raw material data of the commodity statistics in odd statistical years. In even statistical reference years, the product distributions of industries are calculated based on the price-adjusted SUT data of the previous year.

    - The product distributions of industries D to S are calculated based on the price-adjusted SUT data of the previous year.

- P22_132 Value of acquisition of packaging materials: industry-specific values are divided into products with the help of the product share key of packaging materials.
- P22_133 Acquisition of fuels:
    - The product distributions of industries BC come from the energy statistics data. The data have been classified with the 6-digit CPA classification and the 3-digit industrial classification. The data are based on value data derived with the help of unit prices from the volume data of various energy forms.
    - The product distributions of industries D to S are calculated based on the SUT data of the previous year.
- P22_134 Contracted repair, maintenance and installation work: industry-specific values are recorded for the repair and maintenance services products of machinery and equipment and construction services products beginning with 331.
- P22_136 Subcontracting:
    - Goods sent abroad for processing included in the data variable are derived from the product calculations of imports and exports. Industry-specific values are recorded for processing and manufacturing service products ending in 090, excl. industries 46 Wholesale trade (excl. motor vehicles, etc.) and 47 Retail trade (excl. motor vehicles, etc.), where goods sent abroad for processing are recorded under product 461000 Commission trade services.
    - The remainder of the data variable values are calculated with the help of the industry-specific product share key. In industries BC, products are goods products and in industries D to S, service products.
- P22_137 Labour rental: industry-specific values are recorded for labour rental service products beginning with 78.
- P22_141 Acquisition of electricity for own use: industry-specific values are recorded for products 351000 Electricity and 351200 Electricity transmission and distribution services.
- P22_1410 Entertainment expenses: industry-specific values are divided into products with the help of the product share key of entertainment expenses.
- P22_1411 Other expenses than those mentioned above (other operating expenses excl. entertainment expenses): the industry-specific values are divided into service products not included in other data variables (e.g. computer, financial, insurance,

telecommunications and other business services) according to the product distribution of the previous year.

- P22_142 Acquisition of heat for own use: industry-specific values are recorded for product 353100 Steam, hot water, ice.
- P22_1431 Research and development expenditure recorded directly as expenses.): industry-specific values are recorded for product 720001 Research and development services, services.
- P22_1432 Capitalised research and development expenditure: industry-specific values are recorded for product 720001 Research and development services, services.
- P22_144 Transport and storage expenses: industry-specific values are recorded for goods transport, warehousing and other transport-related service products.
- P22_1451 Advertising and marketing expenses, recorded as an expense: industry-specific values are recorded for advertising and marketing research products beginning with 73 and for 823000 Arrangement of meetings and trade fairs service product.
- P22_1452 Capitalised marketing expenses: as P22_1451.
- P22_1453 Sales expenses (commission, etc.): industry-specific values are recorded for product 461000 Commission trade services.
- P22_146 Computer, designing and programming expenses: industry-specific values are recorded for Computer programming and consulting services and related service products and information service products beginning with 62 and 63.
- P22_147 Expenses from patents, licences and royalties: industry-specific values are recorded for product 774000 Licences, patents and royalties.
- P22_148 Leasing payments: industry-specific values are recorded for vehicles, machinery, etc. renting and leasing service products starting with 77.
- P22_149 Other rents: industry-specific values are recorded for product 682030 Renting, operating and sale of other real estate, 683200 Real estate management service and 811000 Combined facilities support services.

The product shares of the industry-specific data variables derive either directly from the source statistics, as predetermined product shares or according to the product division of the SUT of the previous year. The values of the industry-specific data variables are revised before manual balancing according to the balance between the supply and use of products. These revisions apply to service products. In addition, intermediate consumption of service products is revised with the help of industry-specific data on imports of services.

6.1.2.4.2 Raw material data of statistics on manufacturing commodities (S11/S14)

The raw material data of the statistics on manufacturing commodities are collected every two years as inquiries from the largest enterprises in industries mining and quarrying B and manufacturing C. The data are collected with the CPA classification (CN8 product classification starting from the statistical reference year 2019). The data are converted to the product classification of the National Accounts and revised to correspond with Finnish Customs' data on enterprises' product imports, and purchases from other establishments in the same group are taken into consideration. The industry-specific product divisions of raw material use are benchmarked to correspond with the industry data of the data variable, P22_131 Acquisition of materials and supplies.

In even years when raw material data are not collected, balanced and price-adjusted intermediate consumption data from the previous year are used in the compilation of the product balance.

6.1.2.4.3 Central government (S1311)

The source for calculating the product data of intermediate consumption of industries in the central government sector is the central government's bookkeeping data compiled by the State Treasury. The products of industries' intermediate consumption are determined with the help of the key between industry-specific accounts (around 40 activity-related expenditure items) and the product classification. The value data of the source data do not include value added tax. Value added tax is added product-specifically and benchmarked to correspond with the value added tax paid by the industry.

6.1.2.4.4 Local government (S1313)

The product data of intermediate consumption of industries in the local government sector are calculated with the help of operational economy data from the statistics on the finances of municipalities and joint municipal authorities. Operational economy data are available by industry (task classification) with the expenditure division: purchases of customer services from central government, purchases of customer services from municipalities, purchases of other services, materials, supplies and goods, rent expenditure, external and other expenditure. At a more detailed 27 expenditure item division, operational economy data are only available at the level of the entire local government sector. In the supply and use table calculations, values for more detailed expenditure items have been divided into industries based on estimates. Expenditure items are further divided into products by industry with the help of the expenditure item product key. The value data of the source data do not include value added tax. Value added tax is added product-specifically and benchmarked to correspond with the value added tax paid by the industry.

In addition to the statistics on the finances of municipalities and joint municipal authorities, the intermediate consumption data of publicly owned companies belonging to the local government sector come from the data of the Structural Business Statistics. The calculation of their product data

follows the calculation method applied to product data in the non-financial corporations sector.

6.1.2.4.5 Other industries/sectors

The aggregated product data of intermediate consumption in agriculture come from the agriculture calculations of the national accounts. The input data cover 15 expenditure items of the index of purchase prices of means of agricultural production that are divided into products based on the key between the expenditure item and the product.

The input data for intermediate consumption in sector S1211/industry 64 come from the value data of deposit banks' expenditure items from VIRATI (coordination of authority data collection). VIRATI's 22 expenditure items are divided into products with the link between the VIRATI code and the product.

The product data of intermediate consumption of the following industries/sectors are calculated with the previous year's price-adjusted structure (the structural data of the source data for intermediate consumption are deficient or missing completely):

Table 160: Industries where the product data of intermediate consumption are calculated with the previous year's price-adjusted structure

industry	industry heading
017	Hunting
021	Forestry
022	Logging
025	Net growth of forests
03	Fishery
412+432_439	Building construction, etc.
68201	Letting of dwellings
68202	Operation of dwellings
97_98	Domestic services

Table 161: Sectors where the product data of intermediate consumption are calculated with the previous year's price-adjusted structure

sector	sector heading
S121	Central bank
S1222	Other credit institutions
S125	Other financial intermediaries
S126	Financial auxiliaries
S127	Captive financial institutions and money lenders
S128	Insurance corporations
S129	Voluntary pension funds
S13141	Employment pension schemes
S13149	Other social security funds
S15	Non-profit institutions serving households

6.1.2.4.6 Financial intermediation services indirectly measured (FISIM)

The industry-specific product data of intermediate consumption of financial intermediation services indirectly measured (FISIM) are compiled with the help of the National Accounts transactions and the key between products.

Table 162: FISIM classification conversion key

transaction	transaction heading	product	product heading
P1191	Financial intermediation services indirectly measured, loans	640001	Financial intermediation services indirectly measured, loans
P1192	Financial intermediation services indirectly measured, deposits	640002	Financial intermediation services indirectly measured, deposits

6.1.2.5 Household consumption expenditure

Household consumption expenditure comprise 227 ECOICOP consumption categories of the Annual National Accounts. The values of the consumption categories are divided into products based on output type. The product types P12 (output for own final use) and P131 (non-market products, purchases) of household consumption expenditure come from the output data with the help of the consumption category product key. The remaining values of consumption categories (market output of output types + import values) are divided into products with the help of the consumption category product key. The consumption-product-share data are calculated from the SUT data of the previous year.

Table 163: Example of a classification key for household consumption expenditure

data	data heading	consumption	consumption heading
2110	Household consumption expenditure	01.1.1.1.ND	Rice
2110	Household consumption expenditure	01.1.1.2.ND	Flours and other cereals
2110	Household consumption expenditure	01.1.1.3.ND	Bread
2110	Household consumption expenditure	01.1.1.4.ND	Other bakery products
2110	Household consumption expenditure	01.1.1.5.ND	Pizza and quiche
2110	Household consumption expenditure	01.1.1.6.ND	Pasta products and couscous
2110	Household consumption expenditure	01.1.1.7.ND	Breakfast cereal products
2110	Household consumption expenditure	01.1.1.8.ND	Other cereal products
2110	Household consumption expenditure	01.1.2.1.ND	Beef and veal
2110	Household consumption expenditure	01.1.2.2.ND	Pork
2110	Household consumption expenditure	01.1.2.3.ND	Lamb and goat meat
2110	Household consumption expenditure	01.1.2.4.ND	Poultry meat
2110	Household consumption expenditure	01.1.2.5.ND	Other meat

6.1.2.6 Consumption expenditure of general government and non-profit institutions serving households

The data categories of consumption expenditure of general government and non-profit institutions serving households and their connections to the sectors and consumption categories of annual accounts are described in the following table:

Table 164: Classification conversion key of sectors S13 and S15

data	data heading	sector	consumption	consumption heading
2121	Central government's consumption expenditure	S1311	P31	Individual consumption expenditure
2121	Central government's consumption expenditure	S1311	P32	Collective consumption expenditure
2121	Central government's consumption expenditure	S1311	D632	Social transfers in kind
2122	Municipalities' consumption expenditure	S1313	P31	Individual consumption expenditure
2122	Municipalities' consumption expenditure	S1313	P32	Collective consumption expenditure
2122	Municipalities' consumption expenditure	S1313	D632	Social transfers in kind
2123	Social security funds' consumption expenditure	S13141 and S13149	P31	Individual consumption expenditure
2123	Social security funds' consumption expenditure	S13141 and S13149	P32	Collective consumption expenditure
2123	Social security funds' consumption expenditure	S13141 and S13149	D632	Social transfers in kind
2130	Consumption expenditure of non-profit institutions	S15	P31	Individual consumption expenditure
2130	Consumption expenditure of non-profit institutions	S15	D632	Social transfers in kind

The product data for private and collective consumption expenditure (P31+P32) are derived from the industry-specific output data of each sector (output type output of P132 Other non-market output).

The product data for central government's (S1311) and local government's (S1313) social transfers in kind come from the data of central government bookkeeping and the statistics on the finances of municipalities and joint municipal authorities. The product data of other social security funds (S13149) and social transfers in kind of non-profit institutions serving households (S15) come at the accuracy of 13 products from the calculation data of the National Accounts.

6.1.2.7 Investments

The data categories of investments in the supply and use tables correspond with the transaction and asset categories of the Annual National Accounts.

Table 165: Classification conversion key for investment assets.

transaction	asset	data	data heading
P51	N111	2201	Dwellings
P51	N1121	2202	Buildings other than dwellings
P51	N1122	2203	Civil engineering and other structures
P51	N1123	2204	Land improvements
P51	N1131	2205	Transport equipment
P51	N11321	2206	Computers and peripheral equipment
P51	N11322	2207	Other communication devices
P51	N1139	2208	Other machinery and equipment
P51	N114	2209	Weapon systems
P51	N1151	2210	Animal resources
P51	N1152	2211	Tree, crop and plant resources
P51	N116	2212	Costs of ownership transfer on non-produced assets
P51	N1171	2213	Research and development
P51	N1172	2214	Mineral exploration and evaluation
P51	N1173	2215	Computer software and databases
P51	N1174	2216	Entertainment, literary or artistic originals
P51	N1179	2217	Other intellectual property products

The product data for weapon system investments (2209) come from the state defence equipment data. The product distributions of other data categories are defined with the help of the data category-product key and the product distribution data of the previous year. The data category-product key for investments in transport equipment and other machinery and equipment is industry-specific. The data category product key of other investment classes is common to all industries. The product distributions based on the previous year's data on transport equipment investments (2205) and other machinery and equipment investments (2208) are revised with the flow method, in which the product distribution data (on industries total level) are derived by subtracting the product's product supply data (product imports from Finnish Customs + production data from the commodity statistics) from Finnish Customs' goods exports.

The P12 output data included in investments (output for own final use) are calculated with the help of output data and the data product key of investments. These include self-produced software (product 620100 Computer programming services) and self-produced R&D services (product 720002 Research and development services).

6.1.2.8 Changes in inventories

The data categories of changes in inventories (P52) in the supply and use tables correspond with the transaction asset categories of the Annual National Accounts:

Table 166: Classification conversion key for inventory assets

transaction	asset	data	data heading
P52	N1211	2301	Fuels, changes in inventories
P52	N1219	2302	Other materials and supplies, changes in inventories
P52	N1221	2303	Immature cultivated biological assets, changes in inventories
P52	N1222	2304	Buildings in progress, changes in inventories
P52	N1223	2305	Machinery, equipment and transport equipment in progress, changes in inventories
P52	N1229	2306	Other work in progress, changes in inventories
P52	N123	2307	Finished goods, changes in inventories
P52	N124	2308	Defence equipment inventories, changes in inventories
P52	N125	2309	Merchandise, changes in inventories
P53	N131	2310	Precious metals and stones, changes in inventories
P53	N132	2311	Antiques and other art objects, changes in inventories
P53	N133	2312	Other valuables, changes in inventories

The product distributions of changes in inventories of fuels (2301) follow the product distribution of industry-specific intermediate consumption of fuels.

The product distributions of changes in inventories of other materials and supplies (2302) follow the product distribution of intermediate consumption of industry-specific goods (excl. fuels).

The product distributions of changes in inventories of immature cultivated biological assets (2303) follow the product distribution of output data in industry 025 Net growth of forests. The product data of industry 011_016 Agriculture come from the product data of agriculture.

Changes in inventories of unfinished buildings (2304), changes in inventories of unfinished machinery, equipment and transport equipment (2305) and changes in inventories of defence equipment (2308) do not have values in the National Accounts.

The product distributions of changes in inventories of other work in progress (2306) and changes in inventories of finished products (2307) follow the product distribution of the output data of industry-specific goods (manufacturing industries) or service products (service industries).

The value data of changes in inventories of merchandise (2309) for trade industries 45 Sale, maintenance and repair of motor vehicles and motorcycles, 46 Wholesale trade (excl. motor vehicles, etc.) and 47 Retail trade (excl. motor vehicles, etc.) are calculated from the inventory data of the Structural Business Statistics (opening and closing stock) on the 5-digit industry level. Changes in inventories of 5-digit industries are divided into products with the help of the industry-product key. The product shares of 5-digit industries are calculated based on the product supply data (output + imports).

The products of changes in inventories of merchandise in other industries (2309) are defined by industry.

Changes in inventories of precious metals and stones (2310) is recorded in product 321200 Jewellery and related articles.

Changes in inventories of antiques and other art objects (2311) and changes in inventories of other valuables (2312) are recorded for product 900100 Performing arts and creative work.

The P12 output data (output for own final use) included in changes in inventories are calculated with the help of the data-product key of output data and changes in inventories.

6.1.3 Compilation of use data of price formation items and conversion of use data at purchaser's prices into basic prices

For balancing, the use data at purchaser's prices of the product-specific supply and use data are converted into basic prices with the help of use data of price formation items in accordance with the following equation:

$$
\begin{aligned}
&BASIC\ PRICE \\
&= PURCHASER'S\ PRICE - \ value\ added\ tax - \ transport\ margins \\
&- wholesale\ margins - \ retail\ trade\ margins \\
&- other\ taxes\ on\ products\ (not\ VAT\ and\ import\ duties) \\
&- import\ duties + \ subsidies\ on\ products
\end{aligned}
$$

To calculate the price formation items of use data, product-specific share data are created for the price formation items. The product-specific share data of product subsidies, import duties and other taxes on products are calculated relative to the basic price. The product-specific share data of trade and transport margins are calculated relative to the producer price (= basic price - product subsidies + import duties + other taxes on products). The product-specific share data of value added tax are calculated relative to the purchaser's price exclusive of value added tax. Processing rules have been separately defined for each price formation item according to which product-specific share data are applied for various uses.

6.1.3.1 Subsidies on products D314

The values of product subsidies paid by central government, the EU and municipalities by type of product subsidy derive from the central government's bookkeeping and financial statement material and municipalities' financial statements. The types of product subsidies are subsidies for public transport, price subsidy for piloting and CAP and national subsidies for agricultural products. The product-specific estimates of product subsidies for agricultural products come from the agricultural expert in the National Accounts. The combined value of product subsidies amounted to EUR 701 million in 2018.

6.1.3.2 Import duties D2121

Import duties are included in goods imports from outside the EU. The product-specific duty shares are calculated annually from Finnish Customs' product-specific tax data. The combined value of import duties amounted to EUR 174 million in 2018.

6.1.3.3 Value added tax (non-deductible) D211

The annual value added tax rate is defined by product with the help of legislation concerning value added tax. The general value added tax rate in 2018 was 24 per cent. The lowered tax rate of 14 per cent was applied to food, fodder and restaurant and meal services. The lowered tax rate of 10 per cent was applied to, for example, medicines, various cultural services and subscribed magazines. Services that are exempt from value added tax are health and social services, education services, a majority of financial intermediation and insurance services, and gambling and betting activities.

In supply and use table calculations, value added tax is only included in output types P11 Market output and P7 Imports. In use categories, value added tax is not included in exports or in change in inventories. In terms of intermediate consumption and investments, value added tax is determined based on the producer type and industry. Value added tax is included (i.e. value added tax is non-deductible) in intermediate consumption and investments for producer types T20 Producers for own final use and T30 Other non-market producers, and in the industries of financial intermediation and insurance services, health care and social services. The value added tax calculations of also take into account the lowering effect tax-free purchases and the grey and illegal economy have on VAT for certain products. The combined value of value added tax amounted to EUR 21,364 million in 2018.

6.1.3.4 Other taxes on products D2121

Other taxes on products are various excise duties. Their accumulated value comes from the central government's financial statement material by type of tax. In 2018, these were the pharmacy fee, alcohol tax, vehicle and motorcycle tax, lottery tax, tax on certain energy sources, strategic stockpile fee, tax on liquid fuels, fire protection fee, railroad tax, sugar fee, tobacco tax, insurance premium tax, asset transfer tax, tax on soft drinks and waste oil charge. The values are allocated by type of tax to products with the help of data from tax legislation. The product share data are calculated as the ratio of tax values and use data. Other taxes on products are not included in exports. The combined value of other taxes on products amounted to EUR 11,317 million in 2018.

6.1.3.5 Retail and wholesale trade margins P118R and P118W

Trade margins can be defined as the difference between selling and purchase price of products acquired for resale.

Table 167: Products producing trade margins:

Product	Product heading	Transaction
351400	Electricity trade services	P118R, P118W
451000	Motor vehicle trade services	P118R, P118W
462000	Wholesale trade services	P118W
463000	Fuel wholesale trade services	P118W
471000	Retail trade services	P118R
473000	Fuel retail trade services	P118R

In the supply and use tables, the output of retail and wholesale trade services is divided to the use side as part of the price formation of products based on the shares of product-specific retail and wholesale trade margins. The shares of product-specific retail and wholesale trade margins are calculated with the help of trade industry data in the Structural Business Statistics at specific intervals. Share data on the industry's sales margin are calculated for each 5-digit wholesale and retail trade industry from the data of the structural statistics based on the following formula:

$$share\ on\ sales\ margin = (turnover\ from\ trade - purchases\ of\ merchandise + change\ in\ the\ inventories\ of\ merchandise) / (purchases\ of\ merchandise + change\ in\ the\ inventories\ of\ merchandise)$$

After this, the wholesale and retail trade industry is determined for each product in the product classification based on which the product receives a share of the retail and wholesale trade margins (i.e. the industry that is responsible for distributing the product). For example, 291020 Passenger cars gets the share of the wholesale trade margin from the industry 45111 Wholesale trade of passenger cars and light motor vehicles, and the share of the retail trade margin from the industry 45112 Retail trade of passenger cars and light motor vehicles.

The values of the retail and wholesale trade margins were EUR 12,624 and 17,892 million in 2018.

6.1.3.6 Transport margins P118R

Transport margins can generally be defined as product transport costs separately charged by the seller and paid by the buyer, which are included in the purchaser's prices of products but not in the basic prices. In the supply and use tables, transport margins are possible only for products that do not include trade margins.

The shares of product-specific transport margins are calculated programmatically at specific intervals with the help of the transportation and storage expense variable of the structural statistics, the data of the commodity statistics and the transport performances of the statistics on goods transport by type of transport (road transport, rail transport, water transport, air transport and transport via pipelines).

Table 168: Products producing transport margins

Product	Product heading
492000	Goods transport services by rail
494000	Goods transport services by road
495000	Transport services via pipeline
500200	Goods transport services by water
512000	Freight air transport services
521000	Storage services
522100	Service activities incidental to land transportation
522200	Services activities incidental to water transport
522400	Cargo handling services
522900	Other transportation support services

The combined value of transport margins amounted to EUR 2,375 million in 2018.

6.1.4 Compilation of the unbalanced product balance

The first full but still unbalanced product balance is compiled from the supply data at basic prices, the use data at purchaser's prices and the share data of price formation items. In addition to the supply data at basic prices, and the use data at purchaser's prices, the product balance comprises the values of price formation items in use data and use data at basic prices by product.

At this stage, it is checked that the output types P12 Output for own final use, P131 Non-market products, sales or purchases, and P132 Other non-market output are in balance by product. The use data of these output types are determined based on industry-specific output data.

6.1.5 Balancing of supply and use tables

For the balancing of supply and use tables, the basic price supply and use of 836 products and their difference, i.e. the balance situation is calculated (Table 4). The balancing condition for each product is

$$output + imports = intermediate\ consumption + consumption\ expenditure + gross\ capital\ formation + exports.$$

Table 169: Supply at basic prices and used at basic prices and their difference by product.

product	product heading	supply at basic prices	use at basic prices	difference	balance
011111	Soft wheat and meslin (durum wheat)	93	102	-9	
011120	Maize	11	0	11	
011131	Barley	215	300	-85	MAN_TASAP
011132	Rye	11	8	3	
011133	Oats	145	166	-21	

011140	Other cereals	1	8	-7	
011160	Leguminous vegetables	34	17	17	
011180	Oil plant seeds and fruit	92	75	18	
011210	Rice, not husked	1	0	1	
011312	Cabbages	41	39	1	
011314	Lettuce	85	101	-16	
011320	Other leafy and stem vegetables, melons	21	27	-6	
011332	Cucumbers	96	74	22	
011334	Tomatoes	132	116	16	
011335	Other fruit-bearing vegetables	106	62	44	MAN_TASAP
011341	Carrots and turnips	71	83	-12	
011350	Potatoes	82	111	-29	
….	….	….	….	….	….
171100	Pulp	4,979	5,080	-101	
171210	Newsprint, handmade paper and other uncoated paper or paperboard for graphic purposes	1,416	1,445	-29	
171220	Toilet and facial tissue stock, towel or napkin stock, cellulose wadding and webs of cellulose fibres	50	79	-29	
171230	Containerboard	434	558	-124	MAN_TASAP
171240	Uncoated paper	395	352	43	MAN_TASAP
171250	Uncoated paperboard (other than that of a kind used for writing, printing or other graphic purposes)	204	207	-3	
171260	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers	369	339	29	
171270	Processed paper and paperboard	5,005	5,005	0	
171290	Processing and manufacturing services of pulp, paper and paper products	578	309	269	MAN_TASAP
172090	Processing and manufacturing services of paper, paperboard and cardboard products	0	6	-5	
172100	Corrugated paper and paperboard and containers of paper and paperboard	659	575	84	MAN_TASAP
172200	Household and sanitary goods and toilet requisites	483	552	-69	MAN_TASAP
172300	Paper stationery	40	177	-137	MAN_TASAP
172400	Wallpaper	10	23	-13	
172911	Name and address labels of paper, cardboard or cardboard	68	87	-19	
172919	Other articles of paper and paperboard	199	126	72	MAN_TASAP
….	….	….	….	….	….
900100	Performing arts and creative work	1,280	1,234	46	
900400	Arts facility operation services	253	236	17	
910100	Library and archive services	345	340	5	
910200	Museum services	230	202	28	
910400	Botanical and zoological garden services and nature reserve services	406	377	30	

920000	Gambling and betting services	711	698	13	
931000	Sporting activities	1,931	2,082	-151	
932000	Amusement and recreation activities	528	510	19	
941000	Services furnished by business, employers and professional membership organisations	975	898	77	
949000	Services furnished by other membership organisations	1,098	1,098	0	
949100	Services furnished by religious organisations	1,206	1,206	0	
951000	Repair services of computers and communication equipment	291	234	58	MAN_TASAP
952000	Repair services of personal and household goods	276	329	-54	MAN_TASAP
960100	Laundry services	421	421	0	
960200	Hairdressing and other beauty treatment services	940	977	-36	
960300	Funeral and related services	129	108	21	
960400	Physical well-being services	137	172	-35	MAN_TASAP
960900	Other personal services n.e.c.	207	189	18	
970000	Household services	242	256	-15	

Supply and use data are balanced in three stages:

1. Manual balancing incl. automatic balancing of price formation items
2. Elimination of the statistical discrepancy of the balance of supply and demand
3. Automatic balancing

6.1.5.1 Manual balancing incl. automatic balancing of price formation items

The biggest product-specific imbalances between supply and use at basic prices are corrected in manual balancing. This applies to products whose value of the difference between supply and use is over ten per cent of the value of supply at basic prices and the absolute value of the difference is over EUR 30 million (entry in table above “MAN_TASAP"). These products are balanced by correcting the supply data at basic prices of the products and/or use data at purchaser's prices manually so that the differences between supply and use are below the above-mentioned limits.

The correction of supply and use data are mainly based on an estimate on the accuracy and reliability of the supply and use data of the source data related to the product. In general, the supply data are more accurate and reliable than the use data and, therefore, they are revised less in balancing. Although in the compilation stage of the product data (Section 6.1.2) the output and intermediate consumption data of industries are revised by mirroring the output and intermediate consumption data to export and import data on the enterprise level and by compiling investments in transport equipment and other machinery and equipment with the so-called flow method, it is necessary to continue revising especially these data in the manual balancing stage to achieve the product balance. Especially in the balancing of intermediate consumption data of service products, it is

necessary to resort to the expertise of the balancers of supply and use tables because the product data of service products of intermediate consumption are on an aggregated level in the source statistics. These product groups include data processing, financial, insurance, telecommunication and other business services.

After the above-mentioned balancing, the aim is to carry out balancing mainly so that unbalanced products are balanced between one another within P64 product groups (publication level of supply and use tables). In other words, supply or use is moved from products that are as close to each other as possible, and whose differences in supply and use are of different signs. The combined values of industry-specific supply and intermediate consumption data, imports and end use products are changed in manual balancing only in exceptional cases when shortcomings and errors found in preliminary annual accounts data need to be corrected.

In practice, manual balancing is performed with the help of the balancing and price index application of the balance of products (the “PaHIS” application, a browser application programmed and maintained by Statistics Finland). In the application, balancing data (e.g. the original and connected value and the comment text related to the correction) are saved to the database table reserved for metadata.

In manual balancing, price formation items are automatically balanced: The subsidies and taxes on products of the use data are scaled to correspond with paid and collected subsidies on products and taxes on products, and the trade and transport margins correspond to the supply values of service products that produce trade and transport margins.

In manual balancing, the values of the supply and use tables are mainly revised in the row direction. Only revisions made to preliminary annual accounts data, such as the revision of the value of intermediate consumption in a certain industry, made in connection with manual balancing of annual accounts change the values in the column direction of supply and use tables. Their significance is, however, small for balancing (see section “Elimination of the statistical discrepancy”).

In all, 304 products were selected for manual balancing in 2018. In addition to the above-mentioned 304 products, 270 other products were balanced in manual balancing. In manual balancing, supply data at basic prices and use data at purchaser's prices were revised in total by good EUR 46 billion.

Analysis tables are made yearly on manual balancing at the accuracy of the calculation level from which differences between manually balanced data and unbalanced source data can be seen. These data are utilised in compiling and balancing the source data of the supply and use tables of the following year.

6.1.5.2 Elimination of the statistical discrepancy

After the manual balancing and automatic balancing of price formation items, we are able to see at which products the statistical discrepancy of the

balance of supply and demand of the preliminary National Accounts is directed at this stage. The statistical discrepancy is eliminated by balancing the products whose differences between supply and use are biggest and similar to the statistical discrepancy. In eliminating the statistical discrepancy, the values of the product transactions in the preliminary annual accounts change. The biggest revisions are usually made in intermediate consumption of the non-financial corporations sector. These corrections change the values of the supply and use tables in the column direction.

The statistical discrepancy of the balance of supply was EUR +402 million in the preliminary data in 2018 (Table 170). During the compilation of the input data of the supply and use tables and the manual balancing, the statistical discrepancy decreased by EUR 6 million. The final correction of the statistical discrepancy was EUR 396 million. The correction was made to intermediate consumption (EUR +200 mil.), investments (EUR +117 mil.) and households' consumption expenditure (EUR +79 mil.) of service industries in the non-financial corporations sector.

Table 170: Preliminary balance of supply and demand, changes in the of the balance of supply and demand items in various stages of compiling SUT and final balance of supply in 2018, EUR million

National balance of supply and demand in 2018	preliminary (t +26 months)	correction of source data + manual balancing	elimination of statistical discrepancy	final (t +31 months)
P1 R / Output at basic prices	436,453	-243		436,210
P2 K / Intermediate consumption at purchasers' price	234,911	-215	200	234,896
B1GPH T / Value added, gross at basic prices	201,542	-28	-200	201,314
D21N T / Taxes on products minus subsidies on products	32,154			32,154
D21 K / Taxes on products	32,855			32,855
D31 R / Product subsidies	701			701
B1GMH T / GROSS DOMESTIC PRODUCT at market prices	233,696	-28	-200	233,468
P7 R / Imports	92,746	-7		92,739
P71 R / Imports of goods	62,670	-7		62,663
P72 R / Imports of services	30,076			30,076
SUPP R / SUPPLY TOTAL	326,442	-35	-200	326,207
P6 K / Exports	89,810			89,810
P61 K / Exports of goods	62,926			62,926
P62 K / Exports of services	26,884			26,884
P3 K / Consumption expenditure	177,312		117	177,429
P31Y K / Household consumption expenditure	118,572	-8	117	118,681
P32Y K / Consumption expenditure of non-profit institutions serving households	5,256			5,256
P3J K / Final consumption expenditure of government	53,484	8		53,492
P51 K / Gross fixed capital formation	56,108	-4	79	56,183
P52 K / Changes in inventories	2,738	-25		2,713
P53 K / Net acquisitions of valuables	72			72

USE K / DEMAND ITEMS TOTAL	326,040	-29	196	326,207
DEB1*G T / Statistical discrepancy	402	-6	-396	0

6.1.5.3 Automatic balancing

When the statistical discrepancy has been eliminated, there is no difference in supply and use in the entire economy but there are still product-specific differences in the output types P11 Market output and P7 Imports. In order to correct these differences, automatic balancing is preformed, where the remaining differences are removed with the RAS algorithm. The algorithm calculates the multipliers with which the elementary units of the matrix to be balanced are summed into the pre-fixed row directional product-specific supply values at basic prices and column directional industry-specific intermediate consumption and end use item values at purchaser's prices. In other words, in automatic balancing, the product values may change within use categories excluding the use category specific and product values that have been fixed in advance (e.g. fuels in households' consumption expenditure). As a result of automatic balancing, the balanced supply and use data are generated, where supply and use at basic prices are in balance by product and output type. In automatic balancing, the values of the supply and use tables change only in the row direction.

Nearly all products are included in automatic balancing. Altogether, use data at purchaser’s prices were corrected in automatic balancing with good EUR 28 billion in 2018. Compared with manual balancing, the importance of automatic balancing in the balancing of supply and use tables is smaller.

Each year, analysis tables are made on automatic balancing at the accuracy of the calculation level, from which differences in automatically balanced data are automatically visible when compared with manually balanced data. If there are changes detected in automatic balancing that cannot be accepted, the balancing for the product in question will return to the manual balancing stage.

The balanced data of the supply and use tables are updated with the product transaction data of the annual accounts sub-systems. The updated data form the final, balanced data of the National Accounts. The statistical discrepancy of the balance of supply and demand is then zero.

The supply and use tables are published at the accuracy of 64 industries and 64 products (A64 x P64). The actual supply and use tables comprise the following tables:

- Supply table at basic prices
- Use table at purchaser's price
- Use table at basic prices
- Use table of imports at basic prices

The input-output table of domestic output is derived from supply and use data at basic prices (A64 x A64) by means of the so-called market share assumption (“model D”).

6.2 Other approaches used to validate GDP

6.2.1 The stage preceding balancing

Before balancing, sector researchers/teams make calculations within their own topic areas. In these calculations, the data in the source data are revised to meet the concepts of the National Accounts. Already at this stage, attention is paid to certain key figures and dependencies. Attention must be paid particularly to the following issues in the topic-specific calculations:

- Changes in the value, volume and prices from the previous year
- Corresponding changes from the previous version
- Changes in absolute level compared with the previous version
- Compatibility of wages and salaries and employment that is measured with the development of the wages and salaries sum
- Compatibility of the volume development in value added and work input that is measured with the change in the productivity of labour
- Compatibility of employment and working hours that is measured with hours worked per employed person
- The real disposable income: nominal disposal income deflated with the price indices of consumption expenditure (households)
- The savings rate: savings relative to the disposable income (households, general government)
- The level of net lending.

6.2.2 Checking the sub-areas of calculation

In the balancing of the preliminary National Accounts, each industry, sector or other calculation entity are examined in summary meetings. Two to four summarisers and one or several sector researchers responsible for the compilation of the calculation entity in question participate in these meetings.

The revision of individual calculation entities takes place as data become ready. In the summary meeting, the calculation as a whole is examined paying special attention to the above-listed issues. In addition, data sources, their availability and usability, changes in them or methodological changes in calculations and other background information that affect calculation are essential topics.

The picture of the entire national economy starts to shape and become focused as a majority of the calculation entities are completed. An overall view can only start forming when all pieces are ready.

Towards the end, attention is paid to how supply and demand correspond to each other. The difference between them, statistical discrepancy, is minimised by looking for reasons for the difference from the calculation and the used sources. The statistical discrepancy cannot be fully closed in the preliminary data, because a reason must be found for each change in supply and demand data. The statistical discrepancy is not removed until the final product-specific balancing is done in the supply/use table framework.

CHAPTER 7 OVERVIEW OF THE ALLOWANCES FOR EXHAUSTIVENESS

7.0 Introduction

7.0.1 Geographical coverage

The economic territory of Finland includes Finland's geographic area based on the borders of the country (incl. Åland), excluding foreign countries' embassies and consulates situated in Finland, as well as supranational and international organisations. Finland's territorial enclaves situated in the rest of the world (embassies, consulates, scientific bases, etc.) are included in the economic territory of Finland. Finland's national airspace and territorial waters, vessels, aircraft and other mobile equipment, when the operator is domiciled in Finland are also included in the economic territory of Finland.

7.0.2 General approach of exhaustiveness

In the Finnish National Accounts, all three compilation methods are used when calculating the GDP (output, demand, income) of which, however, the income approach cannot be considered fully independent. The most reliable results are achieved with the income approach. The basic data sources for calculating output and intermediate consumption are good and exhaustive (more details on ensuring exhaustiveness in the output approach in Section 3.6). The end demand items are calculated independently (more details on ensuring exhaustiveness in Section 5.6). In the final calculations, supply and demand are balanced in the supply and use tables. The balancing is described in CHAPTER 6. In preliminary calculations, the result achieved through demand is compared with the GDP calculated through output and the difference is recoded as a statistical discrepancy. In practice, its sign varies. Only one GDP figure calculated based on the output approach is published. The statistical discrepancy is presented as an individual item on the demand side in preliminary calculations.

The income components of the GDP can also be calculated independently (more details on ensuring exhaustiveness in Section 4.6). These data are partially used in the summary of the whole economy as well. Data sources concerning the operating surplus are, however, largely the same as in the output approach. Compensation of employees comes from independent material (taxation data, accumulation data of employers' social contributions). The wage and salaries and social insurance contributions of the whole economy are defined in accordance with these data. The result of the industry calculations is used as the wages and salaries sum of the whole economy if it exceeds the level of the taxation data. The difference between the sum of accumulated social insurance contributions and the sum of industries is revised in the industry-specific social insurance contribution expenditure.

The exhaustiveness revisions made in source data are made in every calculation round. The estimates on the illegal and underground economy

(coefficients) are revised based on analyses carried out every five to seven years. The calculation is described in Section 7.1.3.

7.1 Allowances for exhaustiveness in the production approach

7.1.1 Identification of types of non-exhaustiveness (for which adjustments are needed)

Primarily, seven different adjustment types related to the exhaustiveness of source data have been recognised in the Finnish National Accounts that have also been defined in the information system in order to recognise and save necessary revisions and corrections. The information system is described in more detail in Section 1.1.6.

The main adjustment columns are

- KML1 Conceptual changes
- KML2 Adjustments of errors in data
- KML3 Statistical delimitations
- KML4 Exhaustiveness, statistical shortcomings
- The underground economy, VAT fraud
- Illegal economy and prostitution
- Balancing

Internationally, in turn, seven different categories of non-exhaustiveness have been defined that can occur in the National Accounts and that should be recognised.

- N1 Producer deliberately not registering - underground
- N2 Producers deliberately not registering - illegal
- N3 Producers not required to register
- N4 Legal persons not surveyed
- N5 Registered entrepreneurs not surveyed
- N6 Producers deliberately misreporting
- N7 Other statistical deficiencies

In Finland, the adjustment types used by the National Accounts do not directly correspond with the N1 to N7 categories of non-exhaustiveness but the content of the adjustment types and their connections to the categories of non-exhaustiveness are described below. The connections are also described in Table 171.

7.1.1.1 *Conceptual changes – KML1*

Some conceptual changes are made in a centralised manner in the source data. Most of these apply to reductions made to intermediate consumption like recording the vehicle tax and waste tax in taxes on production (see 4.8.). If a shortcoming is found in the centralised revision, the revision in

question is recorded under conceptual changes because all centralised revisions are conceptual by nature. Otherwise, these centralised conceptual changes do not occur under the item KML1 as they have their own source data process and are included in the *Sources total* item. They include:

- Vehicle tax and waste tax (recorded in other taxes on production)
- Financial leasing (recorded as an investment)
- Real estate tax (recorded separately in direct taxes)
- Non-life insurance premiums (only the share of the insurance service fee belongs in intermediate consumption, the rest in non-life insurance service fees, net)
- Social benefits in kind (based on the Tax Administration's annual report on wages and salaries, included in wages and salaries)

The data of enterprises operating globally often have to be revised in order for items describing international activities to be recorded correctly. Revisions related to manufacturing services, merchanting and factoryless production are recorded under conceptual changes, revisions caused by partial billing, project deliveries and securities transactions are also recorded in this item. If, for example, holding gains and losses or merger gains and losses have not been subtracted at an earlier stage, they will be noted as a revision item in conceptual changes.

The items of KML1 can be considered to belong to the item Other conceptual revisions in Eurostat's process tables.

7.1.1.2 *Adjustments of errors in data – KML2*

The data of the financial statements inquiry for enterprises may contain an error or inconsistent data if the enterprise has provided insufficient data. The data for all enterprises has not necessarily been checked and approved before the source data are taken into the database. The source data may, thus, be partially imputed and/or erroneous.

An error may have occurred in the treatment process of the data, for example, in establishment defining of data that affects the data of a few individual enterprises. In some cases, the revision is easier to be allocated to individual enterprises than to run the entire source data again. Due to technical and timetable related reasons, it may also be difficult in practice to enter new data into the database.

The revision item KML2 Revisions of errors in data can conceptually be seen as consisting of adjustments classified in the item *Data validation* in Eurostat's process tables.

The revision of time series may also typically be directed at this item if the reason is an error in the data and no separate revision process of the source data is formed.

7.1.1.3 *Statistical delimitations – KML3*

The basic assumption is that all registered units are included in the data. A separate statistics unit delimitation is done from the total data in the structural business and financial statement statistics but all units (establishments) that have been active during the statistical reference year are included in the calculations of the National Accounts without any limitations on the period of operation or the size of turnover.

Units belonging to the non-exhaustiveness type *N4 Legal persons not surveyed* or *N5 Registered entrepreneurs not surveyed* are not separately compiled into statistics because the source data is seen to include all legal persons and entrepreneurs with exceptions to those not required to register (N3) or those deliberately not registering (N1).

Producers not required to register (N3) have been compiled within their own industry category not as separate non-exhaustiveness revision groups. For example, private persons who fish small amounts of fish, hunters or berry pickers. If there was need to make or revise these additions applying to the units they would be presented under the revision category "Statistical delimitations".

The items of the revision column Statistical delimitations mainly consist of revisions directed at classifications, i.e. of sector and industry transfers. Thus, the items in this revision column are considered to belong to the non-exhaustiveness category *N7 Other statistical deficiencies*. Revisions related to the timing of the accounting period are also included in this item.

7.1.1.4 Exhaustiveness, statistical shortcomings – KML4

A unit may be included in the administrative register as an active unit and the classifications may be correct, but the calculation items are insufficient. Revisions related to exhaustiveness and other statistical shortcomings that are not considered to belong to the above-mentioned items or under the underground economy are recorded in this item. The items in this revision column are considered to belong to the non-exhaustiveness category *N7 Other statistical deficiencies*

7.1.1.5 *Illegal economy and prostitution*

The estimates of smuggling (tobacco, snus, and alcohol), prostitution and drugs trade belong to the illegal economy and the non-exhaustiveness category *N2 Producers deliberately not registering - illegal*. Part of the units recorded under the illegal economy may operate with their registered name, so they are registered. These actors are not included in this calculation but part of the source data derived from administrative sources. It is likely that especially some sex workers may appear already in the source data. Based on expert information, the risk of large-scale double counting is in this case minor, as most prostitutes work underground.

7.1.1.6 *The underground economy, VAT fraud and unpaid VAT*

The estimates of the non-observed economy are partly presented in the item The underground economy which consists of items classified under the non-exhaustiveness type *N6 Producers deliberately misreporting*. The non-observed economy consists of actors that are registered but leave some of their activities unrecorded (*N6*) as well as actors who should have registered but have not (*N1*). The estimates on the non-observed economy have not been divided based on whether the actor has been registered or not but the unrecorded share is estimated as whole. There are no reliable data sources to make a division between N1 and N6 and it is estimated that a majority of actors are registered.

In addition to the item underground economy, VAT fraud without complicity and unpaid VAT are estimated to account the part of the non-exhaustiveness type *N6 producers deliberately misreporting* which is not included in item underground economy. This non-exhaustiveness adjustment has been added to the Finnish national accounts in 2019 covering years from 1995 onwards to meet the international recommendations. The VAT fraud without complicity is calculated using theoretical VAT, collected VAT and information on unpaid VAT from Finnish Tax Administration. Both VAT fraud without complicity and unpaid VAT are presented under revision column “VAT fraud”.

Section 7.1.3 describes the methods of the calculation of the underground economy, as well as VAT fraud without complicity and unpaid VAT, in more detail.

7.1.1.7 *Balancing*

The balancing needs detected in the last stage that are not directed at any of the above-mentioned are recorded in a separate balancing column.

Table 171: The connections between the non-exhaustiveness types and the Finnish National Accounts

Non-exhaustiveness type	Adjustment item in the Finnish National Accounts
Data validation	KML2
Other conceptual	KML1
N1	-
N2	Illegal economy and prostitution
N3	-
N4	-
N5	-
N6	The underground economy, VAT fraud
N7	KML3, KML4
Balancing	Balancing

7.1.2 Adjustments made for the different types of non-exhaustiveness

Table 172: Illegal Economic Activities, year 2018, million EUR

	Prostitution	Trafficking of Illegal Drugs + Production for own final use	Smuggling of Alcohol, Snus, and Tobacco Products	Illegal economy, total
Sector	S14 Households	S14 Households	S14 Households	S1 Total economy
NACE Rev. 2	96 Other personal service activities	47 Retail trade, except of motor vehicles and motorcycles + 98 Undifferentiated goods- and services-producing activities of private households for own use	47 Retail trade, except of motor vehicles and motorcycles	Total
Output of goods and services (P1)	137	197	24	358
Intermediate consumption (P2)	41	15	-	56
Gross value added (B1G) (=P1-P2)	96	182	24	302
Household final consumption expenditure (P3)	155	283	84	522
Imports of goods and services (P7)	18	72	60	150

Table 173: Share of the underground economy in value added by industry and sector (as a share of the entire value added of the sector in question) and the share of the underground economy in output and value added by industry in total by sector, in 2018.

Industry (share B1GPH %)	S11 Enterprises, %	S14 Households, %	S1 Total economy, %
A Agriculture, Forestry and Fishery	0.0	0.0	0.0
B Mining and quarrying	0.0	0.0	0.0
C Manufacturing	0.1	0.0	0.1
E Water supply and waste management	0.1	-	0.0
F Construction	0.7	3.0	0.8
G Trade	0.6	0.3	0.4
H Transport	0.3	0.1	0.2
I Accommodation and food services activities	0.3	0.2	0.2
J Information and communication	0.2	0.0	0.1
L Real estate activities	0.3	0.1	0.2
M Professional, scientific and technical activities	0.3	0.1	0.2
N Administrative and support service activities	0.1	0.0	0.1
P Education	0.0	0.0	0.0
Q Human health and social work activities	0.0	0.1	0.0
R Arts, entertainment and recreation	0.1	0.1	0.0
S Other service activities	0.1	0.5	0.1
T Activities of households as employers	-	0.1	0.0
Estimated share of the underground economy in output (P1/R), at basic prices	1.2	3.2	1.2
Estimated share of the underground economy in value added, gross at basic prices (B1GPH)	3.1	4.7	2.6

7.1.3 Exhaustiveness methods

7.1.3.1 The non-observed economy

The main sub-areas of the non-observed economy are the underground economy and the illegal economy. In 2007 and 2008, Statistics Finland carried out a project related to the non-observed economy, the results of which are utilised in the current calculation. The results are collected in the report "Finland's non-observed economy" (2008). The aim of the project was to improve the quality of the Finnish National Accounts by expanding the exhaustiveness of the figures and supplementing the estimates of the non-observed economy. Earlier estimates from the 1990s and their calculation methods were also examined and revised in connection with the project. There have also been estimates concerning the illegal economy in the National Accounts before the project that ended in 2008 but these figures have not been fully exhaustive, for example, narcotics were noted for the first time because of the project.

Statistics Finland has not had the possibility to produce, for example, extensive own inquiries in the area of the non-observed economy. In 2011, the Tax Administration formed a Grey Economy Information Unit whose one task is to promote the prevention of the underground economy by producing and distributing data on the underground economy and its prevention. The Grey Economy Information Unit annually publishes a picture of the underground economy and control statistics that is a compilation of statistics by various control offices concerning, for example, the underground economy and crime prevention. In addition, the unit publishes several expert articles on the subject. National industry unions also commission and publish reports on the subject and these publications are usually freely available.

An extensive publication concerning the underground economy has been published by the Parliament of Finland's Audit Committee *Suomen kansainvälistyvä harmaa talous (Finland's internationalising underground economy) (1/2010)* to which the industry-specific examinations refer. The publication discusses and analyses the underground economy extensively using, for example, data from tax audits. The survey has been carried out by Markku Hirvonen, Pekka Lith and Risto Walden on assignment from the Parliament of Finland's Audit Committee.

7.1.3.1.1 The illegal economy

The production boundary of the National Accounts is defined as including production prohibited by law assuming that all the units involved enter into it voluntarily. Illegal economy and prostitution must be included in the National Accounts and balance of payments statistics to increase the exhaustiveness of the production and consumption statistics. This decreases the possibility of errors elsewhere in the calculations. Additionally, the inclusion of illegal economic activities (IEAs) improves the international comparability of GNI statistics.

In Finland, the calculation of IEA estimates includes the trafficking and production of drugs, and the smuggling of alcoholic beverages, cigarettes, and snus. In addition, the value of prostitution services is estimated in this context, despite prostitution itself not being illegal in Finland.

The agents of IEAs have an interest to hide their activity. For this reason, data based on questionnaires or administrative sources are not available. Therefore, estimates on IEAs are made using various surveys, research and reports, and by combining data from these.

The main domestic sources are data from the Finnish institute for health and welfare (THL), Finnish Customs and the Police. In addition, reports from other authorities have been used.

In reality, the calculations for the estimated values of the illegal economy are done at a more precise level what comes to decimal places, but the results are entered to the system as millions of EUR with no decimal places. For this reason, there are some discrepancies between the results of the calculations explained in this document and the results entered to the system.

7.1.3.1.1.1 Prostitution

The economic value of prostitution is estimated in the context of illegal economy. It is legal to offer sexual services but based on the Criminal Code, pimping and human trafficking are forbidden, and buying sex from under-aged persons or victims of pimping or human trafficking is a criminal offence. The Public Order Act, in turn, prohibits street prostitution. The illegal purchasing of sexual services relating to pimping or human trafficking hardly belongs within the production boundary of National Accounts, as the seller doesn’t act voluntarily, and the principle of mutual agreement is violated. However, in the estimation of the value of prostitution services, this distinction between illegal and legal sex work has not been made, because a reliable estimate of the share of illegal sex work has not been available.

The estimates on prostitution are based on estimates on the supply side. According to the recommendations of the GNI committee (GNIC/230), the estimates should be based on types of prostitution, like street prostitution or prostitution taking place at clubs. Currently no division into the types of prostitution is made. Instead, prostitution in Finland is divided into domestic and foreign prostitutes, as the prices between these groups are thought to differ. Foreign prostitutes are further divided into visiting prostitutes and foreign prostitutes permanently resident in Finland to allow division between import of services and domestic output. The number of daily customer contacts is estimated to be the same for each group. The prices are thought to differ between Finnish and foreign sex workers. The value of intermediate consumption is estimated as a share of the output similarly across the groups. The information used in estimating the value of prostitution is based on expert assessments. The following calculations are for the year 2018.

The foreign sex workers are further divided into visiting prostitutes and foreign prostitutes permanently resident in Finland. The services provided by foreign prostitutes that work in Finland for less than a year are categorized as visiting prostitution – and therefore as import of services. The services provided by foreign prostitutes that work in Finland for over a year belong to domestic output.

For all three groups (Finnish workers, permanently resident foreign workers, visiting foreign workers), the number of daily customer contacts is estimated at four per a random day. The calculation uses 360 days in a year. For each group, the annual output is calculated as a product of the following factors: daily number of workers, customer contacts per day, days in a year, and the price of a contact.

$$Domestic\ output = output\ of\ Finnish\ workers + output\ of\ foreign\ workers\ permanently\ resident\ in\ Finland$$

$$Domestic\ output = 137MEUR$$

Intermediate consumption (rents, equipment) is estimated simply as a share of domestic output. The share is estimated at 30%. The intermediate consumption by visiting foreign workers is assumed to be accounted for in the item non-domestic travel expenses as a part of exports.

$$Intermediate\ consumption = 30\% * 137MEUR = 41MEUR$$

$$Import = Output\ by\ visiting\ foreign\ workers = 18MEUR$$

$$Household\ final\ consumption\ expenditure = Domestic\ output + Import = 137MEUR + 18MEUR = 155MEUR$$

When estimating the figures, it should be noted that the average number of persons working as prostitutes on a particular day is not an estimate of the total number of persons working as prostitutes. Part of the persons work for a short period, so the total number of persons offering sexual services is considerably higher than the daily number.

The services of prostitutes resident in Finland used by tourists visiting in Finland are included in tourism income and are, thus, included in the exports of services. The item is not, however, separated. Services by visiting prostitutes used by tourists are estimated as being low.

The number of sexual services offered by Finnish prostitutes abroad is estimated as marginal and, thus, prostitution is not recorded in the exports of services to this extent and mixed income is not recorded either.

The value of prostitutes' services acquired by Finns on trips abroad is estimated to be included in Finns tourism expenditure abroad and thus already included in the items private consumption expenditure and imports of services of the National Accounts. The value has not been calculated separately. According to the ”Trends in sexual life” inquiry (2001), over 70 per cent of those who have bought sex had last bought sex abroad from a foreign person. The second most common form is to buy sex from a Finnish person in Finland.

The statistics on offences and coercive measures provide data on reported offences related to pimping and the sex trade. Data on cases sentenced in court come from the statistics on prosecutions, sentences and punishments. Sentences are reported based on the day of sentencing, not the time when the crime occurred, so the year when the crime took place and the year when the sentence was given may differ. Legal statistics can give some indication of the development of the phenomena, but the figures are not directly applicable for estimating the actual change in the annual value of prostitution. As such, the data don't allow the estimation of the share of illegal prostitution either.

7.1.3.1.1.2 Narcotics

In Finnish legislation, the production, manufacture, imports into the Finnish territory, exports from the Finnish territory, transport, transit transport, distribution, trade, handling, possession and use of narcotics are forbidden, as is growing of certain plants and mushrooms according to the Narcotics Act.

The calculation of narcotics consists of two main elements: Domestic production (home-grown cannabis) and import trafficking of narcotics. The estimation of quantities for home-grown cannabis is based on the (combined) seizure data on seized cannabis plants by the Police and the Customs (supply-side estimation). The estimation of quantities in import trafficking is divided into two different methods depending on the type of drug. The quantities of drugs that are routinely available in wastewater analysis are estimated based on the available data there (demand-side estimation, based on used amounts). Information on the wastewater analysis can be obtained from the web pages of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the Finnish Institute for Health and Welfare (THL). The quantities of the remaining drugs, for which (combined) seizure data is available by the Police and the Customs, are estimated based on the seizures (supply-side estimation). The data on seizures by the Police and the Customs is reported by the THL. The price data is based on information by the National Bureau of Investigation (NBI) delivered by the THL.

7.1.3.1.1.2.1 Domestic production

The estimation of domestic production of narcotics focuses on home-grown cannabis. According to a study published in 2011 that was based on interviews of growers, a web inquiry, and population survey data, around 40,000 to 60,000 Finns had grown cannabis at some point and in 2010 it was estimated that there were slightly under 10,000 active growers.[23] According to the THL, cultivation of cannabis has increased rapidly in the 2000s and 2010s, but has stabilized in the recent years.[24] In order to estimate the value of cannabis grown in Finland, one should estimate the

[23] Hakkarainen, Pekka, Jussi Perälä, and Leena Metso. "Kukkaa pukkaa - kannabiksen kotikasvatus Suomessa." Yhteiskuntapolitiikka, no. 76 (2011:2): 148-168

[24] THL – Finland Drug Situation 2020 (in Finnish). Available at https://www.julkari.fi/bitstream/handle/10024/140710/URN_ISBN_978-952-343-576-6.pdf?sequence=1&isAllowed=y

quantity of cannabis produced, its retail price, and the share of intermediate consumption.

The estimation of the home-grown quantity is done based on the following information: 1) the number of confiscated cannabis plants in a year, 2) the fraction that represents the share of confiscated cannabis plants of all plants, and 3) the amount of dried cannabis one plant produces in a year on average.

Multiplying the estimated quantity by the street price yields the estimated street value of homegrown cannabis.

$$Estimated\ street\ value\ of\ homegrown\ cannabis = 98MEUR$$

The question that remains is what share of this production is for own final use and what is to be sold on the markets? In the 2011 study regarding the home cultivation of cannabis in Finland, fifteen per cent of those who responded to the web inquiry reported that one reason for growing the plants was to sell cannabis. Of all respondents, 36 per cent said they had sold sometimes and 93 per cent was sold to persons the seller knew personally. The study conveys the picture that a majority of growers grow cannabis for personal use and in addition the crop may be distributed for free to acquaintances. Sixty per cent of those who had sold from their latest crop had earned at most EUR 200. It seems that selling does not primarily aim at high profits but maybe at covering costs. Sixty-six per cent of growers said they had at most spent EUR 100 on their latest crop.

It is challenging to divide the output into own use and market use based only on the web inquiry and thus a simplified solution of reporting domestic cannabis production as a whole as production for own final use has been used.

$$\begin{aligned} &Production\ of\ drugs\ for\ own\ final\ use \\ &\quad = Estimated\ street\ value\ of\ homegrown\ cannabis \\ &\quad = 98MEUR \end{aligned}$$

Intermediate consumption consists of acquiring seeds, water, electricity, other running costs of premises and machinery. The share of intermediate consumption in the value of production is estimated at 15 per cent.

$$Intermediate\ consumption = 98MEUR * 0{,}15 = 15MEUR$$

7.1.3.1.1.2.2 Wastewater analysis

Analysing wastewater allows for estimating drug use in the population served by the examined sewage treatment plants. In wastewater analysis, four types of narcotics are routinely reported to be found: ecstasy, cocaine, amphetamine, and methamphetamine. The 2018 data for wastewater analysis was obtained directly from the web pages of the EMCDDA.[25] 23 cities are involved in the 2018 data.[26] In Figure 19 it can be seen that the geographical spread of the cities covers the most populated areas of

[25] https://www.emcdda.europa.eu/topics/pods/waste-water-analysis
[26] Lahti, Kouvola, Helsinki, Rovaniemi, Kotka, Jyväskylä, Kemi, Mikkeli, Hämeenlinna, Espoo, Kuopio, Lappeenranta, Oulu, Tampere, Turku, Vaasa, Maarianhamina, Seinäjoki, Joensuu, Pori, Kajaani, Kokkola, Savonlinna.

Finland quite well. Only two of the cities are not in the top 50 by population.

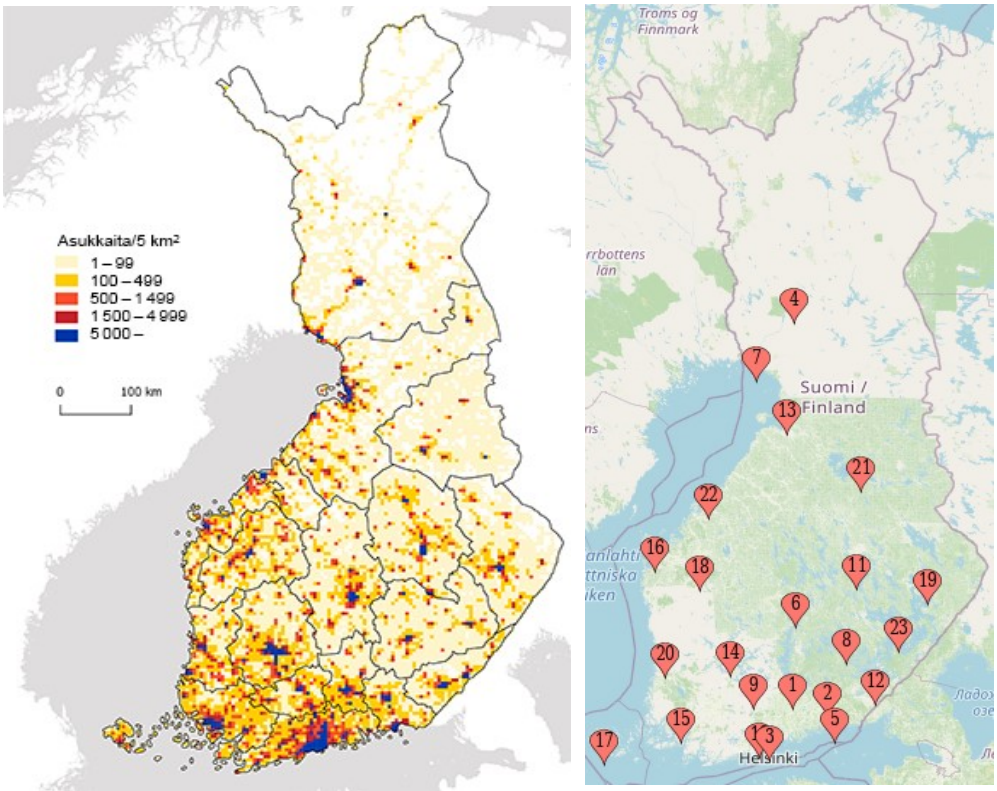

Figure 19: Left: Population density in 2015 (5km squares). Right: Cities in 2018 wastewater analysis

The estimation of the used amount of a particular substance over a year relies on three components: 1) The average nationwide usage of the drug (mg/day/1000 people) in the year, 2) the median purity of the drug ("retail", %) that year, and 3) the population estimate of the country that year. Dividing the average nationwide usage of the drug by its purity share yields the average usage of the diluted "street pure" narcotic in mg/day/1000 people. Multiplying this by the national population in thousands yields the average usage of the diluted substance in the national population (mg/day/total population). Dividing this by 1000 yields the same in g/day/total population, which multiplied by 365 results in the estimate of the consumption of the drug in g/year/total population: the used amount in Finland per year in grams.

Table 174: Use of cocaine in Finland in 2018 according to wastewater analysis, grams. Also the intermediate results are rounded in the table, which means replicating the calculations with the provided rounded numbers doesn't yield exactly the same results. *Total population (in thousands) was 5,518.

Drug	Average nationwide usage (mg/day/ 1000people)	Purity %	Usage of diluted drug (mg/day/1000 people)	Usage of diluted drug (mg/day/total population) *	Usage of diluted drug (g/day/total population)	The amount used in Finland per year, grams
Cocaine	26.4	49 %	54	296,993	297	108,403

The average nationwide usage of the drug is estimated by utilising the reported usage in mg/day/1000 people that is available for each city, and the cities' population counts. For each city, the usage is first divided by 1000 to obtain usage in mg/day/person, and then multiplied by the city's population to obtain the usage in mg/day in the city. For each drug, the cities' mg/day numbers are added to form their total usage of the drug in mg/day. This is divided by the total population of the reporting cities to obtain the average total usage in mg/day/person in the reporting cities. This is multiplied by 1000, yielding the same in mg/day/1000 people. The resulting figure is then directly used as the estimate for the average nationwide use of the drug. An example of cocaine:

Table 175: Example: estimation of average nationwide usage of cocaine

City	*Population*	*mg/1000prs/day*	*mg/prs/day*	*mg/day*
Lahti	63,000	44.22	0.04422	2,785.86
Kouvola	70,000	8.24	0.00824	576.8
Helsinki	855,000	62.88	0.06288	53,762.4
Rovaniemi	55,000	3.59	0.00359	197.45
Kotka	72,500	16.97	0.01697	1,230.325
Jyväskylä	155,000	3.17	0.00317	491.35
Kemi	25,000	1.98	0.00198	49.5
Mikkeli	42,000	2.47	0.00247	103.74
Hämeenlinna	67,000	7.22	0.00722	483.74
Espoo	382,000	29.55	0.02955	11,288.1
Kuopio	85,588	1.87	0.00187	160.0496
Lappeenranta	60,000	2.57	0.00257	154.2
Oulu	200,526	2.75	0.00275	551.4465
Tampere	200,000	27.1	0.0271	5,420
Turku	300,000	6.94	0.00694	2,082
Vaasa	69,252	1.27	0.00127	87.95004
Maarianhamina	20,000	23.98	0.02398	479.6

Seinäjoki	45,000	0.9	0.0009	40.5
Joensuu	82,126	2.06	0.00206	169.1796
Pori	114,000	4.32	0.00432	492.48
Kajaani	32,950	0.36	0.00036	11.862
Kokkola	36,000	0.83	0.00083	29.88
Savonlinna	28,000	1.89	0.00189	52.92
TOTAL	3,059,942			80,701.33
Average total mass load (mg/1000prs/day)		**26.4**		

For 2018, the median purity of a drug in retail was obtained from the pages of the EMCDDA[27]. THL obtains the information from the National Bureau of Investigation and reports to the EMCDDA who makes the information publicly available. The population estimate (on 31st December of the year of interest) is obtained from Statistics Finland's own population structure statistics. For the drugs in wastewater analysis, also alternative quantity estimates are calculated with the seizure extrapolation method to allow for more thorough consideration of how the used amounts develop over time. For the other types of drugs, seizure extrapolation is the only method used.

7.1.3.1.1.2.3 Seizure extrapolation

The drugs that aren't regularly available in the wastewater analyses are estimated by utilizing data on drugs that are seized either by the Police or the Customs. This includes narcotics that are taken from someone, as well as drugs that are found with no clear connection to a specific person. The types of drugs for which this method is routinely used are cannabis, Subutex and other buprenorphines, heroin, LSD, khat, GBL and GHB, alpha-PVP, and "other narcotic medicines".

For each drug, the seized amount is obtained. The information for 2018 was obtained from THL's report Drug Situation in Finland 2020[28]. The seized amount is divided by an estimated percentage share: How large a share of the total drug quantity is thought to be covered by the seizure data. These expert assessments range from 5% to 20% depending on the drug. The division yields the estimate of the quantity used for a drug in a year. For example, the combined seized amount of Subutex and other buprenorphines in 2018 was 63 134 tablets. It is assumed, that this amount represents 10% of the total consumption. The estimated total amount is then $63{,}134\ tablets\ /\ 0.1 = 631{,}340\ tablets$.

7.1.3.1.1.2.4 Prices and value

Once a year the National Bureau of Investigation (NBI) sends an inquiry to all police departments concerning the street trade prices of various

[27] https://www.emcdda.europa.eu/data/stats2020/ppp
[28] https://www.julkari.fi/bitstream/handle/10024/140710/URN_ISBN_978-952-343-576-6.pdf?sequence=1&isAllowed=y In Finnish, table 16 page 127

narcotics. The price estimates are based on the preliminary investigation data of suspected narcotics offences and intelligence.

The estimation of average prices is made difficult by the fact that street prices may vary considerably in Finland depending on the geographical location. The report *Huumetilanne Suomessa* (THL - Finland Drug Situation 2011) states that in Southern Finland, the prices are usually clearly lower than in other major cities. The National Bureau of Investigation complements these data with the fact that the difference can be especially large between Lapland and the Helsinki region.

No user group-specific estimates have, however, been made based on the geographic place of residence. Estimates on prices and price development are based on data reported by the THL, which are based on data from the National Bureau of Investigation. In the data, the measure of central tendency reported for most drugs is the mode of retail prices, which is used in the value calculations.

For some drugs, an estimate on the import/wholesale prices has been available. The size of the imported lot, the pureness of the narcotics and how established relationships the importers and the dealers of the lot have affect the prices considerably, so the estimates are very rough and indicative. For these drugs, a drug-specific import-to-retail margin has been calculated from the ratio of import and street trade prices. A previous report on the hidden economy (Suomen piilotalous (Finland's hidden economy), 2008) resulted in a general and rough estimate on the relative share of the margin that was assumed to cover dilution and other actual increase in prices from imports to consumption. Using the general margin yields estimates in which 65% of the street value (retail price * estimated used amount) belong to the domestic output and 35% of the value are imports. The calculated margins range from 13% to 81% being considered as domestic output.

With this group of drugs, the general margin is used.

$$Street\ value\ = estimated\ quantity\ of\ tablets\ *\ price\ per\ tablet$$

$$Domestic\ output\ =\ 65\%\ *\ Street\ value$$

$$Import\ =\ Street\ value\ -\ Domestic\ output$$

The calculation of the values for domestic output and imports are repeated for each mentioned type of drug, and the results are combined with the estimates of domestic production to yield an estimate of the total drug market in Finland. In 2018, the total street value (and household private consumption) of narcotics was estimated at 283MEUR. The estimate for imports was 72MEUR.

7.1.3.1.1.3 Smuggling (tobacco, snus, and alcohol)

7.1.3.1.1.3.1 In general

In general, smuggling relates to illegal importing and exporting of products for which consumption is legal. In the estimation of the illegal economy in Finland, the smuggling of cigarettes, snus, and alcohol is considered

notable. In Finland, the prices of these products are high compared to neighbouring countries. For snus, import is the only way to acquire products, as selling snus is illegal in Finland. For these reasons, it is assumed that illegal export in the mentioned goods is negligible. Regarding smuggling, it is assumed that the domestic value added is purely the difference between the acquisition value (imports) and the resale value at street prices. Intermediate consumption is not considered in the calculations.

7.1.3.1.1.3.2 Tobacco

The estimation of the value of tobacco smuggling concentrates on cigarettes. The estimation relies on information of the recorded consumption of cigarettes, the share of smuggling, the street price of a cigarette pack, and prices of cigarette packs in Estonia and Russia. The information is obtained from THL and individual reports on tobacco consumption. Based on consumption data, the estimates for tobacco smuggling are considered demand-side estimates.

The calculation of the value of smuggled cigarettes is done in the following steps, using the figures for the year 2018. First, the number of smuggled, statistically unrecorded cigarette packs is estimated. The number of taxed and recorded cigarette sales is known and recorded by THL. Individual reports on cigarette consumption[29] have estimated the share of smuggling within total consumption. The reports have also estimated the share of recorded consumption within total consumption. Dividing the share of smuggling within total consumption by the share of recorded consumption within total consumption yields the share of smuggling within the recorded consumption. This information allows estimating the number of smuggled cigarettes, which is divided by the typical pack size of 20 to yield the estimate of smuggled packs.

$$Number\ of\ taxed\ and\ recorded\ cigarettes\ sold\ (million\ cigarettes) = 4133$$

$$Share\ of\ recorded\ consumption\ within\ total\ consumption = 88\%$$

$$Share\ of\ smuggling\ within\ total\ consumption = 4\%^{30}$$

$$Estimate\ on\ smuggled\ cigarettes\ (million\ packs\ of\ 20) = \frac{4\%}{88\%} * \frac{4133}{20} = 9{,}39$$

The second step is to calculate the commercial turnover for smuggled cigarettes. This is done by multiplying the number of smuggled packs by the estimated street price for a pack of cigarettes.[31]

[29] For 2018: government proposal for the act on changing the annex to the tobacco tax act, HE 25/2019. Earlier e.g. the report "Tobacco tax actors and the grey economy" by The Grey Economy Information Unit, 2016.

[30] In the government proposal, the estimation was 3-5%. The decision to use 4% was arbitrary.

[31] The street price for a pack of cigarettes in 2018 (3-6€) is obtained from a news article quoting an expert of the Customs (https://www.is.fi/kotimaa/art-2000005730458.html). The decision to use 4€ was arbitrary.

$$Commercial\ turnover\ of\ smuggled\ cigarettes = 9{,}39 * 4€ = 37{,}6MEUR$$

The third step is to calculate the import value of tobacco smuggling. Cigarettes are smuggled to Finland primarily from neighbouring countries with lower prices, from Estonia and Russia. The precise division of smuggling between countries is not known, so a simplified assumption is made that one-half of cigarettes are imported from Estonia and one-half from Russia. The local prices for packs of cigarettes in Estonia and Russia are also from the previously mentioned individual reports.

$$Import\ value\ of\ smuggled\ cigarettes = \frac{Smuggled\ packs}{2} * price\ in\ Estonia + \frac{Smuggled\ packs}{2} * price\ in\ Russia = \frac{9{,}39}{2} * 3{,}6€ + \frac{9{,}39}{2} * 1{,}6€ = 24{,}4MEUR$$

Finally, the domestic output (and value added) is the difference between the commercial turnover of smuggling at the street price and the import value.

$$Domestic\ output = 37{,}6MEUR - 24{,}4MEUR = 13{,}2MEUR$$

7.1.3.1.1.3.3 Snus

Selling of snus is forbidden in the EU countries, but in Finland's neighbouring country Sweden, selling of snus is permitted with a special exemption. By itself, the use of snus is not a criminal offence in Finland, however. Importing by post or some other similar manner is forbidden, but a private individual can import at most one kilo of snus during 24 hours for their own personal use. Importing of snus as a gift or for selling is forbidden. For this reason, it is conceptually challenging to separate smuggled snus from legal imports. An attempt is made by dividing the estimation of illegal snus into two parts. On one hand, it is known from several news articles quoting the Customs or judgements of the Courts of Appeal[32], that there are professional smugglers who handle large quantities at a time. On the other hand, from the publications of the Ministry of Finance[33], it is known that some travellers, who bring snus with them from abroad, bring it for someone else. Even when importing at most a kilo per day, giving or selling snus to someone else is illegal. Possible illegal traveller imports for own use (i.e. importing over 1kg in 24 hours, but not selling or giving it away) are not assessed in the calculations.

Russia prohibited the sale of snus from the beginning of 2016, but the law was circumvented by changing the name to chewing tobacco. Finnish residents can import tobacco products from Russia with certain limitations

[32]Lately e.g. https://www.iltalehti.fi/kotimaa/a/3be9c1b3-7e81-40ca-9b11-7ec82ed4de65; https://www.iltalehti.fi/kotimaa/a/9ad62437-6ccb-4ff1-aad8-da42c20e0e11; https://www.mtvuutiset.fi/artikkeli/nuuskan-salakuljetus-on-ammattimaistunut-savossa-paljastui-suuri-nuuskakopla/8122610 (all in Finnish)

[33]E.g. https://vm.fi/-/savukkeiden-matkustajatuonti-vaheni-nuuskan-lisaant-3 (in Finnish)

after spending over 24 hours in the country, otherwise imports are prohibited. The true division of origin countries for snus imports is not known.

The estimation of snus builds on two branches: the estimate of professional smuggling, and the estimate of passenger imports that end up illegal. For both, estimates of resale street value and acquisition cost are calculated. Domestic output is the sum $\sum_i(street\ value_i - acquisition\ value_i)$, where i denotes the type of snus smuggling (professional smuggling and travel imports). Both the acquisition price and resale price are considered equal across the two types.

In the calculations, the acquisition price, the resale price, and the percentage share of $\frac{\text{confiscated snus}}{\text{all smuggled snus}}$ are based on expert assessment of Statistics Finland. The prices are estimated for a 10-pack of snus cans. For 2018, the acquisition price of a 10-pack was estimated to be 40€, and the resale price 50€. The share of caught smuggling was estimated at 10%.

The estimation of professional smuggling is done using the following supply-side estimation method. The amount of confiscated snus (in kilos) is obtained from the Customs.[34] This is divided by the estimated fraction $\frac{\text{confiscated snus}}{\text{all smuggled snus}}$ to get the estimate of total professionally smuggled snus. Using the same weight Finnish institute for health and welfare (THL) uses for a can of snus (30g), we get a 300g 10-pack, and 3,333… 10-packs in a kilo. Multiplying the estimate of total professionally smuggled snus (kilos) by 3,333…, we get an estimate for professionally smuggled snus in 10-packs. This is multiplied by the estimated acquisition price to obtain the value of imports, and by the estimated street price to obtain the street value.

$$Street\ value\ of\ professional\ smuggling = 50€ * \frac{6744kg * 3{,}333\ldots}{10\%} = 11{,}24MEUR$$

$$Import\ value\ of\ professional\ smuggling = 40€ * \frac{6744kg * 3{,}333\ldots}{10\%} = 8{,}99MEUR$$

The (supply-side) estimation of passenger imports that become illegal is done as follows. The number of snus cans imported by travellers is obtained from a publication of the Ministry of Finance. The publications quote weekly surveys made by Kantar TNS in a specific year. In the surveys, the respondents have answered whether their imports are a) for themselves, b) for others, or c) for themselves and others. A simplifying assumption is made, that half of the imported amount in category c) is for others and therefore becomes illegal (together with the whole category b)). In 2018, 70% of respondents brought snus for themselves, 19% others, and 11% for themselves and others. Without further knowledge on whether the groups differ in their average import amounts, the number of total imported cans is simply multiplied by the share of respondents thought to import for

[34] The annual figure is used as is, with no methods for statistical smoothing.

others. This yields an estimate for the number of cans that end up illegal in passenger imports. Dividing the number of cans by 10 yields the number of 10-packs, which is multiplied by the acquisition price and the street price of a 10-pack to produce estimates of the import value and the street value respectively.

$$Street\ value\ of\ illegal\ passenger\ imports = 50€ * \frac{17\ 500\ 000\ cans}{10} * \left(19\% + \frac{11}{2}\%\right) = 21{,}44MEUR$$

$$Import\ value\ of\ illegal\ passenger\ imports = 40€ * \frac{17\ 500\ 000\ cans}{10} * \left(19\% + \frac{11}{2}\%\right) = 17{,}15MEUR$$

Total commercial turnover, imports, and domestic output are sums of the presented values for the two types. For example:

$$Total\ domestic\ output\ of\ illegal\ snus = (11{,}24MEUR - 8{,}99MEUR) + (21{,}44MEUR - 17{,}14MEUR) = 6{,}55MEUR$$

7.1.3.1.1.3.4 Alcohol

Smuggling and illegal manufacturing of alcohol has been estimated using data published by the Finnish institute for health and welfare (THL) as the main source. The THL publishes the alcohol consumption data yearly as part of the Yearbook of Alcohol and Drug Statistics[35]. In the estimation of import values, differences in purchasing power parities (PPP) are considered. As the most important origin countries for alcohol smuggling are thought to be Estonia and Russia, PPP figures for alcoholic beverages are used pairwise for the pairs Finland–Russia and Finland–Estonia.

The estimation of the value of smuggled alcohol follows a demand side approach. THL's publication gives the *amount* of recorded retail consumption of alcohol as litres of 100% alcohol per citizen aged 15 or over, and the *value* of recorded retail consumption of alcohol as euros per citizen aged 15 or over. Dividing the latter by the former gives us the legal price of 100% alcohol per litre. The THL publishes an estimate on the consumption volume of illegal production and smuggling as 100% alcohol per citizen aged 15 or over. Intermediate consumption like the costs of transport and storage are not estimated to exist in considerable amounts.

According to the THL, in 2018 illegal production and smuggling amounted to 0,08 litres of 100% alcohol per citizen aged 15 or over. The recorded consumption of alcoholic drinks sold in retail amounted to 7,24 litres of 100% alcohol per citizen aged 15 or over. The value of the recorded consumption stood at 695€ per citizen aged 15 or over. Dividing the value of the recorded consumption by its volume yields the value per litre for

[35] The Yearbook of Alcohol and Drug Statistics 2019 contains data for the year 2018 (in Finnish): https://www.julkari.fi/bitstream/handle/10024/139083/P%c3%a4ihdetilastolinen%20vuosikirja%202019_verkkoon.pdf?sequence=7&isAllowed=y

100% alcohol: $(695€\ per\ citizen\ aged\ 15\ or\ over)/(7{,}24l\ per\ citizen\ aged\ 15\ or\ over) = 96€/l.$

When the (legal) price per litre for 100% alcohol is multiplied by the amount of illegally produced and smuggled 100% alcohol, the population estimate of citizens aged 15 or over (on 31st December of the relevant year), and divided by 1 000 000, we get the value of illegal production and smuggling at retail prices in MEUR: $96€/l * 0{,}08l\ * 4\ 635\ 685\ citizens\ /\ 1\ 000\ 000 = 35{,}6MEUR.$

Without more accurate knowledge, it is estimated that smuggling and illegal production each comprise half of the above figure. Thus, the value of smuggled alcohol at retail prices is estimated at 17,8MEUR.

To estimate the value of imports, the ratios of PPP figures for alcoholic beverages are used. For both Russia and Estonia, the local PPP for alcoholic beverages is divided by the PPP of Finland to obtain their price levels relative to Finland. With EU28=100, the 2018 PPP for alcoholic beverages was 181,8 for Finland, and 126,3 for Estonia. For Russia, the latest information found was from 2017 and was used for 2018 as such. The measure stood at 72. Estonia's price level relative to Finland: $126{,}3/181{,}8 = 0{,}69$. Russia's price level relative to Finland: $72/181{,}8 = 0{,}40$.

The true distribution of origin countries is not known, so it is simply assumed that half of smuggled alcohol comes from Estonia and half from Russia. The import value is estimated by multiplying the value of smuggled alcohol at Finnish retail prices by the sum of equally weighted Russian and Estonian relative price levels.

$$Import\ value\ of\ smuggled\ alcohol = 17{,}8MEUR * (0{,}5 * 0{,}69 + 0{,}5 * 0{,}4) = 9{,}7MEUR$$

Based on expert assessment, it is assumed that the margin for street trade of smuggled alcohol is half of the difference between the estimated (legal) retail value and the import value. This added to the import value yields the street value and commercial turnover of smuggled alcohol.

$$Commercial\ turnover\ of\ smuggled\ alcohol = \frac{17{,}8MEUR - 9{,}7MEUR}{2} + 9{,}7MEUR = 13{,}8MEUR$$

The domestic output is again the difference between the commercial turnover and the import value.

$$Domestic\ output\ of\ smuggled\ alcohol = 13{,}8MEUR - 9{,}7MEUR = 4MEUR$$

The calculations of smuggling are summarized in the below table.

Table 176: Smuggling of alcohol, snus, and tobacco, year 2018, million EUR

	Tobacco	Snus	Alcohol	Smuggling of Alcohol, Snus, and Tobacco Products
Sector	S14	S14	S14	S14
NACE Rev. 2	47	47	47	47
Output of goods and services (P1)	13	7	4	24
Intermediate consumption (P2)	-	-	-	-
Gross value added (B1G) (=P1-P2)	13	7	4	24
Household final consumption expenditure (P3)	38	33	14	84
Imports of goods and services (P7)	24	26	10	60

Finally, a summary of all resulting figures from the 2018 calculation of illegal economy and prostitution is presented below.

Table 177: Illegal Economic Activities, year 2018, million EUR

	Prostitution	Trafficking of Illegal Drugs + Production for own final use	Smuggling of Alcohol, Snus, and Tobacco Products
Sector	S14 Households	S14 Households	S14 Households
NACE Rev. 2	96 Other personal service activities	47 Retail trade, except of motor vehicles and motorcycles + 98 Undifferentiated goods- and services-producing activities of private households for own use	47 Retail trade, except of motor vehicles and motorcycles
Output of goods and services (P1)	137	197	24
Intermediate consumption (P2)	41	15	-
Gross value added (B1G) (=P1-P2)	96	182	24
Household final consumption expenditure (P3)	155	283	84
Imports of goods and services (P7)	18	72	60

7.1.3.1.2 The underground economy

The underground economy can be approached from a couple of angles and when examining the phenomenon and in public debate it is good to bear in mind what the underground economy refers to in each connection.

In the National Accounts, the aim is to collect as exhaustive data as possible on production activities that, as a rule, are not included in registers and, thus, are excluded from the gross domestic product calculations. Surveys focusing on the fiscal underground economy try, in turn, to

measure the amount of income subject to tax that have been left outside taxation.

Roughly speaking, in the National Accounts the values of the underground economy try to catch the share of the underground economy already in circulation in the economy (realised), and in the fiscal approach the estimate on the underground economy tries to describe lost tax revenue (unrealised).

In legislation (1207/2010), an underground economy organisation is defined as activities the legal obligations of which are neglected in order to avoid paying taxes, statutory pension, insurance or unemployment insurance contributions or payments collected by customs, or to receive unfounded refunds.

In labour-intensive industries selling off the books, i.e. not recoding income is a typical form of the underground economy. Favourable industries in terms of the underground economy are those where cash purchases are common, like marketplaces, flea markets, the restaurant industry, barbers and hairdressers and small beautician enterprises.

From the beginning of 2014, sellers in Finland must offer the customer a receipt in cash transactions, excluding outdoor markets. According to the Tax Administration, the obligation to provide a receipt is an important step to fight the underground economy. According to the Tax Administration's view, it would have been worthwhile to introduce type-approved cash registers at the same time that have considerably decreased the underground economy in industries operating with cash in Sweden. The Ministry of Employment and the Economy is currently investigating the need for legislation related to the issue.

The Tax Administration's viewpoint is understandable, as simultaneously as the amount of cash has decreased and receipts are paid attention to, income encryption with cash registers has increased in industrialised countries.

Finland has a tax deduction system for the commissioner of the work, the tax allowance for household services, where a household can seek tax deduction based on work carried out with receipts. The deduction can only be applied for work (not goods) performed by enterprises in the preliminary tax withholding register that by nature is regular house and care work, maintenance and renovation work or IT installation and advice services. It can justifiably be assumed that the implementation of the tax allowance for household services has reduced receipt-free activities in several industries. On the other hand, many technological applications may increase the underground economy.

The following examines the extent of the underground economy and its diverse forms of manifestation at the character level of the NACE Rev. 2 industrial classification in the National Accounts and partially in the report on Finland's internationalising underground economy and various surveys. After the industry-specific examinations, a section and table on tax audits

is presented, as well as detailed descriptions of the calculation of items “underground economy” and “VAT fraud”.

7.1.3.1.2.1 A Agriculture, forestry and fishing (01 to 03)

In industry A, the underground economy appears mainly in industry 022 logging including firewood collected and sold off the record. In terms of leisure fishers, a catch volume survey is used, and the value of leisure fishing is generated by combining price data with the survey. Part of this goes to the fishers' own use and part is sold. The number of professional fishers is compared with the output values calculated from register sources. The share of the underground economy in fishing has, thus, not been recorded separately but it is considered part of the industry calculations.

7.1.3.1.2.2 B Mining and quarrying (05 to 09)

There are small amounts of the underground economy in industry B in industries 081 Stone quarrying, extraction of sand and clay (extraction of gravel, sand and clay) and 089 Other mining and quarrying (extraction of peat).

7.1.3.1.2.3 C Manufacturing (10 to 33)

When the National Accounts are balanced, revisions are made in industrial output and intermediate consumption that increase value added so, for example, for this reason and taking into account the estimate that the share of the underground economy is relatively small in manufacturing, the output of the underground economy has not been considered separately except for some special parts.

There is some underground economy in industrial repairs, maintenance and installations, i.e. in industry 331 Repair and maintenance of metal products, industrial machinery and equipment and in industry 332 Installation of industrial machinery and equipment, etc.

Just like in other industries, the employment data of the Labour Force Survey and the Business Register concerning manufacturing are compared. The results support the view that underground economy activities are low, but they are also conflicting to some extent.

7.1.3.1.2.4 E Water supply and sewerage (36 to 39)

There are underground economy activities in the industry 383 Materials recovery in junk shops. Reversed VAT has been used in the junkyard trade since the beginning of 2015. The underground economy also exists in industry 390 Remediation activities and other waste management services but as a whole, the industry's relative and fiscal share is estimated as low based on tax audits.

7.1.3.1.2.5 F Construction (41–43)

In terms of the National Accounts, construction is an exceptional industry when it comes to the underground economy because the output of newbuilding and renovation of building construction comes from total data based on building permit data. This means that the coverage of newbuilding is well under control, even though, at a practical level, there

would be evasion of, for example, taxes and social insurance contributions in the sites. It can be estimated that the level of the National Accounts is more exhaustive than the corresponding tax data in this respect.

In practice, most non-observed economy in construction occurs in smaller renovation activities that are not covered by the permit procedure. Renovation building is a typical household industry both as work orderers and workers. For its part, work performed without receipts is more common, even though the system of tax allowance for household services has changed the situation. There may be small unlicensed newbuilding which would be grey construction in the National Accounts. The estimate is assumed to be included in the share of the underground economy.

7.1.3.1.2.6 G Trade (45 to 47)

In terms of regular consumer goods trade that takes place through established stores and retail chains, the underground economy is likely to be small. On the other hand, the results are somewhat contradictory.

In the research report by the Parliament of Finland's Audit Committee from 2010 "Suomen kansainvälistyvä harmaa talous (Finland's internationalising underground economy)", the enterprises that responded to the inquiry on technical wholesale trade did not consider the underground economy to be a big problem. The respondents of enterprise inquires directed at the speciality trade industry estimated that the share of the underground economy in their industry was one-half to five per cent depending on the area of speciality trade. In the areas of home technology and book shops, the shares were estimated to be somewhat higher, 10 to 20 per cent. On the other hand, the number of respondents to the inquiry was small so it is difficult to make generalisations based on this. Many of the answers were, however, in line with the results from previous years. A majority of the respondents did say that the underground economy has increased slightly but it was not seen to have a distorting effect on competition. To some extent, problems were seen in professional direct sale to consumers of domestic and international products without receipts and in illegal and tax-free online sales of similar products.

The picture is slightly different when based on tax audits. After the construction industry, the second biggest tax debt lies with trade enterprises, also in the number of reports of offences made by the Tax Administration, trade comes second. On the other hand, in the National Accounts, the aim is not to record unpaid taxes in terms of the underground economy but to record the output remaining outside the statistics.

In terms of trade, hidden income is estimated to be focused on certain industries like motor vehicle trade and marketplace trade. The relative share of the underground economy in the trade industries (45 to 47) is estimated to be largest in the industry 45 Wholesale and retail trade and repair of motor vehicles and motorcycles. Depending on the industry and sector, the share of the hidden output varies from one to eight per cent. The

share of the trade industry's underground economy in the value added of the entire economy is 0.4 per cent.

7.1.3.1.2.7 H Transport and storage (49 to 53)

The relative share of the underground economy in the transport industry is biggest in transport services purchased by households. The number of owner-entrepreneurs is high in lorry and taxi transport and the use of temporary workforce is common. According to the 2006 report, around 90 per cent of lorry companies and nearly all taxi companies are small companies owned by the own-account worker and employing fewer than five persons. In enterprise intensive transport industries, underground economy has occurred in tax audits only in exceptional cases.

Forms of the underground economy in road freight transport are

- Use of undeclared labour (domestic and foreign workers) and especially underpayment of foreign drivers
- Unauthorised traffic and underground economy related to cabotage (use of foreign imported cheap labour)
- Bankruptcy speculation and utilisation of disposable companies
- Sales of transport service off the books in licensed transport
- Manipulation of tachographs and document forgery
- Selling of undeclared transport services in a vehicle registered for private transport
- Neglecting value added tax
- Fuel tax evasion
- Smuggling

The road policing activity of Tispol, the European Traffic Police Network has been applicably adopted, where all offences occurring on the road are considered in traffic enforcement, also the underground economy in cooperation with the Tax Administration, Regional State Administrative Agencies and Employment and Economic Development Centres.

According to the tax audits carried out by the Tax Administration over the past decades, the underground economy occurs to some extent in taxi transport. Compared to the mid-1990s, the amount has decreased and taximeters have been in common use among drivers with taxi licences. On the other hand, with new applications the number of drivers without taxi licences have increased. The income from non-professional passenger car transport is taxable earned income but it is possible that some drivers do not report their income at all or leave part of the income unreported. A significant reform in taxi service industry took place in 2018 increasing the amount of admitted taxi permissions and loosening the criteria for their admission, deregulating the pricing of taxi transport and removing the obligation to use taximeter. However, even if there is widespread concern, Tax Administration has not observed any increase in underground

economy share in the taxi service according to their report published in 2020.

Removal transports are included under industry level H. Finns change their permanent place of residence approximately one million times per year, in total, some one-half million households move annually and removal services are used by an estimated ten per cent of these movers. Removal transport services are not covered by the tax allowance on household services and some underground economy operators are estimated to be active in the industry.

There is non-observed economy in chartered bus services, the reason may be the tight competition. Linja-autoliitto has asked, in particular, the public sector to pay attention to demanding the reports required by the Contractor’s Obligations Act and to examine those concerning companies that win competitive biddings before signing an agreement.

The transport industry has become covered by the Contractor’s Obligations Act, which obliges the purchaser of a job to examine the agreement partner's readiness to meet their obligations under law.

7.1.3.1.2.8 Accommodation and food service activities (55 to 56)

A typical form of the underground economy in industry I is hidden wages and entrepreneurial income, the financing source of which is

- Food sales off the books
- Beer and other alcohol sales
- Receipt trading.

As a result of these, evasion of social security and social insurance contributions occurs. In addition, common abuses in the industry are failing to record benefits in kind, recording the entrepreneur's own personal expenses in the enterprise's accounting, recording the marketing refunds received from breweries in the owner's own bank accounts, not registering as liable to pay value added tax, leaving part of income outside bookkeeping, selling alcohol without a licence to dispense alcohol and ambiguity related to ownership arrangements. It is estimated that when part of the restaurant's activities, for example, doorman services or cleaning have been outsourced it has increased the non-observed economy.

The above-mentioned data are based on the Finland's internationalising underground economy report, where one section is dedicated to the restaurant industry that is based on Pekka Lith's survey Majoitus- ja ravitsemisalan piilotalous (Non-observed economy in accommodation and food service activities) published in 2010.

The report stated that in the 2000s the extent of the underground economy in accommodation and food service activities has been examined with three enterprise inquiries. According to the inquiries, the underground economy is biggest in fast food sales and the share has been around 20 to 30 per cent depending on the year. In the inquiry, the share of serving alcoholic beverages off the books is estimated to be around ten per cent. In

accommodation sales, which is dominated by well-known and large hotel chains, the share of the underground economy is lower, the median share in the inquiry was five per cent.

In tax audits, considerable amounts of hidden income both in terms of volume and relative to the audited enterprises have been revealed. It is, however, challenging to use the results to determine the entire value of the underground economy in the industry due to the selectivity of the objects of tax audits.

In recent years, accommodation services offered by private persons have become more common, where private persons offer a dwelling they own for short-term renting to tourists or sub-let their dwelling, often through websites designed for this purpose. This is taxable earned income.

In the National Accounts, the estimate of the grey output in industry I varies between three and 20 per cent depending on the sector and more detailed industry level. As is stated above, the share of the underground economy is larger in food service activities.

7.1.3.1.2.9 J Information and communication (58 to 63)

According to tax audits, the underground economy is less prominent in publishing and in motion picture, programme and recording production than in network management, software manufacture and consulting and data processing. In the National Accounts, the share of the underground economy in the output of the industries is estimated to be one to five per cent depending on the industry and sector.

7.1.3.1.2.10 L Real estate activities (68)

Real estate activities include house manager and estate agent activities, and selling, renting and operating real estate. In estate agent activities, wages and salaries have previously been converted to kilometre allowances without foundation. Rent income can be partially or fully left unrecorded in the industry. Providing of rent data is based on the lessor's own notification if the lessee does not receive housing allowance. Employers can offer a cheap rental dwelling without it being an actual home provided by the employer. The calculation of the income from renting is in the National Accounts based on the dwelling stocks and rents per square metre so no addition is made for the grey output.

Underground economy output is added in house manager and estate agent activities, and in the industry combination buying and selling of own real estate and letting and operating of other real estate.

7.1.3.1.2.11 M Professional, scientific and technical activities (69 to 75)

Based on tax audits, in an examination between industries, the total volume of the revealed underground economy was fourth highest at industry level in industry M. Within the industry, most underground economy measured by volume has occurred in management consultancy activities in small enterprises (turnover under EUR two million) and in relative terms most in show production and management activities.

In terms of scientific research and development and veterinary services, the estimate is that there is almost no underground economy.

7.1.3.1.2.12 N Administrative and support service activities (77 to 82)

The share of the underground economy in the output of renting of motor vehicles and renting of machinery and equipment, as well as in labour hire activities, is a few per cent. The underground economy also occurs in services to buildings and landscape activities, security services and trip organising. The total volume revealed in tax audits is, maybe surprisingly, at the same level as for accommodation and food service activities but the relative share is smaller. Based on the audits, the most underground economy occur in services to buildings, cleaning services and security services.

7.1.3.1.2.13 P Education (85)

In the households sector, the share of the underground economy in education services is estimated as higher than in the non-financial corporations sector. In the Finland's internationalising underground economy report, the fiscal importance and relative share of the underground economy in the industry is estimated to be small.

7.1.3.1.2.14 Q Human health and social work activities (86 to 88)

As in education, also in human health and social work activities, the fiscal importance and relative share of the underground economy is estimated to be low. In the households sector, the relative importance is slightly higher and the estimated share of the underground economy varies between one and five per cent depending on the industry and sector.

7.1.3.1.2.15 R Arts, entertainment and recreation activities (90 to 93)

Based on tax audit data, the share of the underground economy is relatively high in arts, entertainment and recreation activities but because the industry in itself is quite small, its fiscal importance is low. In fact, in relative terms, there seems to be the most underground economy in industry R and it is mentioned in the Finland's internationalising underground economy report that the industry of performing arts can in particular be considered a real risk area for the underground economy. In the National Accounts, the grey output is estimated as two to ten per cent.

7.1.3.1.2.16 S Other service activities (94 to 96)

Other service activities include activities of membership organisations, repair of computers and personal and household goods, and other personal service activities like hairdressers and beauty services. The same can be said about industry S as about industry R, the relative share of underground economy is high but the fiscal importance is low. The industry is very labour intensive. A typical form of the underground economy in other service activities is that services are offered as a "home service" without a receipt and cash in hand principle. Services are acquired by private individuals who do not need the receipt for tax deductions or accounting purposes.

Tax audits made in beauty services, barbers and hairdressers have generated results, nearly one-half of the cases have been recorded as underground economy audits. The implementation of the obligation to provide a receipt has probably decreased the underground economy to some extent.

7.1.3.1.2.17 Tips

If the employees of a company receive tips from customers and these tips are not included in the enterprise's accounts, the National Accounts should consider the item. Tipping is not as common in Finland as in many other countries. The biggest industry in terms of tips is the restaurant industry. The share of tips is included in the estimated share of the underground economy in the output and wages and salaries of the food service activities. In recent years, the possibility to pay tips digitally with the card reader has become more common and this may, in future, reduce the share of unrecorded tips and thus the underground economy.

7.1.3.1.2.18 Tax audits

Reports based on tax audits are mainly available starting from 1996. A few notable factors are related to using the tax audits in estimating the underground economy. According to the Tax Administration, around 700 to 800 underground economy tax audits have been done annually that have revealed missing data, hidden wages and receipt trading. The number of audits and the amount of the revealed underground economy has remained almost unchanged but the amounts of missing sales and hidden wages discovered in the audits were on a higher level in the 2014 audits than in the year before. At the same time, it should be noted that the total number of tax audits was higher in 2014.

Some enterprises end up in tax audits due to neglected taxes or reporting obligations detected by the Tax Administration or as a result of accusations, so the audits are directed at selected enterprises and the results cannot be directly extended to apply to the entire enterprise population. Temporal assigning of the audit results is also difficult because the audits are recorded based on the date of the approved completed audit report.

The following is a table on the underground economy detected in tax audits presented in the report on Finland's internationalising underground economy (Table 118). Researchers had access to data selected by the Tax Administration's tax audit unit on tax audits performed in Finland between 2003 and 2009 and their results. The result data covered a slightly wider area than what was included in the Tax Administration's own report on the underground economy. The report asks that when figures are interpreted, attention should be paid to the above-mentioned issues that make interpretation difficult and also, for example, to that not all underground economy can be detected with the help of tax audits. In addition, the coverage of tax audits is bigger in medium sized and large enterprises compared to small enterprises. It is, however, pointed out that despite the reservations, tax audits give valuable information on the prevalence of the underground economy in different industries and different types of

enterprises. Extensive data decrease the effects of random factors and offer more concrete data than inquiries.

In 2014, the final report of the working group ”Development of estimation methods of the tax gap” was delivered. The group consisted of representatives from the Tax Administration, Finnish Customs, the Ministry of Finance, the Government Institute for Economic Research, and Statistics Finland. As part of the work, the group tried to estimate the value added tax gap by industry. These results were utilised as applicable in the National Accounts as well.

Table 178: Underground economy detected in tax audits by industry (Finland's internationalising underground economy report)

Industry	Label	Audits	Turnover of audited enterprises	Reported wages and salaries	Hidden wages and salaries, EUR	Hidden income, EUR	Hidden dividends, EUR	Total underground economy detected in audits	Hidden wages and salaries + hidden + hidden
A	Agriculture, forestry and fishery	3,799	1,618,386,000	99,036,739	3,096,267	5,791,035	1,200,201	10,087,503	10.19
B	Mining, extraction of peat	88	640,365,238	69,082,822	2,542,249	297,549	185,445	3,025,243	4.38
C	Manufacturing, total	3,374	282,792,748,729	19,956,779,313	203,841,309	9,472,123	20,304,623	233,618,055	1.17
D	Electricity, gas, steam and air conditioning supply	71	6,467,255,545	281,556,021	969,837	6,274	0	976,111	0.35
E	Water supply, sewerage, waste management	93	1,346,073,632	165,824,282	1,258,737	532,955	625,654	2,417,346	1.46
F	Construction	3,817	13,694,970,178	2,361,984,522	167,565,443	46,470,329	71,944,040	285,979,812	12.11
G	Trade	4,683	74,597,940,850	3,462,407,524	89,310,913	65,418,792	39,718,138	194,447,843	5.62
H	Transport industry	1,287	11,937,265,046	2,611,815,413	21,204,089	14,642,823	6,441,948	42,288,860	1.62
I	Accommodation and food service activities	1,062	2,470,216,008	530,195,144	12,293,226	21,743,907	20,675,736	54,712,869	10.32
J	Information and communication	756	15,939,468,161	2,983,717,080	27,313,363	7,580,108	3,923,185	38,816,655	1.30
K	Financial and insurance activities	716	3,890,539,347	667,756,101	18,823,543	2,174,532	7,826,341	28,824,416	4.32
L	Real estate activities, total	1,122	3,788,989,706	236,041,783	15,753,657	7,072,879	13,270,592	36,097,128	15.29
M	Professional, etc. activities	1,881	4,602,394,550	1,014,005,972	32,476,969	12,520,476	21,875,270	66,872,716	6.59
N	Administrative and support service activities	1,001	2,806,418,667	864,243,581	32,399,089	7,690,316	13,855,146	53,944,551	6.24

O	Public administration	24	237,547,122	718,153,562	259,235	1,088,733	0	1,347,968	0.19
P	Education	137	161,145,744	351,880,277	1,353,427	1,915,424	1,269,062	4,537,913	1.29
Q	Human health and social work activities	307	269,642,951	237,053,375	3,656,658	2,189,504	2,626,594	8,472,757	3.57
R	Arts, entertainment and recreation	363	192,631,372	50,313,876	7,797,034	4,529,738	1,300,532	13,627,305	27.08
S	Other service activities	379	140,001,258	79,927,553	1,411,271	3,282,613	1,467,807	6,161,691	7.71
ZZZ	No industry data	3,722	105,103,902,099	6,529,999,218	205,945,340	102,625,377	57,664,459	366,235,176	5.61
TOTAL	Total	28,682	532,697,902,203	43,271,774,160	849,271,656	317,045,487	286,174,774	1,452,491,917	3.36

7.1.3.1.2.19 Calculation of the underground economy in practice

Percentage shares of the underground economy have been estimated for the industries based on various studies from the share that remains outside the source data (administrative register data and inquiries). The estimates have been made separately by industry for the households and non-financial corporations sectors for the market output ((P11\R) and wages and salaries (D112\K) of the underground economy. The industry-specific estimates have mainly been made at two and three-digit levels. The estimate is revised annually, if necessary, but the shares have remained relatively similar. The latest more extensive time series revision was made in 2014, when the results of the tax gap working group were utilised.

Table 173 presents the percentage shares of the underground economy at the character level of industries in 2018.

Table 179: Link of the non-observed economy to business bookkeeping and the concepts of the National Accounts

Business bookkeeping	National Accounts	Non-observed economy	Non-observed economy in the National Accounts
Sales revenue		Hidden sales revenue	
- Value added tax	Taxes on products	Unpaid value added tax	not recorded
= Turnover	Output at basic prices	Hidden turnover	add estimate
- Materials and services and other operating expenses	- Intermediate consumption at purchasers' price	Receipt trading	estimate should be subtracted, receipt trading
	= Gross value added at basic price (GBP)		residual category
- Wages, salaries and subsidies	- Wages and salaries	Hidden wages and salaries	add estimate
- Social security expenses	- Employer's social insurance contributions	Unpaid employer's social insurance contributions	not recorded
= Operating margin	= Gross operating surplus		

- Depreciation, amortisation and reduction in value	- Consumption of fixed capital		
= Operating profit/loss	= Operating surplus	Hidden entrepreneurial income	residual category (mixed income, withdrawals from entrepreneurial income)

To calculate underground production and wages, the observed production and wages are first calculated using the source data, adjusted on conceptual changes (KML1, *Other conceptual revisions* in Eurostat's process tables), revisions of errors of data (KML2, *Data validation* in Eurostat's process tables) statistical delimitations (KML3, equal to N7 *Other statistical deficiencies*) and exhaustiveness and statistical shortcomings (KML4, equal to N7 *Other statistical deficiencies*). The underground economy (production and wages) is then added using the below formulae:

$$observed\ production\ (wages) * underground\ coefficient = underground\ production\ (wages)$$

$$observed\ production\ (wages) + underground\ production\ (wages) = total\ production\ (wages)$$

7.1.3.1.2.20 Details on the calculation of the underground economy

Table 180: The underground economy coefficients used for statistical year 2018. The underground economy of NACE class 412+432_439 is calculated separately and has no coefficients. See 7.1.3.1.2.5 and 7.1.3.1.2.20.1 on construction.

	Production (P11)		Wages (D112)	
NACE	S11	S14	S11	S14
022		0.08		
081	0.05			
089	0.05	0.05		
331	0.04	0.07		
332	0.02			
383	0.1			
390	0.1			
411	0.05		0.03	
412+432_439	-	-	-	-
42+431	0.05	0.01	0.05	0.05
45	0.08	0.3	0.045	0.045
46	0.01	0.02	0.01	0.01
47	0.01	0.02	0.015	
4931+4939	0.0013	0.08	0.0013	0.0013
4932	0.02	0.05	0.02	0.02
494	0.041	0.041	0.041	0.041

522	0.005			
53	0.02			
55	0.03	0.1	0.05	0.05
56	0.05	0.2	0.11	0.11
58	0.01			
59_60	0.05	0.05		
61	0.01			
62_63	0.01	0.01	0.01	0.01
681+68209	0.07	0.07	0.045	0.045
6831	0.08	0.2	0.03	0.03
6832	0.05	0.1	0.03	0.03
69	0.03	0.05		
701	0.01		0.01	
702	0.02	0.1		
71	0.02	0.05	0.01	0.01
72	0.02		0.01	0.01
73	0.02	0.05	0.007	0.007
74	0.02	0.05		
77	0.02	0.1	0.01	0.01
78	0.01	0.02		
79	0.02	0.05		
80	0.02			
81	0.01	0.01	0.03	0.03
85	0.03	0.1		
86	0.01	0.05		
87_88		0.01		
90_91	0.02	0.1		
93	0.052	0.1		
95	0.02	0.1	0.03	0.03
9601	0.01			
9602_9609	0.2	0.2	0.3	
97_98				0.12

The calculation of underground economy is presented here in detail for NACE classes F, G, I and L for year 2018. These industries accunt for the largest share of the underground economy in Finland. The numbers for VAT fraud (unpaid VAT and VAT fraud without complicity) are also presented, but their calculation is described in more detail in 7.1.3.1.2.21.

7.1.3.1.2.20.1 F Construction (41–43)

In terms of the National Accounts, construction is an exceptional industry when it comes to the underground economy because the output of newbuilding and renovation of building construction (412+432_439) comes from total data based on building permit data. The share of underground economy from the total newbuilding and renovation of building construction is thus included in the calculated production and wages. The underground share is estimated from this total production and wages with expert assessment (See Table 181). No VAT fraud is divided for 412+432_439.

For 411 and 42+431, the underground economy is estimated as for most industries. For NACE 411 (Development of building projects), underground economy coefficients are estimated to be 5% (P11 S11), 0% (P11 S14), 3% (D112 S11) and 0% (D112 S14). For NACE 42+431 (Civil engineering and demolition and site preparation), they are 5%, 10%, 5% and 5%. See the following table for underground production and wages derived from observed production and wages and underground coefficients.

Table 181: N6 adjustments for NACE F. Underground production/wages (Observed production/wages * underground coefficient). 2018, Millions of euros

NACE	Sector	Production (P11)	Wages (D112)	VAT fraud and unpaid VAT
411	S11	**15** (314*0.05)	**2** (60*0.03)	0
	S14	**0**	**0**	N/A
412+432_439	S11	**412**	**189**	0
	S14	**810**	**410**	0
42+431	S11	**397** (7,930*0.05)	**73** (1,467*0.05)	20
	S14	**26** (259*0.1)	**0** (7*0.05)	2

7.1.3.1.2.20.2 G Trade (45–47)

Trade industry has three subgroups each with their own estimates of underground economy share. For NACE 45 (Wholesale and retail trade and repair of motor vehicles and motorcycles), underground economy coefficients are estimated to be 8% (P11 S11), 30% (P11 S14), 4.5% (D112 S11) and 4.5% (D112 S14). For NACE 46 (Wholesale trade, except of motor vehicles and motorcycles), they are 1%, 2%, 1% and 1%. For NACE 47 (Retail trade, except of motor vehicles and motorcycles), they are 1%, 2%, 1.5% and 0%. See the following table for underground production and wages derived from observed production and wages and underground coefficients.

Table 182: N6 adjustments for NACE G. Underground production/wages (Observed production/wages * underground coefficient). 2018, Millions of euros.

NACE	Sector	Production (P11)	Wages (D112)	VAT fraud and unpaid VAT
45	S11	**423** (5,286*0.08)	**68** (1,504*0.045)	76
	S14	**75** (250*0.3)	**0** (9*0.045)	11
46	S11	**151** (15,187*0.01)	**39** (3,903*0.01)	13
	S14	**1** (72*0.02)	**0** (5*0.01)	2
47	S11	**119** (11,884*0.01)	**56** (3,765*0.015)	6
	S14	**6** (311*0.02)	**0** (15*0)	0

7.1.3.1.2.20.3 *I Accommodation and food service activities (55–56)*

Accommodation and food services activities has two subgroups each with their own estimates of underground economy share. For NACE 55 (Accommodation), underground economy coefficients are estimated to be 3% (P11 S11), 10% (P11 S14), 5% (D112 S11) and 5% (D112 S14). For NACE 56 (Food and beverage service activities), they are 5%, 20%, 11% and 11%. See the following table for underground production and wages derived from observed production and wages and underground coefficients.

Table 183: N6 adjustments for NACE I. Underground production/wages (Observed production/wages * underground coefficient). 2018, Millions of euros.

NACE	Sector	Production (P11)	Wages (D112)	VAT fraud and unpaid VAT
55	S11	**57** (1,876*0.03)	**19** (385*0.05)	23
	S14	**2** (24*0.1)	**0** (1*0.05)	0
56	S11	**299** (5,964*0.05)	**169** (1,532*0.11)	43
	S14	**51** (257*0.2)	**2** (16*0.11)	0

7.1.3.1.2.20.4 *L Real estate activities (68)*

Real estate activities has four subgroups each with their own estimates of underground economy share. For NACE 68201 (rental of housing), underground economy coefficients are estimated to be 0%. For NACE 681+68209 (buying and selling of own real estate, rental of other real estate), underground economy coefficients are estimated to be 7% (P11 S11), 7% (P11 S14), 4.5% (D112 S11) and 4.5% (D112 S14). For NACE 6831 (Real estate agencies), they are 8%, 20%, 3% and 3%. For NACE 6832 (Management of real estate on a fee or contract basis), they are 5%, 10%, 3% and 3%. See the following table for underground production and wages derived from observed production and wages and underground coefficients.

Table 184: N6 adjustments for NACE L. Underground production/wages (Observed production/wages * underground coefficient). 2018, Millions of euros.

NACE	Sector	Production (P11)	Wages (D112)	VAT fraud and unpaid VAT
68201	S11	**0**	**0**	0
	S14	**0**	**0**	0
681+68209	S11	**266** (3,807*0.07)	**10** (229*0.045)	13
	S14	**13** (193*0.07)	**0** (2*0.045)	1
6831	S11	**47** (592*0.08)	**7** (219*0.03)	2
	S14	**2** (10*0.02)	**0** (0*0.03)	0
6832	S11	**26** (520*0.05)	**7** (222.03)	1
	S14	**1** (13*0.1)	**0** (1*0.03)	0

7.1.3.1.2.21 VAT fraud and unpaid VAT

The calculation of non-exhaustiveness adjustment item "VAT fraud" is made on the level of the total economy using theoretical VAT, collected VAT and unpaid VAT:

$$Theoretical\ VAT - Collected\ VAT = VAT\ gap$$

$$VAT\ gap = Unpaid\ VAT + VAT\ fraud$$

Theoretical VAT estimate is calculated in the supply and use tables (SUT) framework in the National Accounts. The calculation is based on the identification of activities that are tax exempted and the VAT rates of products. Both steps are based on the actual VAT legislation. The identification of the activities that are VAT exempted is determined by industry, institutional sector, type of producer and use category of the SUT. In Finland there are three different VAT rates. The greatest part of VAT is recorded as being paid on household final consumption expenditure and partly on intermediate consumption and GFCF (gross fixed capital formation).

Theoretical VAT estimate exceeds the observed total VAT (time adjusted VAT revenue collected by government). VAT gap (theoretical VAT minus VAT revenue collected by government) is assumed to contain two components: VAT fraud (with and without complicity) and missing VAT revenue due to bankruptcy or insolvency (unpaid VAT). When we reduce missing VAT revenue due to bankruptcy or insolvency from VAT gap, we get VAT fraud (with and without complicity). VAT fraud with complicity is conducted when both parties in a transaction agree to evade paying VAT. VAT fraud without complicity is conducted when the customer pays VAT, but the seller doesn't declare VAT to the Tax administration. VAT fraud is split into these two types based on our estimates derived from underground economy calculations.

After receiving aggregates for VAT fraud without complicity and unpaid VAT, they are split on industry level according to their share of underground economy (based on underground economy coefficients). The industry level VAT fraud without complicity and unpaid VAT are summed up and added to the production of that industry as item “VAT fraud”, covering both unpaid VAT and VAT fraud without complicity.

The theoretical VAT is obtained from the national accounts as described above. Collected VAT is obtained from national accounts within Statistics Finland, whereas total unpaid VAT is received from Tax Administration.

For year 2018, the calculation of VAT fraud included the following steps. First, the theoretical VAT and collected VAT have been used to obtain VAT gap:

$$Theoretical\ VAT - Collected\ VAT = VAT\ gap$$

$$23{,}133 - 21{,}364 = 1{,}769$$

Next, unpaid VAT has been used to deduct VAT fraud:

$$VAT\ gap - Unpaid\ VAT = VAT\ fraud$$

$$1{,}769 - 144 = 1{,}625$$

After this, VAT fraud has been divided between sectors and industries that have underground production in item “underground economy” according to their share of underground production. The VAT fraud has then been divided between VAT fraud with complicity and VAT fraud without complicity, first of which is seen to be already included in item Underground economy, and latter of which is estimated to be 206 in S11 and 62 in S14.

The resulting item of 144+206+62=412, which is divided between industries according to their share of underground production, is then added on top of each industries’ production in item VAT fraud.

7.2 Allowance for exhaustiveness in the expenditure approach

7.2.1 Identification of types of non-exhaustiveness (for which adjustments are needed)

The data sources of the expense approach are usually quite exhaustive. The calculation is based on comprehensive data for exports and imports of goods, public consumption expenditure, and partly for gross fixed capital formation, inventories and consumption expenditure of non-profit institutions serving households. The main data source for households' consumption expenditure, the Household Budget Survey, is basically extremely exhaustive excluding some famously problematic consumption items like alcohol. The supplementations made in the data of the Household Budget Survey are explained in Section 5.7.

The non-observed economy is not really a considerable problem for the expense approach. The consumer goods and services produced by the underground economy are assumed to be primarily included in the Household Budget Survey data.

Ultimately, the reconciliation and balancing of the output and expense approaches are ensured in the supply and use table framework that offers a systematic approach to ensure coverage in the estimation of the expense components of the GDP as well.

The adjustments related to the non-observed economy in exports and imports in international trade are described in Section 7.1.

7.2.2 Adjustments made for the different types of non-exhaustiveness

	Adjustments							
	Exhaustiveness							
	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness
GDP EXPENDITURE APPROACH								
Total final consumption expenditure	**0**	**0**	**0**	**0**	**0**	**0**	**211**	**211**
H Total	0	0	0	0	0	0	0	0
COICOP (1-dig) 01 - Food and non-alcoholic beverages	0	0	0	0	0	0	0	0
02 - Alcoholic beverages, tobacco and narcotics	0	0	0	0	0	0	0	0
03 - Clothing and footwear	0	0	0	0	0	0	0	0
04 - Housing, water, electricity, gas and other fuels	0	0	0	0	0	0	0	0
05 - Furnishings, household equipment and routine house	0	0	0	0	0	0	0	0
06 - Health	0	0	0	0	0	0	0	0
07 - Transport	0	0	0	0	0	0	0	0
08 - Communication	0	0	0	0	0	0	0	0
09 - Recreation and culture	0	0	0	0	0	0	0	0
10 - Education	0	0	0	0	0	0	0	0
11 - Restaurants and hotels	0	0	0	0	0	0	0	0
12 - Miscellaneous goods and services	0	0	0	0	0	0	0	0
Transition to national concept	0	0	0	0	0	0	0	0
NPISH final consumption expenditure	0	0	0	0	0	0	0	0
General government final consumption expenditure	0	0	0	0	0	0	211	211
Gross capital formation	**0**	**0**	**0**	**0**	**0**	**0**	**2671**	**2671**
G Total	0	0	0	0	0	0	2731	2731
AN 111 Dwellings	0	0	0	0	0	0	19	19
112 Other buidlings and structures	0	0	0	0	0	0	2792	2792
113 Machinery and equipment	0	0	0	0	0	0	-39	-39
114 Weapons systems	0	0	0	0	0	0	0	0
115 Cultivated biological resources	0	0	0	0	0	0	9	9
117 Intellectual property products	0	0	0	0	0	0	-50	-50
Changes in inventories	0	0	0	0	0	0	-60	-60
materials and supplies	0	0	0	0	0	0	-3	-3
work-in-progress	0	0	0	0	0	0	-2	-2
finished goods	0	0	0	0	0	0	-34	-34
goods for resale	0	0	0	0	0	0	-21	-21
Acquisitions less disposals of valuables	0	0	0	0	0	0	0	0
Exports of goods and services	**0**	**0**	**0**	**0**	**0**	**0**	**204**	**204**
goods	0	0	0	0	0	0	0	0
services	0	0	0	0	0	0	204	204
Imports of goods and services	**0**	**0**	**0**	**0**	**0**	**0**	**3170**	**3170**
goods	0	0	0	0	0	0	1406	1406
services	0	0	0	0	0	0	1764	1764
Gross domestic product	**0**	**0**	**0**	**0**	**0**	**0**	**-84**	**-84**

Figure 20: Exhaustiveness adjustments of the expenditure approach according to the process tables.

7.2.3 Exhaustiveness methods

The adjustments made for different non-exhaustiveness types are described in section 7.1.3.

7.3 Allowances for exhaustiveness for the income approach

7.3.1 Verification of coverage types

Compensation of employees D.1 consists of wages and salaries D.11 paid by employers and social contributions D.12 paid by employers. The data sources for wages and salaries and social contributions paid by employers are fairly exhaustive. Operating surplus and mixed income are not calculated separately but they are formed as residuals in the income approach.

The data source for wages and salaries in the Business Register is the Tax Administration's annual tax return data, which are total data and cover quite well the taxable wages and salaries defined in accordance with the National Accounts ESA 2010 (ESA 2010, Section 4.03 and ESA 2010, Section 4.05). The data do not, however, cover wages and salaries in the grey economy, that is, wages and salaries not included in taxation. Employee stock options and stock bonuses D.111 are also derived from the Business Register and exhaustiveness adjustments need not be made to them.

The sources for wages and salaries vary somewhat in the National Accounts by sector and industry. For most industries and sectors, the Business Register can be used as the source, but it has been considered that there are more reliable sources for sector S13 (see Section 4.7). In the calculation of sectors S11, S11, S14 and S15, the Business Register is the main source for wage and salary data, except for the industries of primary production and construction (industries 011, 412+432_439, 68202).

For wages and salaries, exhaustiveness adjustments are mainly made for wages and salaries in the grey economy (in process table N6). In addition, minor adjustments for exhaustiveness are made due to statistical deficiencies (in process table N7). Because operating surplus and mixed income are balancing items, no exhaustiveness adjustments N1 to N7 are made to them.

7.3.2 Adjustments made for different types of non-exhaustiveness

	Adjustments							
	Exhaustiveness							
	N1	N2	N3	N4	N5	N6	N7	Total exhaustiveness
GDP INCOME APPROACH								
Compensation of employees	**0**	**0**	**0**	**0**	**0**	**1291**	**23**	**1314**
Non-Financial Corporations	0	0	0	0	0	856	-50	806
Financial Corporations	0	0	0	0	0	0	0	0
General Government	0	0	0	0	0	0	29	29
Households	0	0	0	0	0	435	0	435
NPISH	0	0	0	0	0	0	44	44
Gross operating surplus (1)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Non-Financial Corporations	0	0	0	0	0	0	0	0
Financial Corporations	0	0	0	0	0	0	0	0
General Government	0	0	0	0	0	0	0	0
Households	0	0	0	0	0	0	0	0
NPISH	0	0	0	0	0	0	0	0
Mixed income	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Taxes on production and imports	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Subsidies	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Gross domestic product	**0**	**0**	**0**	**0**	**0**	**1291**	**23**	**1314**

Figure 21: Exhaustiveness adjustments of the income approach according to the process tables

For sectors S11 and S14, wage and salary income generated due to the grey economy is also estimated for compensation of employees (D.1) and more specifically for wages and salaries (D.112). These have been produced as expert estimates for different industries where the grey economy is estimated to occur. In addition, only minor adjustments for exhaustiveness are made as expert estimates due to statistical deficiencies.

7.3.3 Exhaustiveness methods

The adjustments made for different exhaustiveness types are described in Section 7.1.3.

CHAPTER 8 THE TRANSITION FROM GDP TO GNI

8.0 Introduction

The gross national income is derived from the gross domestic product by adding employers' social contributions, taxes on production and imports, subsidies, distributed income of corporations, reinvested profits from direct investments, property income attributed to insurance policy holders and rents paid on land paid to abroad from Finland to the GDP. Similarly, the same items paid from Finland to abroad must be subtracted.

The transactions between Finland and other countries are congruent in the National Accounts with the balance of payments excluding financial intermediation services indirectly measured.

Table 185: GNI items paid from abroad to Finland and from Finland to abroad, EUR million

Transaction	2016	2017	2018
B1G Gross Domestic Product	217,518	226,301	223,468
D1R / Compensation of employees, receivable	703	734	640
D1K / Compensation of employees, payable	562	652	624
D2K / Taxes on production and imports, payable	276	297	230
D3R / Subsidies, receivable	832	762	796
D4R / Property income received from the rest of the world	14,546	14,817	15,881
…D41R interest	4,554	3,659	3673
…D42R Distributed income of corporations	5,984	8,781	10,146
…D43R Reinvested earnings on FDI	2,231	287	121
…D44R Other investment income	1,777	2,090	1,941
D4K / Property income paid to the rest of the world	14,253	15,251	15,525
…D41K Interest	4,896	4,618	4,456
…D42K Distributed income of corporations	7,012	7,902	12,322
…D43K Reinvested earnings on FDI	1,922	2,378	-1,587
…D44K Other investment income	423	353	334
B5G Gross National Income (B1G + D1R - D1K - D2K + D3R + D4R - D4K)	218,508	226,414	234,406

8.1 Compensation of employees

This item includes both wages and salaries and employer's social insurance contributions.

8.1.1 Earned income and subsidies received from abroad

Tax payment statistics contain data on income earned from abroad by "natural persons" or households. This figure only includes the income earned by people who worked abroad for less than six months because tax is paid to Finland on such income. Therefore, the figure is raised by 50 per

cent so that it is estimated to contain the wages and salaries of all employment relationships lasting for less than one year.

In addition to the Tax Administration's payment statistics, data on income earned abroad are available in Statistics Finland's income distribution survey from 2018. It asked about **tax-exempt** wages and salaries earned abroad. Tax-exempt wages and salaries are wages and salaries generated in employment relationships lasting six to twelve months. According to the income distribution survey from 2018, there were around EUR 110 million in tax-exempt wages and salaries earned abroad. When considering that responses to these types of questions involve an obvious selective non-response downward, our assumption of a EUR 171.1 million wagebill for six to twelve month long employment relationships abroad in 2018 can be seen as satisfactory relative to the income distribution survey.

The social contributions paid by employers obtained from abroad have on average been estimated as 16 per cent of income earned from abroad.

8.1.1.1 Wages and salaries paid to abroad

The Tax Administration's data on taxpayers with limited tax liability include data on payments made to persons who have stayed continuously in Finland at most for six months. For example, wages and salaries, pensions, work compensations, dividends, interests, fund shares and surplus of personnel funds and royalties are reported in the annual tax returns. Item types considered as wages and salaries are separated from the material.

Table 186: Item types considered as wages and salaries in the Tax Administration's data

Item type	Description of the item type	Transaction
A1	Wages and salaries from other than general government and fund share of personnel fund	D11
A2	Wages and salaries or work compensation paid by general government	D11
A4	Work compensation (maximum work compensation to non-natural persons when tax at source has been collected)	D11
A5	Maximum compensation for performing art activity (tax 15% and tax at source from certificate of taxation at the source)	D11
A6	Compensation paid for an athlete's personal activities (tax 15%)	D11
A7	Wage and salary income of a wage and salary earner coming from abroad (key employees tax at source)	D11
A8	Wage and salary paid by a foreign enterprise group to a person working abroad Insured in Finland	D11
A9	Wage and salary income of a foreign temporary employment agency worker, when the employee has been Finland at most for six months	D11
AD	Executive remuneration	D11

A 50 per cent increase is made to the figures of the data on taxpayers with limited tax liability. The aim of this is to cover persons that spend six to twelve months (non-resident) in the country on which there otherwise are no direct data.

Table 187: Wages and salaries paid to abroad from Finland (D11K) and wages and salaries paid from abroad to Finland (D11R), EUR million

Year	D11 / K Wages and salaries (paid)	D11 / R Wages and salaries (received)
2010	433	548
2011	472	569
2012	487	601
2013	505	632
2014	464	628
2015	487	607
2016	453	606
2017	524	614
2018	500	536

8.1.1.2 Calculation method and size of employers' social contributions related to foreign wages and salaries

Table 188: Employers' social contributions paid to abroad from Finland (D12K) and Employers' social contributions paid to abroad from Finland (D12R), EUR million

Year	D12 / K Employers' social contributions (paid)	D12 / R Employers' social contributions (received)
2010	109	88
2011	117	91
2012	119	96
2013	124	100
2014	112	100
2015	119	97
2016	109	97
2017	128	120
2018	124	104

8.1.1.2.1 Employers' social contributions paid to abroad from Finland

There is no direct information available on the social contributions paid by employers to foreign employees. Therefore, the size of this transaction is estimated on the basis of wages and salaries paid to foreigners in Finland. For lack of better information, it is assumed that social contributions paid by employers can be included for the benefit of foreigners in ratio to the wagebill as paid to Finnish employees by virtue of the regulations and agreements in force in the year in question.

8.1.1.2.2 Employers' social contributions paid from abroad to Finland

Salaries and wages paid from abroad to Finland are based on the statistics on payment of taxes compiled by the Tax Administration. There wages and salaries paid from employment relationships lasting at most six months are specified to domestic citizens abroad, so-called Finnish residents, who need not be Finnish citizens but whose centre of economic activity is situated in Finland. The wages and salaries received from aboard by these persons from all employment relationships of under one year are estimated on the basis of the information above. Because there are no corresponding data source for social contributions paid by foreign employers to persons from abroad who regard Finland as the centre of their economic interest, the above-explained inflated wagebill is used for evaluating the transaction in question. The method is to evaluate the social contributions paid by employers as proportions of the wagebill. Because insufficient and unconvincing information is available from international sources about social contributions paid by employers in EU or OECD countries, it has been decided in Finland to calculate the social contributions paid by employers as a relative proportion of the wagebill received from above so that the proportion used is somewhat lower than the one paid in Finland. This proportion is estimated to be 16 per cent of the wagebill received from abroad.

8.1.2 Cross-border compensation of employees from extra territorial organisations

Statistics Finland does not maintain a register of enclaves (embassies, consulates, scientific research stations, etc.). When compiling Finland's GNP, the data of the enclaves belonging to the Finnish economic area are included in the state's accounting material.

The share of cross-border compensation of employees from extra-territorial organisations is not estimated separately when transitioning form GDP to GNI. The compensation of employees received by Finland from abroad is processed as outlined in section 8.1.1, while the compensation of employees paid by Finland abroad is processed as outlined in section 8.1.1.1.

8.2 Taxes on production and imports paid to the Institutions of the EU

Taxes on production and imports only appear as an item paid to abroad from Finland. They are value added taxes (D762) and import duties (D212) paid by Finland to the EU starting from 1995. The items derive from the final central government accounts, the National Boards of Customs and the Ministry of Agriculture and Forestry.

Payments based on the value added tax base paid to the EU since 1995 have been entered as value added tax.

In addition to the actual duties, import duties also include import payments on agricultural products. Data on these derive from the National Board of Customs. Import duties have been settled to the EU since 1995.

The data of the Finnish National Accounts have included taxes, subsidies, current transfers and capital transfers between Finland and the EU since 1995, that is, since the beginning of our EU membership.

Table 189: Taxes on production and imports, EUR million

	2016	2017	2018
D2 / R Taxes on production and imports, receivable	276	297	230
D2121 / R Import duties	163	174	174
D214 / R Other taxes on products than VAT and import taxes	1	1	1
D762 EU's resources based on value added tax	275	282	289

Four different tax items are shown in the international account:

- **Value added tax collected on behalf of the EU**. The total sum of the EU's VAT is taken directly from central government's financial statement material. The financial statements have their own budget account (budget subsection) for VAT and GNI payments to the EU. These items are recorded on cash basis both in central government's financial statements and the National Accounts. VAT payments are considered administrative fees without any clear connection to a particular output or transaction. Thus, there are no basis for timing revisions or purely accrual-based recording.
- **Customs duties collected on behalf of the EU**. The amount of customs duties used in the National Accounts is based on data received from the National Boards of Customs. The recording basis is the birth of a payment liability, however, only actual collected duties are considered.
- **Agricultural levy collected on behalf of the EU**. The amount of agricultural levy used in the National Accounts is based on data received from the National Boards of Customs. The recording basis is the birth of a payment liability, however, only actual collected payments are considered.
- **Sugar fees collected on behalf of the EU**. The amount of sugar fees used in the National Accounts is based on data received from the Ministry of Agriculture and Forestry. The recoding basis is cash because allocating sugar fees to the production or storage time is very difficult. In addition, sugar fees are a relatively small item and the quality of the figures would not improve much if the timing revision was made.

8.3 Subsidies granted by the Institutions of the EU

Subsidies only appear as an item paid from abroad to Finland. They are subsidies on products (D31) and other subsidies on production (D39) paid by the EU to Finland since 1995. Subsidies have, for example, been paid to farmers.

In the Finnish National Accounts, assets that derive from the following sources have been added to foreign taxes and subsidies.

- The EAGGF's guarantee department
- The EAGGF's guidance department
- The ERDF for objectives 2, 5b, 6 and community initiatives
- European Social Fund (ESF)
- EU institutions by the Finnish Intervention Unit
- EU institutions by the Finnish Fund for Agricultural Development.

Table 190: Received subsidies

Transaction	2016	2017	2018
D3 / K Subsidies, receivable	832	762	796
…D319 / K Other subsidies on products	111	102	104
…D39 / K Other subsidies on production	721	660	692

The data source for subsidies paid by the EU is the central government's bookkeeping and financial statement material and special analysis. The subsidies paid by the EU in practice circulate through Finland's central government budget but in the National Accounts, the subsidies related to agricultural policy are processed as paid by the EU. The total amount of subsidies paid by the EU and Finland's central government are derived from central government's financial statement material from which the share of the EU is separated. Methods on accordance with Eurostat's decision (15 May 2005) are used when processing EU transfers.

Subsidies in accordance with the central government's financial statement material contain national subsidies and EU support for agriculture and horticulture. The rest of the support in these subsections is classified as other subsidies on production (D39). The division into subsidies on products and other subsidies on production is made based on a special survey by the Ministry of Agriculture and Forestry. Other subsidies on production consist of items recoded in the business bookkeeping accounts for subsidies in the following subsections: part of EU support, environmental subsidy, farmer's early retirement benefit, field reforestation subsidy, intervention arrangements and support for fishing industry, the EU's participation in structural measures related to the food industry and agriculture. The source is the financial statements of the state. In addition, this includes private storage subsidies paid by the intervention fund, other subsidies agreed by the union and other industrial subsidies. The source is the financial statements of the intervention fund.

When a timing revision is made to agricultural subsidies the total level of subsidies is generated. Part of the subsidies are financed by the Finnish central government and part by the EU. The main subsidies are the

environmental subsidy for agriculture, the agriculture and horticulture subsidy and compensation for harvest losses.

All expenses that are subsidies by nature (this is determined with the help of business bookkeeping accounts, budget accounts, etc. above-mentioned information) and that are financed with income received from the EU and where the Finnish central government does not decide on the use of the finances, are shown as subsidies paid by the EU. Thus, these subsidies that, in practice, are subsidies related to the EU's joint agricultural policy are recorded directly from the EU to the final recipient sectors. From the central government's perspective, both income and expenses are subtracted from the central government's sector account.

8.4 Cross-border property income

In this section, the sources for cross-border property income are explained as a whole. The cross-border property income is compiled in the balance of payments compilation system. Currently balance of payments uses several types of surveys as sources for cross-border property income:

1. Statistics Finland’s annual BoP survey covers all domestic sectors excluding households and collects data on their foreign financial assets and liabilities and their corresponding interests and dividends. The annual survey covers intra-group and external foreign equity assets and liabilities and debt instrument. The annual survey is also the main source for dividends and reinvested earnings on direct investment. This data is supplemented with data on dividends and interests from the quarterly BoP-survey targeted that covers all domestic sectors excluding monetary financial institutions, collective investment schemes, households and employment pension schemes.
2. Statistics Finland also collects quarterly data on employment pension schemes covering the units’ financial assets, other assets and data on their liabilities. The data cover a breakdown into instrument types and counterpart sectors and for foreign items a country breakdown.
3. Bank of Finland is responsible for conducting a monthly survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government. The survey provides data of dividends on equity instruments and interests on debt securities.
4. Monthly survey of deposit banks and investment firms providing custody and asset management services conducted by Bank of Finland. The survey provides data on interests and dividends on equity instruments and debt securities. The survey indirectly covers all domestic sectors.
5. In addition, Bank of Finland collects monthly statistical data on monetary financial institutions including the central bank which

covers the units' property income on both equity instruments and debt securities.

6. The sixth major source for cross-border property income is Bank of Finland's monthly survey targeted at investment funds which covers property income on their equity and debt instruments and debt securities.
7. Data on insurance policy income is gathered from the quarterly reporting of insurance corporations conducted by the Finnish Financial supervisory authority.

Table 191: Cross-border property income sources

Transaction	Source
D411 Interest on accruals basis	Annual and quartely BoP surveys
	MFI data collection
	Investment fund survey
	Annual and quartely BoP surveys
	Survey of deposit banks and investment firms providing custody and asset management services
	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government
	Employment Pension Scheme Quarterly Survey
D421 Dividends	Annual and quartely BoP surveys
	Investment fund survey
	Survey of deposit banks and investment firms providing custody and asset management services
	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government
D43 Reinvested earnings on FDI (Excluding IF)	Annual and quarterly BoP surveys
D441 Investment income attributable to insurance policy holders	Quarterly reporting of insurance corporations
D4431 Dividends distributed to collective investment fund shareholders (IF)	Investment fund survey
	Survey of deposit banks and investment firms providing custody and asset management services
	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government
D44321 Interest attributable to collective investment fund shareholders (IF)	MFI data collection
	Investment fund survey
	Survey of deposit banks and investment firms providing custody and asset management services
	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government
D44322 Dividends attributable to collective investment fund shareholders (IF)	MFI data collection
	Investment fund survey
	Survey of deposit banks and investment firms providing custody and asset management services
	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government
D412 FISIM adjustment	FISIM adjustment

Due to level of aggregation and rounding differences between Balance of Payments and National Accounts, following balancing items needs to be added to match the figures in Process Tables.

Table 192: Rounding differences between Balance of Payments and National Accounts, EUR million

Credit/ Debit	Transaction	2018
Credit	D41 Interest	9
	D42 Distributed Income of Corporations	-10
	D43 Reinvested Earnings on FDI	1
	D44 Other Investment Income	1
Debit	D41 Interest	2
	D42 Distributed Income of Corporations	-2
	D43 Reinvested Earnings on FDI	-3
	D44 Other Investment Income	3

8.4.1 Interest

Interests are collected directly in the respective surveys and recorded on an accrual basis, that is, interests are recorded as accruing continuously over time to the creditor on the amount of principal outstanding. The interest accruing in each accounting period is recorded whether or not it is paid or added to the principal outstanding. The amounts of accrued and paid interest are reported separately in the respective surveys. Interests are recorded before the deduction of taxes levied on it and collected interests do not include grants for interest relief. On debt securities the creditor approach is used in recording the interests and for index-linked debt securities, the total nominal value reported is multiplied by the current index multiplier.

All interests from Intra-Eurosystem technical assets are reported against the ECB, I.e. there are no reported technical assets between Finland and other Eurozone countries. The interest rates are accumulated from the MFI data collection.

Table 193: Interests (D41) between Finland and RoW, EUR million

Credit/ Debit	Transaction	Source	2016	2017	2018
Credit	F2 Currency and deposits	Annual and quartely BoP surveys	15	-1	-1
		MFI data collection	49	80	247
		Employment Pension Scheme Quarterly Survey	0	0	0
	F3 Bonds and money-market instruments	Annual and quartely BoP surveys	2	8	4
		MFI data collection	1,430	559	468
		Investment fund survey	870	867	813
		Survey of deposit banks and investment firms providing custody and asset management services	142	112	84
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	1,138	995	967
	F4 Loans	Annual and quartely BoP surveys	672	673	714

		MFI data collection	-4	36	46
		FISIM adjustment	226	303	285
		Employment Pension Scheme Quarterly Survey	16	25	34
	F8 Other accounts receivable and payable	Annual and quarterly BoP surveys	1	2	2
		Employment Pension Scheme Quarterly Survey	0	1	1
Debit	F2 Currency and deposits	FISIM adjustment	1	-20	-10
		MFI data collection	227	221	386
	F3 Bonds and money-market instruments	Annual and quarterly BoP surveys	1	18	2
		MFI data collection	1,099	855	795
		Survey of deposit banks and investment firms providing custody and asset management services	1,862	1,883	1,583
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	705	620	605
	F4 Loans	Annual and quarterly BoP surveys	981	1,023	1,064
	F8 Other accounts receivable and payable	Annual and quarterly BoP surveys	21	20	29

8.4.2 Distributed income of corporations

8.4.2.1 *Dividends*

Dividends are collected in the securities and investment fund surveys as well as the dedicated BoP surveys. Dividend data are recorded at the time period they are paid and in which the data provider has recorded them as income or has deducted them from the equity capital included in its balance sheet. Large observed dividends are checked against the previous years' average and if recognized as super-dividends, recorded as capital flows. The process for recognizing super-dividends is part of the compilation process of the annual FDI-survey. As adjustments are not made to intragroup transactions exports and imports due to valuation of intra-group transactions, no adjustments are made to estimates of dividends either.

Table 194: Dividends between Finland and RoW, EUR million

Credit/ Debit	Transaction	Source	2016	2017	2018
Credit	D421 Dividends	Annual and quartely BoP surveys	4,507	7,201	8,213
		Investment fund balance sheet statistics	735	816	997
		Survey of deposit banks and investment firms providing custody and asset management services	296	309	367
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	446	453	579
Debit	D421 Dividends	Annual and quartely BoP surveys	3,531	4,680	7,821
		Survey of deposit banks and investment firms providing custody and asset management services	3,481	3,222	4,503

8.4.2.2 *Withdrawals from the income of quasi-corporations*

The item is not separately compiled into statistics in Finland as the item is included in dividends.

In connection with the ESA 2010 calculation system renewal, the recording of income received from construction enterprises' international construction was transferred to construction services. Previously, these items were recorded as withdrawals from income. The new recording method is uniform with the balance of payments.

8.4.3 Reinvested earnings (RIE) of foreign direct investment (FDI)

Statistics Finland and its balance of payments team are responsible for compilating RIE of foreign direct investment.

Direct investment relationship is defined according to voting power. Direct investment enterprise is such where direct investor controls directly at least 10 per cent or indirectly, through other entities, over 50 per cent of votes. Ownership percentage, that is used to calculate the share of dividends and RIE, can differ from the voting share. The definition is in line with the BMD4 definition of foreign direct investment (DIIC-method approach).

The national business register is used in conjunction with previous year's FDI survey data to determine the relevant enterprises in terms of foreign direct investment. Statistics Finland's Register of Enterprises and Establishments covers all enterprises, corporations (inc. public corporations) and private practitioners of trade that are liable to pay value added tax,or are employers or entered into the preliminary tax withholding register.

Data on the structures of enterprise groups are maintained in the Enterprise Group Register. The Enterprise Group Register covers the largest groups operating in Finland as well as their group heads and subsidiary and associate companies. Data on an enterprise groups' turnover, balance sheet total and number of employees are entered annually into the Enterprise Group Register. In addition, information is recorded about the structure of the enterprise group: its group head, subsidiary companies, joint venture companies, associate companies and their Business IDs, group head's shares of ownership and votes in group companies, start and finish dates of group relationships and type of group membership.

Data on indirectly owned FDI enterprises are collected from the annual BoP survey and validated against national Enterprise Group Register.

The calculation of re-invested earnings is based on individual enterprise and enterprise group data gathered from the annual and quarterly BoP surveys and uses the current operating performance concept (COPC). Income statement data and FDI income and dividends are gathered from the annual BoP survey supplemented with dividend data from the quarterly survey. Re-invested earnings are calculated as a residual of COPC and dividends on a given period. Re-invested earnings are calculated also from indirectly owned FDI-enterprises. COPC is

divided evenly across the year and used as an estimate for the following periods before new data is obtained from the annual BoP survey.

Table 195: Investment income on FDI equity, EUR million

Credit/ Debit	Transaction	2016	2017	2018
Credit	Reinvested earnings	2,229	288	120
	Dividends	4,507	7,201	8,213
Debit	Reinvested earnings	1,923	2,372	-1,584
	Dividends	3,531	4,680	7,821

The main source for outward and inward direct investment equity flows and dividends is the annual BoP survey which contains ca. 1000 units. The data is supplemented with direct investment equity flows and dividends from the quarterly BoP survey which focuses on the 120 largest units and serves as the main source for direct investment flows on debt instruments.

Financial statements as well as the registers of Enterprises and Establishments and Enterprise Groups are used as validative sources during the annual compilation cycle. The largest units are validated at the individual level. The amount of non-responsive enterprises in the annual BoP survey is negligible, but if needed, latest available FDI data, data from financial statements and from national register of Enterprises and Establishments is used.

The below cut-off threshold portion of FDI enterprises is estimated annually and imputated in the final figures.

8.4.4 Other investment income

8.4.4.1 Investment income attributable to insurance policy holders

Investment income attributable to insurance policyholders is an imputed item that helps transfer the income from investing the technical reserves from the insurance corporations to the policyholders. The investment income is calculated based on the following production and sector accounts items: other income from real estate investment activities (other than interest and dividend income), real estate maintenance costs, interest income and expenses, dividend income, dividends and interests of investment funds belonging to shareholders, and received reinvested earnings on direct foreign investment.

Part of the investment income is transferred to the policyholder as investment income attributed to insurance policyholders and the rest remains with the insurance corporation. The relative share of equity (relative to debt capital) describes computationally the share that remains with the insurance corporation, so it is subtracted from the investment income. Thus, the investment income attributed to the policyholder is only the share that belongs to the policyholder.

In benchmark revisions, reinsurance related property income was added to compilation. Reinsurance activity between rest of the world sector and domestic insurance sector plays an important role in distributing investment income to the rest of the world sector.

Investment income attributed to insurance policyholders is divided into counterpart sectors, such as the rest of the world sector, based on the sector distribution of technical reserves in financial accounts. Investment income attributed to insurance policyholders paid from abroad to Finland has been estimated to be very small (near zero in value) based on their corresponding financial accounts stocks which are zero in value.

Table 196: Investment income attributed to insurance policyholders

Transaction	2016	2017	2018
D441 / R Investment income attributed to insurance policyholders (received)	32	36	33
D442 / R Investment income based on pension entitlements (received)	0	0	0
D441 / P Investment income attributed to insurance policyholders (payed)	0	0	0
D442 / P Investment income based on pension entitlements (payed)	0	0	0

8.4.4.2 *Investment income payable on pension entitlements*

The item is not separately compiled into statistics in Finnish national accounts. The item is likely to be small.

8.4.4.3 *Investment income attributable to collective investment fund shareholders*

The domestic collective investment funds report the amount of shares held by foreign investors directly in the monthly investment fund survey conducted by the NCB. The related investment income is calculated using the accrued income factor from the CSDB.

Domestic investment fund shareholders report their holdings of foreign investment funds directly in the monthly surveys conducted by the NCB. These include the securities surveys and the investment fund survey. The relevant investment income is calculated by using the reported amounts of investment fund shares held and the accrued income factor obtained from the CSDB.

Table 197: Investment income attributable to collective investment fund shareholders

Credit/ Debit	Transaction	Source	2016	2017	2018
Credit	D4431 Dividends distributed to collective investment fund shareholders (IF)	Investment fund balance sheet statistics	23	38	35
		Survey of deposit banks and investment firms providing custody and asset management services	37	39	26
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	419	643	582
		MFI data collection	8	4	-5
		Investment fund balance sheet statistics	123	139	127

	D44321 Interest attributable to collective investment fund shareholders (IF)	Survey of deposit banks and investment firms providing custody and asset management services	80	101	79
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	484	485	486
	D44322 Dividends attributable to collective investment fund shareholders (IF)	MFI data collection	6	4	-4
		Investment fund balance sheet statistics	109	123	113
		Survey of deposit banks and investment firms providing custody and asset management services	71	89	70
		Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government	416	430	431
Debit	D4431 Dividends distributed to collective investment fund shareholders (IF)	Investment fund balance sheet statistics	6	6	4
	D44321 Interest attributable to collective investment fund shareholders (IF)	Investment fund balance sheet statistics	204	163	155
	D44322 Dividends attributable to collective investment fund shareholders (IF)	Investment fund balance sheet statistics	180	144	138

8.4.4.4 *Rent on land and sub-soil assets*

The item is not separately compiled into statistics in Finnish national accounts as the item is included in interests. The item is likely to be small.

CHAPTER 9 MAIN CLASSIFICATIONS USED

9.1 Classifications used for the production approach

9.1.1 Classification of Sectors

The Classification of Sectors is the basic classification of the output approach. It is also used in the income approach (Section 9.2). Classification is presented in ANNEX 2.

9.1.2 Standard Industrial Classification

In the output approach, the Finnish National Accounts are calculated based on establishments by industry (final figures are calculated by product). A central production classification is the Standard Industrial Classification that follows the NACE rev.2 classification. In the table, the column on the right contains the FNA2010 code (FNA = Finland National Accounts). The previous column gives the corresponding TOL2008 code that is the industrial classification based on NACE confirmed by Statistics Finland. The Finnish classification differs from NACE in terms of agriculture, construction activities, housing and public administration. Classification is in ANNEX 3.

9.1.3 Classification of producer types

Alongside to the Standard Industrial Classification, the establishment-based classification of producer types is also used. There are three main producer types: market producers, non-market producers, of which non-market producers are divided further into producers for own final use and other non-market producers. Classification is in ANNEX 4.

9.1.4 Product classification

The product classification applied to the Finnish National Accounts is presented in ANNEX 5.

9.2 Classifications used for the income approach

The central classification in the income approach is the Classification of Sectors. It is described in Section 9.1.1.

9.3 Classifications used for the expenditure approach

9.3.1 Individual consumption

ECOICOP classification was introduced in the NA calculations in Finland during the revision published in September 2019. Most of the 5-digit classes are used, but some classes have been combined, which is shown with the letter X in the code. A letter indicating the durability class (D, ND, SD, S) has been added to the end of the code separated by a dot. In education, only one group is used compared to the (E)COICOP's division by level of education. For rents, one group has been used for both actual and imputed rents. See classification in ANNEX 6.

9.3.2 Gross fixed capital formation and change in inventories

The comparison was made in the ESA 2010 AN classification of assets. Gross fixed capital formation has a national sub-division in *Information and communication equipment* (AN.1132). In change in inventories, the assets *Materials and supplies* (AN.121) and *Other work in progress* (AN.1222) have a more detailed national sub-division. See classification in ANNEX 7.

9.3.3 International trade

See classification in ANNEX 8.

9.3.3.1 Goods trade

In the statistics on foreign trade, the basic classification used for products both in internal and external trade is commodities in accordance with the combined nomenclature (CN classification). The CN classification covers the first eight digits of Finland's customs tariff headings (TARIC).

In addition to the CN headings, the statistics on foreign trade uses the CPA classification, as well as industrial classification and classification based on the purpose of use of the product. The statistics on foreign trade also contain the transaction code based on which, for example, import and export entries that have taken place without change in ownership can be separated.

9.3.3.2 Current account, services

The current account classification follows the IMF's balance of payments classification applied for Finland. The list contains all heading groups for 2018 without repetitions (usually income, expenses, net). Some categories have no data content.

CHAPTER 10 MAIN DATA SOURCES USED

10.0 Summary of the main data sources

The chapter does not describe all the data sources used in national accounts, but a comprehensive selection of the most important sources. An indicative picture of the total number of individual data sources can be found in the data flow diagram (Figure 7).

Table 198:The main data sources used for the production approach

Organisation	Data source
Statistics Finland	Register of Enterprises and Establishments
Statistics Finland	Annual data collections of the Business Register
Statistics Finland	Business structures statistics
Tax Administration	Business taxation data
Statistics Finland and The Finnish Pension Alliance	Employment Pension Scheme Quarterly Survey (EPSQ)
The Financial Supervisory Authority	Financial statement data of employment pension scheme
Statistics Finland	Statistics on industrial output
Statistics Finland	Inquiry on raw materials in manufacturing
Statistics Finland	Statistics on financial leasing
Statistics Finland	The business services statistics
Finnish Communications Regulatory Authority	Income and investment data of telecommunications operators
Tax Administration	Tax return of associations and foundations
State Treasury	Data on financial statements of the state
Statistics Finland	Financial statement inquiry of bus and coach transport

Table 199: The main data sources used for the income approach

Organisation	Data source
Statistics Finland	Statistics on local government finances
Statistics Finland	Labour Force Survey
Statistics Finland	Index of wage and salary earnings
Tax Administration	Incomes Register

Table 200: Statistical surveys and other data sources used for the expenditure approach

Organisation	Data source
Statistics Finland	Household Budget Survey
Customs Finland	International trade in goods statistics
Statistics Finland	International trade in services and international flows of goods
Statistics Finland	Frascati Manual Survey (Survey conducted by R&D statistics)

Table 201: The main data sources used for the transition from GDP to GNI

Organisation	Data source
Statistics Finland	Annual inquiry on foreign financial assets and liabilities (BOPA)
Statistics Finland	Quarterly inquiry on financial assets and liabilities (BOPQ)
Bank of Finland	MFI data collection (RATI)
Bank of Finland	Investment fund balance sheet statistics (SIRA)
Bank of Finland	Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government (SAVE)
Bank of Finland	Survey of deposit banks and investment firms providing custody and asset management services (TIHA)

10.1 Statistical surveys and other data sources used for the production approach

10.1.1 Register of Enterprises and Establishments

Statistics Finland maintains Finland's Business Register for statistical purposes. The register is used in data collections and statistics production as a source of basic data and sampling frame, as well as the basis of the register of enterprise respondents. In addition, the data of the register can be used to compile statistics within Statistics Finland's field of operation and in this purpose be combined with data from other registers.

The register includes enterprises, private and public corporations, private practitioners of trade, and units engaged in economic activities and bankrupt’s estates and estates, as well as the establishments of these. The administrative data source for the register is the Tax Administration's customer database and other Tax Administration data files, the joint Business Information System of the Board of Patents and Registration and the Tax Administration, Finnish Customs' foreign trade data, the National Board of Patents' trade register, the Digital and Population Data Services Agency, Posti Oy's (the main Finnish postal service) address data and the employment registers of the State Treasury and the Local Government Pensions Institution.

10.1.2 Annual data collections of the Business Register

According to the EU’s Regulation No 177/2008 on business registers, Statistics Finland is obliged to maintain a business register for statistical purposes. The Register of Enterprises and Establishments (Business Register) collects data with three different inquiries: the inquiry for single-establishment enterprises, the inquiry for multi-establishment enterprises and the inquiry on establishment structure and personnel. The establishment structure and personnel inquiry is a joint inquiry of the Business Register and employment statistics. For multi-establishment enterprises, the scope of the data collections (the inquiry for multi-establishment enterprises and the inquiry on establishment structure and personnel) are almost total data, that is, included are all multi-establishment units. The data of the Register of Enterprises and Establishments are published annually as part of the structural business and

financial statement statistics and the regional statistics on entrepreneurial activity.

Table 202: Business Register inquiry for single-establishment enterprises

Name of survey/data collection: Business Register inquiry for single-establishment enterprises
Link to European level surveys: None.
Respondent units: Legal unit
Frequency: Annual
Availability time of results: 11 months
Sampling frame: Statistics Finland's Register of Enterprises and Establishments
Is the survey obligatory or voluntary: Obligatory
Main principles of the survey method: The single-establishment inquiry comprises single-establishment legal units, new legal units that have started and quality control units. As a rule, all single-establishment legal units employing at least ten wage and salary earners are selected to the inquiry at intervals of roughly three years. Of single-establishment legal units, legal units with 10 to 20 staff-years are inquired yearly with their own rotation cycle, legal units with over 20 staff-years with their own rotation cycle, those involved in the merger and a number of growth enterprises. Of the legal units added to the Business Register during the past year, the largest legal units that have not previously been part of the Business Register inquiries are selected to the inquiry based on the average of the wages and salaries sum and sales sum in the Tax Administration's periodic tax return data in the last four months. Quality control is used to check the correctness of the industry and location data of small single-establishment legal units. The target population is limited so that the units are not included in other annual Business Register inquiries. The sampling method used is stratified sampling with proportional allocation, however, so that at least 50 units are selected from each stratum. The 1-character level of the Standard Industrial Classification TOL 2008 is used as the stratum. The inquiry is carried out with an Internet form.
Population: In 2018, the data collection included 7,696 legal units
Sample size: The inquiry is not purely based on sampling. Some of the respondents are selected by the rotation cycle and in the 2018 inquiry around 4,000 legal units selected by the rotation cycle were included. Part of the respondents are selected with certain selection criteria (new legal units that have started) and in 2018 around 1,500 legal units were included. Only for small single-establishment legal units, the selection to the inquiry is made by sampling and in 2018 the sample size was around 1,500 legal units.
Survey response rate: 62%
Calculation method for missing data: The number of personnel of legal units not included in the inquiry and those who have not responded is estimated with the help of the wages and salaries sum.
Variable used to proportion the results to the population: There is no separate variable used to proportion the results to the population.
The coverage of the sample in percentages of the variable used in proportioning: See the text above.

Main variables collected: Wage and salary earners of the legal unit’s establishment in staff-years, entrepreneurs, industry, location of activity.
Other adjustments of survey data: None.

Table 203: Business Register inquiry for multiple-establishment enterprises

Name of survey/data collection: Business Register inquiry for multiple-establishment enterprises
Link to European level surveys: None.
Respondent units: Legal units included in the inquiry
Frequency: Annual
Availability time of results: 11 months
Sampling frame: Statistics Finland's Register of Enterprises and Establishments
Is the survey obligatory or voluntary: Obligatory
Main principles of the survey method: All multi-establishment legal units with at least five wage and salary earners that are not included in the data collection on establishment structure and personnel are included. The inquiry concerns non-profit institutions serving households only approximately every other year (rotation cycle). The inquiry is carried out with an Internet form.
Population: In 2018, the inquiry included 2,070 legal units
Sample size: There’s no separate sample. All legal units covered by the inquiry are selected. Non-profit institutions are inquired by the rotation cycle.
Survey response rate: 69%
Calculation method for missing data: The number of personnel of enterprises not included in the inquiry and those who have not responded is estimated with the help of the wages and salaries sum.
Variable used to proportion the results to the population: None
The coverage of the sample in percentages of the variable used in proportioning: Sampling is not used in the inquiry.
Main variables collected: Wage and salary earners of the legal unit’s establishments in staff-years, entrepreneurs, industry, location of activity.
Other adjustments of survey data: None.

Table 204: Inquiry on establishment structure and personnel

Name of survey/data collection: Inquiry on establishment structure and personnel
Link to European level surveys: None.
Respondent units: Legal units included in the inquiry
Frequency: Annual
Availability time of results: 11 months
Sampling frame: Statistics Finland's Register of Enterprises and Establishments

Is the survey obligatory or voluntary: Obligatory
Main principles of the survey method: The inquiry on establishment structure and personnel concerns multiple-establishment legal units with over 15 employees that have more than two wage and salary earners in at least two establishments, or whose number of personnel is at least 25 either in the statistical reference year or in the year preceding the statistical reference year. Legal units in industry 78 Employment activities (e.g. labour rental companies are not drawn to the inquiry) are not included in the inquiry, but they are selected into the Business Register's own inquiry for multiple-establishment enterprises. The inquiry is carried out with an Internet form.
Population: In 2018, the inquiry included 4,630 legal units
Sample size: All legal units covered by the inquiry are included, no separate sample.
Survey response rate: 87%
Calculation method for missing data: The number of personnel of enterprises not included in the inquiry and those who have not responded is estimated with the help of the wages and salaries sum.
Variable used to proportion the results to the population: None.
The coverage of the sample in percentages of the variable used in proportioning: Sampling is not used in the inquiry.
Main variables collected: Wage and salary earners of the legal unit's establishments in staff-years, entrepreneurs, industry, location of activity.
Other adjustments of survey data: None.

10.1.3 Business structures statistics

10.1.3.1 *Enterprise level data - Statistics Finland's financial statement statistics*

Data produced by Statistics Finland's financial statement statistics are used in the calculation of the production accounts of the non-financial corporations and households sectors. The structural business and financial statement statistics describe enterprises operating in Finland. The statistics comprise industry-specific data on the number of enterprises, personnel, financial statements and itemisation of turnover and expenditure. The data on enterprises' financial statements describe the formation of profit, profitability and balance sheet structure in different industries.

The statistical unit is an enterprise as defined by Statistics Finland. Starting from the statistical reference year 2017, data have been produced both on the basis of enterprises (enterprise unit) and legal units (Business ID).

The enterprise unit corresponds with the smallest combination of legal units that forms an independent production unit benefiting from autonomy in decision-making. According to Statistics Finland's definition, an enterprise is an independent unit in its decision-making that produces

goods and/or services for sale on the market. An enterprise may be formed of one or several legal units. If an enterprise has been formed of several legal units, transactions between the units have been eliminated.

Statistics Finland forms the enterprise unit from companies belonging to the same group located in Finland. One or several enterprise units can be formed from the group's legal units. For enterprises not belonging to groups, the enterprise unit always corresponds with the legal unit.

The data of the structural business and financial statement statistics do not include establishments of enterprises. Data contain central and local government enterprises. Excluded from the description are units of public sector authorities and non-profit corporations, as well as financial and insurance activities and those agricultural units that do not fulfil the criteria for statistics. The data are collected once a year.

The production accounts of the non-financial corporations and households sectors are compiled with data based on legal units (Business ID).

A majority of the financial statement statistics' data content are derived from the business taxation file but the data are complemented with Statistics Finland's own enterprise inquiry (Table 1). The responses to the enterprise inquiry are combined with the business taxation file and they are mainly processed manually. For units that are not included in the inquiry, the breakdowns of turnover and expenses are derived or imputed. The imputation is carried out by using the industry-specific distribution calculated based on the units that responded to the inquiry.

The business taxation data contain the financial statements data of all enterprises and own-account workers subject to the act of business taxation. At Statistics Finland, the quality of the business taxation data are checked and revised programmatically. The missing values of the data are imputed by utilising the enterprise's data from previous years and data from enterprises with similar turnover and number of personnel.

The enterprise inquiry provides profit and loss account and balance sheet data, itemised data on income and expenditure, itemised balance sheet data, increases and decreases in fixed assets, and the number of personnel. The data are checked by means of diverse internal logicality and ratio tests. In addition, the inquiry data are compared with those from other sources. For example, the electronic photo archive of the Finnish Patent and Registration Office (PRH) on official financial statements is used when checking data.

The data derived from the enterprise inquiry also include basic and classification data on enterprises obtained from Statistics Finland's Business Register. Variables that classify the data are the Standard Industrial Classification TOL 2008, the institutional sector classification, legal form, type of owner, region, number of personnel, and size category.

Table 205: Financial statements inquiry for enterprises

Name of survey: Financial statements inquiry for enterprises (TILKES)

Link to European level surveys: Business structures statistics
Respondent units: The statistical unit is an enterprise as defined by Statistics Finland. Municipal enterprises are included in the statistical data. Excluded from the description of enterprises' financial statement materials are units of public sector authorities, non-profit corporations, and financial and insurance activities.
Frequency: Annual
Time of availability of results: preliminary data nine months and final data 12 months
Sampling frame: Statistics Finland's Register of Enterprises and Establishments.
Is the survey obligatory or voluntary: Obligatory
Main principles of the survey method: The survey includes all enterprises with over 60 employees, as well as enterprises with a turnover of over EUR 40 million or a balance sheet exceeding EUR 300 million. Enterprises with 10 and 60 employees have been drawn into the inquiry by random sampling. The inquiry also comprises some enterprises with a lower number of employees and all municipally owned enterprises. In total, the inquiry comprises approximately 6,000 enterprises. In addition, around 90 enterprises are inquired in connection with the inquiry about the breakdown of turnover, sales of merchandise and expenditure items between purchases of merchandise and purchases of materials and supplies by industry. This replaces the previous inquiry by business unit.
Population: In the structural business and financial statement statistics, the number of enterprises was 277,405 in 2018, which describes Finland's enterprise population in industries B to S, excl. K.
Sample size: around 6,000 enterprises.
Survey response rate: In 2018, the response rate was 73 per cent.
Calculation method for missing data: The breakdown of income and expenses of small enterprises and enterprises that did not respond is generated with an imputation method based on a regression model. The model is based on the data of the enterprises that responded to the inquiry.
Variable used to proportion the results to the population: For enterprises not belonging to the inquiry, itemised income and expenses are imputed using the data of the enterprises that responded to the inquiry. A distribution is formed of the turnover and expense data of the units that responded to the inquiry for the units not included in the inquiry.
The coverage of the sample in percentages of the variable used in proportioning: See the text above.
Main variables collected: itemised income and expenses in the profit and loss account, itemised balance sheet, increases and decreases in fixed assets. Internal items of the most significant enterprise units.
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: The industry division used in the national accounts is that at the accuracy of three digits in manufacturing and of two digits in service industries. The source data are aggregated because the industry accuracy of the source data is on the 5-digit level. A less detailed level is also used in the Classification of Sectors. The producer type is determined in the national accounts with the help of sector and industry data. The producer type describes the type of main output of producers. The producer type is only a classifying variable used in the national accounts.
Other adjustments of survey data: None.

10.1.3.2 *Establishment level data – Statistics Finland's regional and industrial statistics*

Statistics Finland has renewed its production of business statistics. In the renewal, the production of business statistics has been harmonised and Statistics Finland's Business Register is utilised more than before in its production. Starting from the statistical year 2013, regional and industrial statistics on manufacturing, regional and industrial statistics on construction, and regional and industrial statistics on services are produced as one set of statistics: Regional statistics on entrepreneurial activity. In 2014, preliminary statistics are only released on manufacturing.

The establishment level data derive from the regional statistics on entrepreneurial activity in the calculation of the production accounts of the non-financial corporations and households sectors. The regional statistics on entrepreneurial activity are statistics derived from the structural business and financial statement statistics. The enterprise level data of the financial statement statistics are establishment-level data, in addition to which establishment data are supplemented with separate inquiries.

The regional statistics on entrepreneurial activity describe the structure and activity of establishments of enterprises operating in Finland by region, industry and size category. The statistical data cover the establishments of all active enterprises. Statistical data on the establishments of general government are also presented in connection with these statistics.

An establishment may as such form an enterprise (single-establishment enterprise) or be a clearly definable part of an enterprise (multi-establishment / multi-industry enterprise). An actual establishment is a unit that is owned by one enterprise, or a quasi-corporate unit, located on one site and produces goods and services of mainly one particular type. An actual establishment generally has both personnel and turnover. In addition, the statistics also comprise ancillary establishments. By definition, ancillary establishments are establishments that support the production of the enterprise's actual establishments. An ancillary establishment can be, for example, a warehouse or a unit producing administrative or transport services. An ancillary establishment may have wage and salary earners but not turnover.

The basic variables are the number of establishments, number of personnel, turnover, gross value and added value of production. The statistical unit is the establishment of an enterprise or another unit engaged in economic transactions.

The data on establishments derive from the register of establishments maintained by the Business Register and from inquiries related to enterprises of establishments.

The establishment inquiries in the Business Register are the inquiry for multi-establishment enterprises, the inquiry for single-establishment enterprises and the inquiry on establishment structure and personnel. Basic data on establishments, such as industry, location and wage and salary earners are obtained with these inquiries.

Inquiries related to establishments' entrepreneurial activity are the inquiry for industrial establishments T5 and the inquiry for establishment combinations (appendix to the TILKES inquiry). The inquiry for industrial establishments T5 is directed to an individual industrial establishment. The inquiry on establishment combinations is directed to construction, trade and service enterprises. The establishment combination covers several establishments of an enterprise that form the whole on the 2-digit level of an industry.

The data for the inquiry on establishment combinations are asked in connection with the enterprise inquiry. Previously, data were collected from multi-activity service enterprises with two separate inquiries. Nowadays, an enterprise inquiry, which collects more detailed data on the economic activity of the enterprise's establishment combinations with an appendix form, is sent to the units in question. In this way, the response burden of large multi-activity enterprises is eased.

For establishments not included in the inquiry and establishment combinations, data on entrepreneurial activity are formed with statistical methods by means of the establishment process. Industry-specific variable coefficients multiplied by the number of personnel in the establishment are utilised in the method. After this, the data of the establishments are benchmarked with the scaling coefficient to the data of the establishment combination or enterprise.

Industry-specific variable coefficients are formed by means of regression analysis. The explanatory variable is the number of personnel in the enterprise. The source data of the regression analysis include industry-pure enterprises.

The establishment data cover nearly all industries (the establishment statistics do not cover the industries Manufacture of tobacco products (TOL 12), Public administration and defence (TOL O), Activities of households as employers (TOL T), Activities of extraterritorial organisations and bodies (TOL U)). The statistics include establishments of enterprises that fulfil the statistical limit. Enterprises that have operated for more than six months and employed more than half a person or had a turnover in excess of an annually specified statistical limit are included in the statistics. Regional statistics on entrepreneurial activity are produced yearly.

Table 206: Regional statistics on entrepreneurial activity

Name of survey: Regional statistics on entrepreneurial activity
Link to European level surveys: Business structures statistics
Respondent units: The statistical unit is the establishment of an enterprise or another unit engaged in economic transactions. The statistical data cover the establishments of all active enterprises. Statistical data on the establishments of general government are also presented in connection with these statistics.
Frequency: Annual
Availability time of results: 15 months

Sampling frame: Statistics Finland's Register of Enterprises and Establishments
Is the survey obligatory or voluntary: Obligatory
Main principles of the survey method: The regional statistics on entrepreneurial activity describe the structure and activity of establishments of enterprises operating in Finland by region, industry and size category. The basic variables are: number of establishments, number of personnel, turnover, gross value and added value of production. Statistical data on the establishments of general government are also presented in connection with these statistics. Data on establishments are inquired with separate inquiries and combined with administrative registers. The establishment register maintained by Statistics Finland's Business Register is utilised in forming the total data. The inquiry for industrial establishments T5 collects data from industrial enterprises' establishments. The inquiry on establishment combinations (TILKES appendix) collects data from construction, trade and service enterprises. The establishment process distributes the business activity data by statistical methods for establishments not included in the surveys and for establishments belonging to establishment combinations. Industry-specific variable coefficients multiplied by the number of personnel in the establishment are utilised in the method. After this, the data of the establishments are benchmarked with the scaling coefficient to the data of the establishment combination or enterprise. Industry-specific variable coefficients are formed by means of regression analysis. The explanatory variable is the number of personnel in the enterprise.
Population: In 2018, the data collection covered 1,917 establishments.
Sample size: All enterprises covered by the inquiry are included, no separate sample.
Survey response rate: 82 per cent
Calculation method for missing data: If the establishment is not included in the inquiry or its data are not available for some other reason, the data are produced with statistical methods utilising industry-specific variable coefficients.
Variable used to proportion the results to the population: The results of the direct data collection are not expanded to the whole population, but administrative data are combined with the data.
The coverage of the sample in percentages of the variable used in proportioning: See the text above.
Main variables collected: Establishments are asked for data on turnover and expenses, as well as breakdowns of current and fixed assets. Establishment combinations are asked for data on turnover and expenses and breakdowns of fixed assets.
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: Adjustments required by the National Account, for example, for intermediate products.
Other adjustments of survey data: None

10.1.4 Business taxation data

The Tax Administration’s business taxation data contain financial statements data on all enterprises and own-account workers liable to pay business tax. The main tax forms 4, 5, 6A, 6B, 6C and 6U are used in the data. Financial statement data are supplemented with the Tax Administration’s appendix forms, of which there are many for different main tax forms.

Data concerning a particular tax year become available to Statistics Finland in several batches in the following year between the end of January and November.

The data may be partially erroneous or otherwise insufficient, which means that the data must be processed at Statistics Finland in order to be able to utilise the data in statistics production and chargeable services. The processing is primarily done by statistical methods but, to some extent, manual corrections must also be made. The Data Resources Department in Statistics Finland's Information and Statistical Services service area is responsible for further processing and checking of business taxation data.

The data are corrected automatically using mass editing and imputation. Errors and deviating observations are corrected either logically by editing or by removing deviating observations. Small errors (under 10 per cent of income and expenses) are scaled. Missing values are primarily replaced with the enterprise's data from previous years. Then the data are imputed using as the weighting coefficient the change in turnover in the periodic tax return data. Donor imputation is used if the enterprise belongs to the frame of the statistics but its data are not available from earlier years. Then the data of an enterprise with the same turnover and number of employees are applied as the source of the correction.

The business taxation data are ranked enterprise-specifically according to the points model. In the model, error points are calculated from logical errors in income, expenses or balance sheet sub-totals and differences in turnover changes or balance sheet totals. In addition, enterprises with a large number of employees get more points more than small ones. The biggest error points are corrected manually using as source data the official financial statements received from the Board of Patents and Registration.

10.1.5 Employment Pension Scheme Quarterly Survey (EPSQ)

Employment Pension Scheme Quarterly Survey is a quarterly survey executed by Statistics Finland and The Finnish Pension Alliance TELA. The survey includes information on assets, liabilities and investments. The survey includes Pension Insurance Companies, Statutory B departments of the pension foundations and funds, the Farmers' Social Insurance Institution, the Seafarer's Pension Fund, Keva (pension institution for local government employees), the State Pension Fund, The Curch Pension Fund. Pension foundations and funds report only the information on B departments because the survey concerns only statutory pension scheme.

The instruction investments data collected from Employment Pension Scheme Quarterly Survey is used in the release of annual National accounts. The data is quarterly and it is summed to annual level.

Table 207: Construction investments of Employment Pension Scheme

Name of survey: Construction investments of Employment Pension Scheme
Link to surveys undertaken at the European level (e.g. structural business statistics): -
Reporting units (e.g. enterprise/ local KAU/ household): Pension Insurance Companies, Statutory B departments of the pension foundations and funds, the Farmers' Social Insurance Institution, the Seafarer's Pension Fund, Keva (pension institution for local government employees
Periodicity (e.g. annual/quarterly/other- to be specified): quarterly

Time of availability of results (e.g. 18 months after the end of the survey period): 30 days
Sampling frame: (e.g. name of business register used/ population census): Employment Pension Scheme Quarterly Survey (EPSQ)
Survey is compulsory or voluntary? Compulsory
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): The survey is a digital form and it is sent to all the units in population.
Population size: 19
Sample size: All units in the survey, no separate sample.
Survey response rate: 100 %
Method used to impute for missing data: -
Variable used for grossing-up to the population (e.g. turnover/ employment): -
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): 100 %
Main variables collected: housing association stock’s gains and losses, residential property’s gains and losses, other property’s gains and losses
Further adjustments made to the survey data: -

10.1.6 Financial statement data of employment pension scheme

The Financial Supervisory Authority regulates and supervises the solvency of employee pension companies, company pension funds, insurance funds and statutory pension institutions and they regularly need to send regulation data to the Financial Supervisory Authority. The regulation data includes information, for example, on balance sheet.

In the second release of the annual preliminary National Accounts in July, the main data source used in the calculation of employment pension schemes is the financial statement data included in regulation information collected by the Financial Supervisory Authority. For Pension foundations and funds only data concerning B departments is collected, because information is collected only on statutory pension scheme.

Table 208: Financial statement data of employment pension scheme

Name of survey: Financial statement data of employment pension scheme
Link to surveys undertaken at the European level (e.g. structural business statistics): -
Reporting units (e.g. enterprise/ local KAU/ household): Pension Insurance Companies, Statutory B departments of the pension foundations and funds, the Farmers' Social Insurance Institution, the Seafarer's Pension Fund
Periodicity (e.g. annual/quarterly/other- to be specified): annual
Time of availability of results (e.g. 18 months after the end of the survey period): -
Sampling frame: (e.g. name of business register used/ population census): Regulation data by the Financial Supervisory Authority
Survey is compulsory or voluntary? compulsory

Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): The survey is a digital form.
Population size: 27
Sample size: All units in the survey, no separate sample.
Survey response rate: 100 %
Method used to impute for missing data: -
Variable used for grossing-up to the population (e.g. turnover/ employment): -
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): 100 %
Main variables collected: Market output, other intermediate consumption
Further adjustments made to the survey data: -

10.1.7 Statistics on industrial output

The statistics on industrial production or the statistics on manufacturing commodities describe industrial production by product category or commodity. Value and volume data are recorded on the production of enterprises. The units used for measuring volumes vary according to commodity heading, and there are nearly 40 units in use. The data are collected from enterprises or establishments of enterprises. The statistics on commodities apply to production that has taken place in Finland and the statistical period used is a calendar year.

The statistics on manufacturing commodities describe the production of commodities with the help of sold production. Of all production produced by the enterprise or establishment, the value of production sold outside the enterprise during the calendar year and usually also the volume are inquired. Data are inquired on the volume of total output of certain separately defined commodities (in the case of vessels, only the value of total output). For the headings, in which the sales from the enterprise differs considerably from the production, total output is also inquired (usually only the volume, but in case of vessels the value of total output).

The data are collected with the PRODCOM product classification and in the statistical reference year 2018, there were 3,754 production headings in use. During the same year, Finland had production in around 2,000 of those product headings. The data are collected with a form inquiry primarily from all enterprises with over ten employees or their establishments in the industries of mining and quarrying B and manufacturing C. The size of the targeted enterprises has been around 3,000 to 3,800 establishments in recent years.

Individual data missing from observation data are estimated based on previous years and data available from other statistics, but some are also missing from the final data. The missing response data of completely non-responding units are mainly assessed by statistical methods, partly manually as well.

The response rate for the inquiry on production has been around 70 per cent. The data are completed at a delay of t +7 months.

10.1.8 Inquiry on raw materials in manufacturing

The inquiry on raw materials in manufacturing, that is, the inquiry on materials and supplies, is an inquiry collected in odd statistical reference years among enterprises in the industries of mining and quarrying B and manufacturing C. Of materials and supplies, the values and volumes of the main raw materials, semi-finished products, additives and supplies bought during the calendar year by enterprises and establishments for production are inquired by commodity heading. In addition, the total use volume of certain separately defined materials and supplies are inquired.

The data on materials and supplies are asked with a separate form from all enterprises with at least 20 employees and their establishments. The sample size is around 2,000 enterprises or establishments and the response rate is 70 per cent.

The data are collected with CPA 2008 product classification. Starting from the statistical reference year 2019, data have been inquired on the 8-digit level of the CN product classification. The CN nomenclature contains approximately 10,000 different product headings.

10.1.9 Statistics on financial leasing

Publication of the statistics on financial leasing has been discontinued. The most recent release was in 2015, when data concerning 2014 were published. Data on financial leasing will, however, be also collected in future as the data will be used in compiling the National Accounts and financial accounts. Data on financial leasing can be ordered as a chargeable product.

The statistics on financial leasing contain data by sector, industry and object on the financial leasing activities of credit institutions and other lessors. The collection of data is based on the Statistics Act (280/2004).

Financial leasing is long-term leasing in which the financier acquires possession of the object required by the lessee, and leases it further on a long-term lease agreement. The statistics do not cover direct leasing or financing of leasing agreements. Unit-specific data must be kept confidential.

Table 209: Statistics on financial leasing

Name of survey: Statistics on financial leasing
Link to European level surveys: None.
Respondent units: The population of the survey is the credit institutions practising financial leasing and other financial leasing companies.
Frequency: Annual
Availability time of results: Around three months after the statistical reference year ends.
Sampling frame: The survey is a total survey.

Is the survey obligatory or voluntary: Obligatory.
Main principles of the survey method: The statistics on financial leasing are a total survey where the population is credit institutions practising financial leasing and other financial leasing companies. Enterprises that have a credit institution licence are classified as credit institutions. The data are collected with an electronic questionnaire.
Population: Approximately 20 credit institutions or other enterprises practising financial leasing.
Sample size: The survey is a total survey and not a sample survey.
Survey response rate: 89 %
Calculation method for missing data: The data of data providers who do not respond to the survey are not estimated into the overall level.
Variable used to proportion the results to the population: See the text above.
The coverage of the sample in percentages of the variable used in proportioning: See the text above.
Main variables collected: Financial leasing acquisitions, financial leasing rents, financial leasing companies' sales of leasing objects
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: None.
Other adjustments of survey data: None

10.1.10 Business services statistics

The business services statistics describe the structure of turnover and the service selection in industries producing business services. The statistics cover annually the following industries (NACE 2008): *582_62_631 Information technology services, 691 Legal services, 692 Accounting, bookkeeping and auditing; tax consultancy, 702 Management consultancy, 711 Architectural and engineering activities and related technical consultancy, 712 Technical testing and analysis, 731 Advertising, 732 Market research and public opinion polling,* and *78 Employment activities*.

The population of the statistics covers all enterprises with at least 20 employees in the above-mentioned branches of industry. However, in some branches the lower limit of 20 employees means that the group of enterprises covers only a small part of the total turnover of the industry, thus not producing a representative view of the structure of the industry (larger enterprises focus on services different from smaller ones). For this reason the limit has been lowered in some industries to cover enterprises employing five persons.

The following data are inquired from enterprises: total turnover, the breakdown of turnover by product according to the CPA (Classification of Products by Activity) and the breakdown of turnover by the customer's country of location (divided into Finland, EU countries, countries outside the EU). In addition, the breakdown of turnover into public and private sector customers is also inquired for the needs of Statistics Finland's internal stakeholders (producer price index for services and national accounts).

Data by service commodity are not available from other sources, so the data must be asked directly from enterprises. The frame for the data collection was drawn from Statistics Finland's Register of Enterprises and Establishments. The data are published annually 12 months from the end of the statistical reference year.

10.1.11 Income and investment data of telecommunications operators

The Finnish Transport and Communications Agency yearly collects data on the income and investments of telecommunications companies operating in Finland. The data are collected in April to May. The data are delivered to Statistics Finland in August of the following year. The inquiry is directed annually to around 200 telecommunications operators.

The income data include turnover data from fixed networks, mobile networks, transmission and broadcasting of TV and radio, television and radio content activities, and other business activities. The investment data comprise investments in fixed networks, optical fibre investments, investments in cable networks, other investments in fixed networks, investments in mobile networks, investments in television and radio operations, and other investments.

10.1.12 Tax return of associations and foundations

Table 210: Tax return of associations and foundations

Name of survey: Tax return of associations and foundations (6C)
Collector: Tax Administration
Respondent units: Associations and foundations, 16,000 legal units, legal forms (voluntary association, association based on separate legislation, forest management association, other economic association, other association, foundation under the act on foundations, other foundation)
Frequency: Annual
Calculation method for missing data: If a non-profit institution is not in the Tax Administration’s target group or does not respond to the 6C tax form, output and intermediate consumption for S15 unit are formed with statistical methods with the help of wage and salary data in the Business Register by utilising the ratio of personnel costs in 6C data to income and expenses.
Main variables collected: Key variables are the variables of the breakdown of income and expenses and the balance sheet variables in the tax form of the association or foundation.
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: In 6C data, “other expenses” are included in intermediate consumption. The share of financing costs has to be estimated from other expenses, however. This estimate is subtracted from other expenses when calculating intermediate consumption.
Other adjustments of survey data: The market output of units classified in sector S11 is checked so that it covers intermediate consumption and compensation of employees.

10.1.13 Data on financial statements of the state

The government's accounting system was renewed from 1 January 1998. In addition to agencies and departments under the government's accounting office organisation, government funds outside the budget follow the

bookkeeping of the government's new accounting system. So accounting offices are units with a legal obligation to keep books and they also annually make their own financial statements. The financial statements of the state are compiled in the State Treasury from the accounting offices' account data by eliminating internal expenses, income, assets and liabilities.

The bookkeeping of the agencies and departments and the central bookkeeping compiled by the State Treasury consist of business bookkeeping and budget bookkeeping. The task of the business bookkeeping is to give the right picture of the income from the state's and agencies' activities and their financial position. Budget bookkeeping, in turn, follows the realisation of the budget. In addition to the accounts of business bookkeeping and budget bookkeeping, the accounting office code is also reported in connection with the transaction recording. State funds only maintain business bookkeeping.

Business bookkeeping is mainly compiled on an accrual basis. Payment (=cash) based accounting entries are revised when the financial statements are compiled. The accrual of taxes, financial transactions and subsidies are, however, exceptionally also entered as payment based in the financial statements of the state. According to the new accounting system, only revenue and expenditure in the business bookkeeping are recorded as central government's revenue and expenditure. In budget bookkeeping, the budget expenditure and budget revenues are recorded according to the budget of the year in question. Thus, for example, transfers of appropriations is a budget bookkeeping transaction, but in business accounting expenditure is only incurred in the actual year of use.

The industries and transactions of the accounts are mainly defined automatically with various code keys. In all industries, the transactions of the accounts are defined with the help of the account scheme of business bookkeeping. The division into account industries is carried out with the help of the main categories, figures and subsections of budget bookkeeping. If these main category-figure data are missing, the industry is determined based on the agency code. All necessary industry and transaction definitions cannot, however, be made with the code keys. In addition to automated data revisions, manual revisions are also made in industries and transactions.

10.1.14 Financial statement inquiry of bus and coach transport

Statistics Finland collects[36] financial statements data on bus and coach companies on assignment of the Finnish Transport and Communications Agency (Traficom). The Finnish Transport and Communications Agency (Traficom) receives the detailed data processed by Statistics Finland for its use. Statistics Finland is also entitled to use the inquired data to complement its financial statements database (Business structures statistics 10.1.3.).

[36] The accompanying letter for the inquiry (in Finnish):
https://www.tilastokeskus.fi/keruu/yrti/files/LL_saate.pdf

Table 211: Financial statement inquiry of bus and coach transport

Name of survey: Financial statement inquiry of bus and coach transport
Link to European level surveys: None.
Respondent units: Bus and coach companies
Frequency: Annual
Availability time of results: 11 months
Sampling frame: The inquiry is not sample based.
Is the survey obligatory or voluntary: Voluntary
Main principles of the survey method: The target population of the inquiry is formed by enterprises currently engaged in passenger transport that have a valid public transport licence. Their Business IDs are picked from a list delivered by the Uusimaa ELY Centre to Statistics Finland that covers around 1,400 legal unit. The inquiry is sent to all legal units in the population. The inquiry was implemented with a form sent by post.
Population: In 2018, the inquiry included 1,400 units
Sample size: No sample is used in the inquiry, but all those in the scope of the inquiry are included in it.
Survey response rate: 18%
Calculation method for missing data: The breakdown of the income and expenses of non-respondent enterprises is produced with an imputation method based on a regression model that is also used in the Financial statements inquiry for enterprises (10.1.3). The model is based on the data of the enterprises that responded to the inquiry. The data can also be supplemented with business taxation data. The commissioned public transport performance statistics are inflated as follows: enterprises that have not responded in year t are imputed from the data t-1 and part of the data are inflated with the relative difference in the volume of equipment and the rest with the development of turnover in enterprises from year t-1 to year t.
Variable used to proportion the results to the population: None.
The coverage of the sample in percentages of the variable used in proportioning: The inquiry is not a sample survey.
Main variables collected: Profit and loss account and balance sheet data, breakdown of income and expenses, number of personnel, wages and salaries and social insurance contributions paid, number of buses and coaches, number of seats in buses and coaches, driven kilometres, passenger numbers. Driven kilometres and passengers are divided based on various forms of transport; coach and purchased transport, contract transport, service transport and charter transport.
Other adjustments of survey data: None.

10.2 Statistical surveys and other data sources used for the income approach

10.2.1 Statistics on local government finances

The statistics on local government finances contain information on the income and expenses, assets and debts, and activities of municipalities and joint municipal authorities.

They contain the financial statements data of Finnish municipalities and joint municipal authorities. The basic data for the economic statistics on municipalities and joint municipal authorities are compiled specified by function, by income and expenditure item, and by asset and liability type.

Statistics Finland collects a majority of the data directly from municipalities and joint municipal authorities. Data concerning municipalities and joint municipal authorities of the Åland Islands are collected and processed by Statistics and Research Åland (ÅSUB) and health care activity data by the National Institute for Health and Welfare (THL).

The statistics on local government finances are a total survey that includes all municipalities and joint municipal authorities in Finland. The basic data of the statistics are information collected from municipalities and joint municipal authorities from their annual financial statements: income and expenses according to the profit and loss account, financial items according to the funds statement, assets and liabilities according to the balance sheets on 31 December, separate financial statements of municipal companies, consolidated balance sheets of municipalities/joint municipal authorities, and data on activity and investment expenditure and income specified by function based on comparative analysis on the realisation of the budget. Data on the volume of services produced, sold and bought by the municipalities and joint municipal authorities are also collected as basic data for the statistics.

Data on municipalities' and joint municipal authorities' profit and loss accounts, financial statements, balance sheets, consolidated balance sheets and municipal companies' financial statements are collected according to the binding financial statement formula issued by the Municipal Section of the Accounting Board for municipalities and joint municipal authorities. The reliability of these data is good.

Data on the investment expenses and income of municipalities and joint municipal authorities are collected by product type with the same function classification as the data on activity expenditure and income specified by function. The product type classification is concordant with the balance sheet and financial statements recommendations of the Municipal Section of the Accounting Board. To this extent, the reliability is good.

10.2.2 Labour Force Survey

The Labour Force Survey /LFS) collects statistical data on the participation in work, employment and unemployment and activity outside the labour force among the population aged between 15 and 74. Since 1999, a joint EU survey with annually changing topics has been conducted in connection with the Labour Force Survey. Some of the topics are repeated regularly.

The Labour Force Survey produces monthly, quarterly and annual data on employment, unemployment, different employment relationships, working hours and work input. The activity of the population outside the labour force is also examined. Data are available by sex, education, industry, age

and area. In addition, the Labour Force Survey contains annually reported data on the employment of households. The majority of the data collected are required by the EU Regulation. The basic data are confidential.

The Labour Force Survey data collection is based on a random sample drawn twice a year from Statistics Finland's population database. The size of the sample is approximately 12,000 persons per month. The data are collected with a computer-assisted telephone interview. One respondent is interviewed altogether five times.

At the beginning of 2021, the data content, data collection and estimation method of the Labour Force Survey were revised. The content of the questionnaire was harmonised more closely than before between different EU countries to improve the comparability of the data. The data content was extended and the data collection method was renewed by offering the respondents the possibility to respond not only with telephone and face-to-face interviews but also with a web questionnaire. Persons aged 75 to 89 were included in the survey as a new age group. Monthly and quarterly data are still published for those aged 15 to 74.

Table 212: Labour Force Survey

Name of survey: Labour Force Survey
Link to European level surveys: Belongs to EU-harmonised surveys.
Respondent units: Person
Frequency: Monthly
Availability time of results: Around three weeks after the end of the statistical month
Sampling frame: The sample is drawn twice a year as a stratified random sample from Statistics Finland's population database, which is based on the Central Population Register.
Is the survey obligatory or voluntary: Voluntary
Main principles of the survey method: The survey is a panel survey in which one person is interviewed five times. The interviews are conducted every three months, apart from the fourth interview, which is conducted six months after the third interview. The first and last interviews are 15 months apart. The sample of each month consists of approximately 12,000 persons, which is, on the average, every 300th person in the population. The sample for one survey month consists of five rotation groups which have entered the survey at different points of time. The sample changes gradually so that different persons answer the questions during three consecutive months. In consecutive quarters three-fifths of the respondents are the same. The overlapping of samples for successive years is two fifths. The data are collected for all weeks of the year. Computer-assisted, mainly telephone interview.
Population: Persons aged between 15 and 74 who are permanent residents of Finland. The population also includes persons residing abroad temporarily (less than a year) as well as foreign nationals registered in the Finnish Population Information System who will reside in Finland at least one year.
Sample size: Every month around 12,000 persons
Survey response rate: On average, the non-response rate of this survey was 35 per cent.

Calculation method for missing data: The effects of non-response on the results are corrected by using so-called weight calibration, in which weighting is used to produce the correct population distributions by area, sex and age. Information from the jobseeker register of the Ministry of Economic Affairs and Employment is also used as supplementary data.
Variable used to proportion the results to the population: Stratum population/number of responses.
The coverage of the sample in percentages of the variable used in proportioning:
Main variables collected: Labour force, employed persons, unemployed persons, occupation, working hours, industry, type of employment relationship
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: In the National Accounts, conscripts are included in employed persons.
Other adjustments of survey data:

10.2.3 Index of wage and salary earnings

The index of wage and salary earnings 2015=100 describes the changes in the average earnings of full-time wage and salary earners for regular working hours by sector, industry, and wage and salary earner group. Taxes have not been subtracted from wages and salaries, and employers' social security contributions and overtime work does not affect the index.

The index of wage and salary earnings is calculated quarterly based on statistics on wages and salaries from various fields. The index is a Laspeyres-type unit value index, where wage and salary earners have been classified according to groups based on employer sector, industry and hourly-paid or monthly-paid employees. The total number of average earnings series according to the group's earnings concept is 314 (occupations total and genders total), which have annually changing wage and salary sum weights.

The index of wage and salary earnings is calculated quarterly and the necessary data on average earnings and number of persons are primarily received once a year. TOL2008 is used as the industrial classification that corresponds with the NACE rev2 classification. The industries of the index of wage and salary earnings are divided into hourly-paid and monthly-paid wage and salary earners. Nearly all basic series of the index of wage and salary earnings have also been divided into series by gender. However, gender is not otherwise the basis for the calculation of the official index of wage and salary earnings, the basis is the base series containing both sexes.

The index of wage and salary earnings adopted a calculation method for annual chain index starting from the 2015=100 index. The index is calculated so that the development of earnings by wage and salary earner group is calculated for each year compared to the last quarter of the previous year and the relative changes in earnings thus obtained are weighted together with the wages and salaries sum weights of the previous year. The relative changes in the earnings for each year are chained

together so that the overall change of the earnings level is obtained starting from the base year 2015.

The data of the index of wage and salary earnings are based on data on wages and salaries collected from different employer sectors. The basic data cover around two-thirds of all full-time wage and salary earners in Finland. There are four employer sectors: private, state, municipalities (incl. joint municipal authorities) and others. The central government sector only includes units belonging to the budgetary finances. The others sector includes different non-profit institutions, such as Evangelical Lutheran parishes, labour market organisations, funds and social funds not belonging to the state or municipalities' budgetary finances. Since the beginning of 2010, universities have also belonged to the other non-profit sector instead of the central government sector. The private sector is divided according to different types of wages and salaries datasets. The biggest data on private sector wages and salaries are data on wages and salaries of member enterprises in the manufacturing and service industries of the Confederation of Finnish Industries EK. In addition to EK data, the index of wage and salary earnings includes wages and salaries data of some smaller employer organisations. Statistics Finland's own inquiry on wages and salaries based on a sample is used to complement statistics on wages and salaries compiled by organised employers in those industries where the proportion of organised employers is lower than average, for example, on account of the high number of small enterprises.

10.2.4 Incomes Register

The Incomes Register is a national online database. It contains comprehensive information on individuals' wages and salaries, pensions and benefits. Employers report individuals' earnings to the Incomes Register in real time, whenever a payment is made. It is no longer necessary to report them to each authority separately.

As of 2019, information on wages and salaries and earned income is reported to the Incomes Register. Information on pensions and benefits is also reported as of 2021. The obligation to report information to the Incomes Register applies to all payers of wage and salary data as of 1 January 2019 and all payers of benefits as of 1 January 2021.

Data can be submitted via an interface, by uploading files in the Incomes Register's e-service or by entering the information in an online form. Information on wages and salaries can be submitted on paper only in special circumstances. Information on pensions and benefits cannot be submitted on a paper form. The Finnish Tax Administration's Incomes Register Unit will maintain the register and serve as the responsible authority.

10.3 Statistical surveys and other data sources used for the expenditure approach

10.3.1 Household Budget Survey

The Household Budget Survey carried out by Statistics Finland in separately agreed years is the main source for households' consumption expenditure (Section 5.7).

Statistics Finland's Household Budget Survey produces information on changes in the consumption expenditure of households and on differences in consumption by population group. The Survey also studies households' housing conditions, possession of durable goods and income. In addition, the survey produces data on the benefit gained from the use of social services and the amounts of food bought home. The survey is a sample survey, for which data were collected in 2016 from households with telephone interviews and diaries filled in by them, and from purchase receipts and administrative registers. From 1966 until 1990, the survey was conducted regularly at five-year intervals. From 1994 to 1996 the survey was carried out annually. Since then, Household Budget Surveys have been conducted in 1998, 2001, 2006, 2012 and 2016.

In the so-called main groups of the 2016 consumption expenditure, the relative standard error was under four per cent apart from education expenditure (close on seven per cent). The most reliable data come from the biggest consumption expenditure groups (food and non-alcoholic beverage, and housing and energy). The relative standard errors for clothing and footwear and education expenditure are highest.

Table 213: Household Budget Survey

Name of survey: Household Budget Survey
Link to European level surveys: Belongs to EU-harmonised surveys.
Respondent units: The target population of the survey comprises private households permanently resident in Finland, i.e. the so-called household population. Excluded from the population are persons permanently resident abroad, persons without a postal address and the institutional population (e.g. long-term residents of old people's homes, care institutions, prisons or hospitals).
Frequency: Every five to six years.
Availability time of results: Preliminary results are available around one year after the survey ends, the final results in about 1.5 years after the survey ends.
Sampling frame: The survey is based on a sample for which the information has been collected by interviewing households, from diaries completed by households, from receipt information and from administrative registry data. In the 2016 data collection, some of the face-to-face interviews were for cost reasons replaced with two telephone interviews. In other respects, the method remains unchanged.
Is the survey obligatory or voluntary: Voluntary
Main principles of the survey method: Statistics Finland's Household Budget Survey produces information on changes in the consumption expenditure of households and on differences in consumption by population

group. The survey also studies households' housing conditions, possession of durable goods, the benefit gained from the use of social services and income.
Population: The population of the survey comprises households permanently resident in Finland, i.e. the so-called household population. In 2016, there were 2.677 million households.
Sample size: In 2016, the size of the final population was 8,023 persons. In addition, an additional sample of 208 households was picked from households in Åland.
Survey response rate: The final data after non-response covered 3,673 households and the response rate was 45.8 per cent.
Calculation method for missing data: --
Variable used to proportion the results to the population: The elevation coefficient, which is calculated separately for each household included in the survey.
The coverage of the sample in percentages of the variable used in proportioning: --
Main variables collected: Individual consumption items in the National Accounts (at the accuracy of ECOICOP).
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: In principle, the same classification (ECOICOP) is used in both, although there are conceptual differences in some items (e.g. insurances, used cars). These differences are taken into account in the calculations of the National Accounts, not in the Household Budget Survey.
Other adjustments of survey data: --

10.3.2 International trade in goods statistics

International trade in goods statistics depict the goods trade (internal and external) between Finland and other member countries of the European Union (EU) and between Finland and third countries. The foreign trade statistics are an official data source on Finnish imports, exports and the goods account. The condition of the statistics is that goods physically move across the Finnish border.

Table 214: International trade in goods statistics

Name of data source: International trade in goods statistics
Organisation collecting the data, and purposes for which it is collected: Customs Finland, International trade statistics
Reporting units: legal units
Periodicity: monthly
Variables collected: product (CN), counterpart country (country of origin and country of consignment), net mass (kg), supplementary unit, nature of transaction, statistical value
Methods used to allow for missing data: -
Further adjustments made to the data: CIF-FOB-adjustment, defining change of economic ownership based on nature of transaction codes

10.3.3 International trade in services and international flows of goods

The main source for exports and imports of services is Statistics Finland's enterprise inquiry on international trade in services and international flows of goods. The survey is split into quarterly and annual inquiries and information is broken down by country and service type. Survey includes most service trade and goods sold and purchased abroad by enterprises and general government units. Survey does not cover insurance and pension services, FISIM or government services, n.i.e.

Table 215: International trade in services and international flows of goods

Name of survey: International trade in services and international flows of goods
Link to surveys undertaken at the European level (e.g. structural business statistics): International trade in Services Survey
Reporting units (e.g. enterprise/ local KAU/ household): legal unit
Periodicity (e.g. annual/quarterly/other- to be specified): quarterly / annual
Time of availability of results (e.g. 18 months after the end of the survey period): quarterly survey 10 weeks after the end of the survey period / annual survey 9 months after the end of the survey period
Sampling frame: (e.g. name of business register used/ population census): Based on business register and VAT information
Survey is compulsory or voluntary? compulsory
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): Stratified PPS/SRS (depending on activity) sample, stratification based on activity, number of employees and type of ownership.
Population size: approximately 60 000 units
Sample size: approximately 3 000 units
Survey response rate: approximately 75 %
Method used to impute for missing data: based on information from respondent prior data or VAT records
Variable used for grossing-up to the population (e.g. turnover/ employment): VAT intra EU sales and purchases
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): Sample covers approximately 90 % of VAT records of the population
Main variables collected: product (EBOPS 2010), counterpart country, statistical value
Further adjustments made to the survey data: Treatment of so-called project deliveries which are converted to engineering services

10.3.4 Frascati Manual Survey (Survey conducted by R&D statistics)

Table 216: Frascati Manual Survey

Name of survey: Frascati Manual Survey (Survey conducted by R&D statistics)
Link to surveys undertaken at the European level (e.g. structural business statistics): Survey is undertaken according to the Frascati Manual

Reporting units (e.g. enterprise/ local KAU/ household): enterprise
Periodicity (e.g. annual/quarterly/other- to be specified): annual
Time of availability of results (e.g. 18 months after the end of the survey period): 10 months
Sampling frame: (e.g. name of business register used/ population census): Finnish business register
Survey is compulsory or voluntary? compulsory
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): partly sampling and partly a panel
Population size: -
Sample size: 6060 in 2018.
Survey response rate: 59,8% in 2018.
Method used to impute for missing data: If the R&D expenditure of the previous year exceeds 170 000 Euros, the R&D expenditure of the current year is imputed with the help of turnover.
Variable used for grossing-up to the population (e.g. turnover/ employment): turnover
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): -
Main variables collected: R&D expenditure, estimate of the R&D expenditure of the following year
Further adjustments made to the survey data: No adjustments

10.4 Statistical surveys and other data sources used for the transition from GDP to GNI

10.4.1 Quarterly inquiry on financial assets and liabilities (BOPQ)

The inquiry collects information on financial assets and liabilities (intra-group and non-group) of Finnish enterprises and entities at the quarterly level. The data are collected from the largest enterprises and entities operating in Finland, which have significant foreign or domestic financial assets and liabilities. The inquiry covers all domestic sectors (excl. financial institutions, investment funds, insurance corporations, households and employment pension schemes). The inquiry provides data on interests and foreign direct investment dividends.

Table 217: Quarterly inquiry on financial assets and liabilities (BOPQ)

Name of survey: Quarterly inquiry on financial assets and liabilities (BOPQ)
Link to surveys undertaken at the European level (e.g. structural business statistics): -
Reporting units (e.g. enterprise/ local KAU/ household): legal unit
Periodicity (e.g. annual/quarterly/other- to be specified): quarterly
Time of availability of results (e.g. 18 months after the end of the survey period): quarterly survey 10 weeks after the end of the survey period

Sampling frame: The data are collected from the largest enterprises and entities operating in Finland, which have significant foreign or domestic financial assets and liabilities.
Survey is compulsory or voluntary? compulsory
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): cut-off
Population size: Domestic institutional units excl. financial institutions, investment funds, insurance corporations, households and employment pension schemes.
Sample size: approximately 120 units
Survey response rate: approximately 100 %
Method used to impute for missing data: Latest available data is used to impute for missing stocks.
Variable used for grossing-up to the population (e.g. turnover/ employment): -
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): -
Main variables collected: functional category, instrument classification, flowstock, counterpart country, statistical value
Further adjustments made to the survey data: -

10.4.2 Annual inquiry on foreign financial assets and liabilities (BOPA)

Statistics Finland collects data from non-financial corporations, financial and insurance corporations, municipalities and the government on their balance of payments on foreign financial assets and liabilities. Data on the organization’s or its Finnish affiliate's balance of payments on foreign financial assets and liabilities are reported in the inquiry. The inquiry covers intra-group and external foreign assets and liabilities.

Table 218: Annual inquiry on foreign financial assets and liabilities (BOPA)

Name of survey: Annual inquiry on foreign financial assets and liabilities (BOPA)
Link to surveys undertaken at the European level: -
Reporting units: legal unit
Periodicity: annual
Time of availability of results: approximately 8.5 months after the period’s end
Sampling frame: Entities in Statistics Finland’s business register that have a direct investment relationship with a foreign entity. In addition, Finnish entities having large balance sheet total but no direct investment relationship.
Survey is compulsory or voluntary? compulsory
Main features of survey methodology: cut-off

Population size: Domestic institutional units excl. households
Sample size: approximately 1100 units
Survey response rate: approximately 93 %
Method used to impute for missing data: Latest available data gathered from the previous inquiries or financial statements is used.
Variable used for grossing-up to the population: Balance sheet total of all the entities in the sampling frame.
Sample coverage, as % in terms of variable used for grossing-up: 97 %
Main variables collected: functional category, instrument classification, flowstock, counterpart country, statistical value
Further adjustments made to the survey data: -

10.4.3 MFI Data collection (RATI)

Table 219: MFI Data collection (RATI)

Name of data soucre: MFI Data collection (RATI)
Organisation collecting the data, and purposes for which it is collected: The Bank of Finland collects statistical data on credit institutions. The RATI survey covers required data for the following: ECB's and national balance sheet and interest rate statistics, balance of payments and financial accounts statistics, and the Bank for International Settlement's (BIS) banking statistics.
Reporting units: legal unit
Periodicity: Monthly
Variables collected: counterpart country, counterpart sector, reference sector, functional category, instrument, assets and liabilities, dividends, interests, position
Methods used to allow for missing data: -
Further adjustments made to the data:

10.4.4 Investment fund balance sheet statistics (SIRA)

Table 220: Investment fund balance sheet statistics (SIRA)

Name of data source: Investment fund balance sheet statistics (SIRA)
Organisation collecting the data, and purposes for which it is collected: The data collection framework covers the needs of the Bank of Finland, Financial Supervision Authority and Statistics Finland. The Bank of Finland is responsible for data collection and publication of statistics.
Reporting units: legal unit
Periodicity: Monthly
Variables collected: counterpart country, counterpart sector, reference sector, functional category, instrument, assets and liabilities, dividends, interests, position
Methods used to allow for missing data: -
Further adjustments made to the data:

10.4.5 Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government (SAVE)

Table 221: Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government (SAVE)

Name of data soucre: Survey on security-based assets and liabilities of non-financial corporations, financial corporations and central government (SAVE)
Organisation collecting the data, and purposes for which it is collected: Bank of Finland. The data are used particularly by the Bank of Finland, Statistics Finland, and the European Central Bank (ECB) in the compilation of balance of payments, financial statistics, and statistics on holdings of securities for Finland and the euro area.
Reporting units: The reporting obligation applies to companies, financial and insurance institutions and general government sector entities resident in Finland and selected by the Bank of Finland on the basis of a sample.
Periodicity: Monthly
Variables collected: Category, Instrument / Security type, Internal identification code, ISIN code, Instrument’s name, Number of instruments, Total nominal value, Nominal currency, Total market value, Market currency, Intra-group item, Dividends, Dividend currency, Issue date, Maturity date, Next coupon date, Coupon rate, Coupon frequency, Issuer’s sector, Issuer’s home country, Contracting party’s home country, Country of issuance
Methods used to allow for missing data: -
Further adjustments made to the data: Government bond / National debt adjustment

10.4.6 Survey of deposit banks and investment firms providing custody and asset management services (TIHA)

Table 222: Survey of deposit banks and investment firms providing custody and asset management services (TIHA)

Name of data source: Survey of deposit banks and investment firms providing custody and asset management services (TIHA)
Organisation collecting the data, and purposes for which it is collected: Bank of Finland. The data are used particularly by the Bank of Finland, Statistics Finland, and the European Central Bank (ECB) in the compilation of balance of payments, financial statistics, and statistics on holdings of securities for Finland and the euro area.
Reporting units: resident deposit banks providing securities investment and custody services and other resident companies providing said services
Periodicity: Monthly
Variables collected: Asset, Internal identification code, ISIN code, Instrument’s name, Number of instruments, Total nominal value, Nominal currency, Market value, Market value, Dividends, Dividend currency, Issue Date, Maturity date, Next coupon date, Coupon rate, Coupon frequency, Issuer's sector, Issuer's home country, Type of holder's identifier, Holder's identifier, Holder's name, Holder's sector, Holder's home/taxation country

Methods used to allow for missing data: -
Further adjustments made to the data: Portfolio debt adjustment,

ANNEXES

ANNEX 1 GNI Process Table

(a separate Excel-file)

ANNEX 2 Classification of Sectors

Table 223: The Classification of Sectors, the left column contains the ESA 2010 -code and the next column gives the corresponding FNA heading

EKT 2010 -code	FNA 2010 -code	Sektoriluokitus (S)	Classification of sectors (S)
S.1	S1	Koko kansantalous (kotimaiset sektorit yhteensä)	Total economy
S.11	S11	Yritykset	Non-financial corporations
	S111	Yritykset pl. asuntoyhteisöt	Non-financial corporations excl. housing corporations
	S112	Asuntoyhteisöt	Housing corporations
S.12	S12	Rahoitus- ja vakuutuslaitokset	Financial and insurance corporations
S.121	S121	Keskuspankki	Central bank
S.122	S122	Muut rahalaitokset	Other monetary financial institutions
	S1221	Talletuspankit	Deposit banks
	S1222	Muut luottolaitokset	Other credit institutions
	S1223	Muut rahalaitokset kuin luottolaitokset	Other monetary financial institutions, excl. credit institutions
S.123	S123	Rahamarkkinarahastot	Money market funds (MMF)
S.124	S124	Yhteissijoitusyritykset pl. rahamarkkinarahastot	Collective investment schemes, excl. money market funds
	S1241	Sijoitusrahastot (UCITS)	Investment funds (UCITS)
	S1242	Muut yhteissijoitusyritykset	Other collective investment schemes
S.125	S125	Muut rahoituksen välittäjät	Other financial intermediaries
S.126	S126	Rahoituksen ja vakuutuksen välitystä avustavat laitokset	Financial auxiliaries
S.127	S127	Konserninsisäiset rahoitusyksiköt ja rahanlainaajat	Captive financial institutions and money lenders
S.128	S128	Vakuutuslaitokset	Insurance corporations
S.129	S129	Vapaaehtoiset eläkerahastot	Pension funds
S.121+S.122+S.123	S121+S122+S123	Rahalaitokset	Monetary financial institutions
S.13	S13	Julkisyhteisöt	General government
S.1311	S1311	Valtionhallinto	Central government
S.1313	S1313	Paikallishallinto	Local government
S.1314	S1314	Sosiaaliturvarahastot	Social security funds
	S13141	Työeläkelaitokset	Employment pension schemes
	S13149	Muut sosiaaliturvarahastot	Other social security funds
S.14	S14	Kotitaloudet	Households
S.15	S15	Kotitalouksia palvelevat voittoa tavoittelemattomat yhteisöt	Non-profit institutions serving households
S.2	S2	Ulkomaat	Rest of the world
S.21	S21	Euroopan unioni	Member states and institutions and bodies of the European Union
S.211	S211	EU-maat	Member states of the European Union

S.2111	S2111	Euroalueen maat	Member states of the euro area
S.2112	S2112	Euroalueen ulkopuoliset EU-maat	Member states outside of the European Union
S.212	S212	EU:n instituutiot	Institutions and Bodies of the Euro area
S.2121	S2121	Euroopan keskuspankki (EKP)	The European Central Bank
S.2122	S2122	Muut EU:n instituutiot	European institutions and bodies, except the ECB
S.22	S22	Muut maat ja kansainväliset järjestöt	Non-member countries and international organisations non-resident in the European union

ANNEX 3 Classification of Industries

Table 224: Standard Industrial Classification FNA 2010 and NACE rev.2

NACE rev.2	FNA 2010	Toimialaluokitus	Industrial classification
	0	0 Toimialat yhteensä	0 Industries total
A	A	A Maa-, metsä- ja kalatalous	A Agriculture, forestry and fishing
01	01	Maatalous ja metsästys	Agriculture and hunting
01.1_01.6	011_016	Maatalous	Agriculture
01.7	017	Metsästys	Hunting
02_03	02_03	Metsätalous ja kalatalous	Forestry; Fishing
02	02	Metsätalous	Forestry
02.1	021	Metsänhoito	Silviculture and other forestry activities
02.2	022	Puunkorjuu	Logging
02.3	023	Luonnon tuotteiden keruu (pl. polttopuu)	Gathering of wild growing non-wood products
02.4	024	Metsätaloutta palveleva toiminta	Support services to forestry
	025	Metsien nettokasvu	Net growth of forests
03	03	Kalatalous	Fishing
01.7+03	017+03	Riista- ja kalatalous	Hunting and fishing
B	B	B Kaivostoiminta ja louhinta	B Mining and quarrying
05_06	05_06	Hiilen kaivu, raakaöljyn ja maakaasun tuotanto	Mining of coal and extraction of crude petroleum and natural gas
05_09	05_09	Kaivostoiminta ja louhinta	Mining and quarrying
07	07	Metallimalmien louhinta	Mining of metal ores
08	08	Muu kaivostoiminta ja louhinta	Other mining and quarrying
09	09	Kaivostoimintaa palveleva toiminta	Mining support service activities
C	C	C Tehdasteollisuus	C Manufacturing
10_12	10_12	Elintarviketeollisuus ym.	Food industry, etc.
10	10	Elintarvikkeiden valmistus	Manufacture of food products
11	11	Juomien valmistus	Manufacture of beverages
12	12	Tupakkatuotteiden valmistus	Manufacture of tobacco products
13_15	13_15	Tekstiili-, vaatetus- ja nahkateollisuus	Textile, clothing and leather industries
13	13	Tekstiilien valmistus	Manufacture of textiles
14	14	Vaatteiden valmistus	Manufacture of wearing apparel
15	15	Nahan ja nahkatuotteiden valmistus	Manufacture of leather and related products
16_17	16_17	Metsäteollisuus	Forest industry
16_18	16_18	Puuteollisuus; Paperiteollisuus ja painaminen	Forest industry; Printing
17_18	17_18	Paperiteollisuus ja painaminen	Paper industry; Printing
16	16	Puuteollisuus	Woodworking industry

17	17	Paperiteollisuus	Paper industry
18	18	Painaminen	Printing
19_22	19_22	Kemianteollisuus	Chemical industry
19	19	Öljynjalostus	Manufacture of coke and refined petroleum products
20	20	Kemikaalien ja kemiallisten tuotteiden valmistus	Manufacture of chemicals and chemical products
21	21	Lääketeollisuus	Pharmaceutical industry
22_23	22_23	Kumi- ja muovituotteiden valmistus sekä rakennusaineteollisuus	Manufacture of rubber and plastic products and manufacture of other non-metallic mineral products
22	22	Kumi- ja muovituotteiden valmistus	Manufacture of rubber and plastic products
23	23	Rakennusaineteollisuus	Manufacture of other non-metallic mineral products
24_30+33	24_30+33	Metalliteollisuus	Metal industry
24_25+28_30+33	24_25+28_30+33	Metalliteollisuus pl. sähkö- ja elektroniikkateollisuus	Metal industry excl. manufacture of electrical and electronic products
24_25	24_25	Metallien jalostus ja metallituotteiden valmistus (pl. koneet ja laitteet)	Manufacture of basic metals; Manufacture of fabricated metal products
24_30	24_30	Metallien, metallituotteiden, elektroniikan, sähkölaitteiden, koneiden, laitteiden ja kulkuneuvojen valmistus	Manufacture of basic metals, fabricated metal products, electrical and electronic products, machinery and equipment and transport equipment
24	24	Metallien jalostus	Manufacture of basic metals
25	25	Metallituotteiden valmistus	Manufacture of fabricated metal products
26_27	26_27	Sähkö- ja elektroniikkateollisuus	Manufacture of electrical and electronic products
26	26	Elektroniikkateollisuus	Electronics industry
27	27	Sähkölaitteiden valmistus	Manufacture of electrical equipment
28	28	Muiden koneiden ja laitteiden valmistus	Manufacture of machinery and equipment n.e.c.
29_30	29_30	Kulkuneuvojen valmistus	Manufacture of transport equipment
29	29	Moottoriajoneuvojen ym. valmistus	Manufacture of motor vehicles, etc.
30	30	Muiden kulkuneuvojen valmistus	Manufacture of other transport equipment
31_32	31_32	Muu valmistus ml. huonekalut	Manufacture of furniture and other products
31_33	31_33	Huonekalujen valmistus; Muu teollinen valmistus; Koneiden ja laitteiden korjaus, huolto ja asennus	Manufacture of furniture; Other manufacturing; Repair and installation of machinery and equipment
31	31	Huonekalujen valmistus	Manufacture of furniture
32	32	Muu valmistus	Other manufacturing
33	33	Koneiden ja laitteiden korjaus, huolto ja asennus	Repair and installation of machinery and equipment
D	D	D Energiahuolto	D Electricity, gas, steam and air conditioning supply
E	E	E Vesi- ja jätehuolto	E Water supply and waste management
35_39	35_39	Energiahuolto; Vesi- ja jätehuolto	Water supply and waste management
35	35	Energiahuolto	Electricity, gas, steam and air conditioning supply
36	36	Veden otto, puhdistus ja jakelu	Water collection, treatment and supply
37_39	37_39	Jäte- ja jätevesihuolto	Sewerage and waste management
37	37	Viemäri- ja jätevesihuolto	Sewerage

38	38	Jätehuolto ja kierrätys	Waste collection, etc. activities; materials recovery
39	39	Muut ympäristönhuoltopalvelut	Remediation activities and other waste management services
F	F	F Rakentaminen	F Construction
41_43	41_43	Rakentaminen	Construction
41+43.2_43.9	41+432_439	Talonrakentaminen ym.	Building construction, etc.
42+43.1	42+431	Maa- ja vesirakentaminen ym.	Civil engineering, etc.
G	G	G Kauppa	G Trade
45_47	45_47	Tukku- ja vähittäiskauppa, moottoriajoneuvojen ja moottoripyörien korjaus	Trade and repair of motor vehicles, etc. ; Wholesale trade; Retail trade
45	45	Autojen ym. kauppa, korjaus ja huolto	Trade and repair of motor vehicles, etc.
46	46	Tukkukauppa (pl. autot ym.)	Wholesale trade (excl. motor vehicles, etc.)
47	47	Vähittäiskauppa (pl. autot ym.)	Retail trade (excl. motor vehicles, etc.)
H	H	H Kuljetus ja varastointi	H Transportation and storage
49_53	49_53	Kuljetus ja varastointi	Transportation and storage
49	49	Maaliikenne	Land transport
50	50	Vesiliikenne	Water transport
51	51	Ilmaliikenne	Air transport
52	52	Varastointi ja liikennettä palveleva toiminta	Warehousing and support activities for transportation
53	53	Posti- ja kuriiritoiminta	Postal and courier activities
I	I	I Majoitus- ja ravitsemistoiminta	I Accommodation and food service activities
55_56	55_56	Majoitus- ja ravitsemistoiminta	Accommodation and food service activities
55	55	Majoitus	Accommodation
56	56	Ravitsemistoiminta	Food and beverage service activities
J	J	J Informaatio ja viestintä	J Information and communication
58_63	58_63	Kustannustoiminta; Audiovisuaalinen toiminta; Televiestintä; Tietojenkäsittelypalvelu	Publishing activities; Audio-visual activities; Telecommunications; Computer and information service activities
58	58	Kustannustoiminta	Publishing activities
59_60	59_60	Audiovisuaalinen toiminta	Audio-visual activities
61	61	Televiestintä	Telecommunications
62_63	62_63	Tietojenkäsittelypalvelu	Computer and information service activities
K	K	K Rahoitus- ja vakuutustoiminta	K Financial and insurance activities
6.4_6.6	64_66	Rahoitus- ja vakuutustoiminta	Financial and insurance activities
6.4	64	Rahoitustoiminta	Financial activities
6.5	65	Vakuutustoiminta ym.	Insurance activities
6.6	66	Rahoitusta ja vakuutusta palveleva toiminta	Activities auxiliary to financial and insurance activities
L	L	L Kiinteistöalan toiminta	L Real estate activities
68	68	Kiinteistöalan toiminta	Real estate activities
	68A	Asuntojen ja asuinkiinteistöjen hallinta	Operation of dwellings and residential real estate
	68201_68202	Asuntojen vuokraus ja hallinta	Letting and operation of dwellings
	68201	Asuntojen vuokraus	Letting of dwellings

	68202	Asuntojen hallinta	Operation of dwellings
	681+68209+683	Muu kiinteistötoiminta	Other real estate activities
M	M	M Ammatillinen, tieteellinen ja tekninen toiminta	M Professional, scientific and technical activities
69_75	69_75	Ammatillinen, tieteellinen ja tekninen toiminta	Professional, scientific and technical activities
69_70	69_70	Liikkeenjohdon palvelut	Business management activities
69_71	69_71	Liikkeenjohdon palvelut, Arkkitehti- ja insinööripalvelut; tekninen testaus ja analysointi	Business management activities, Architectural and engineering activities; technical testing and analysis
69	69	Lakiasiain- ja laskentatoimen palvelut	Legal and accounting activities
70	70	Pääkonttorien toiminta; liikkeenjohdon konsultointi	Activities of head offices; management consultancy
71	71	Tekniset palvelut	Architectural and engineering activities, etc.
72	72	Tieteellinen tutkimus ja kehittäminen	Scientific research and development
73	73	Mainostoiminta ja markkinatutkimus	Advertising and market research
73_75	73_75	Mainostoiminta ja markkinatutkimus, muut liike-elämän palvelut ja eläinlääkintä	Advertising and market research, other business activities and veterinary activities
74_75	74_75	Muut liike-elämän palvelut ja eläinlääkintä	Other business activities and veterinary activities
74	74	Muut erikoistuneet palvelut liike-elämälle	Other professional, scientific and technical activities
75	75	Eläinlääkintäpalvelut	Veterinary activities
N	N	N Hallinto- ja tukipalvelutoiminta	N Administrative and support service activities
77_82	77_82	Hallinto- ja tukipalvelutoiminta	Administrative and support service activities
77	77	Vuokraus- ja leasingtoiminta	Rental and leasing activities
78	78	Työllistämistoiminta	Employment activities
79	79	Matkatoimistot ym.	Travel agencies, etc.
80_82	80_82	Muut tukipalvelut	Other support services
80	80	Turvallisuus-, vartiointi- ja etsiväpalvelut	Security and investigation activities
81	81	Kiinteistön- ja maisemanhoito	Services to buildings and landscape activities
82	82	Hallinto- ja tukipalvelut liike-elämälle	Office administrative and other business support activities
O	O	O Julkinen hallinto ja sosiaalivakuutus	O Public administration and social security
84	84	Julkinen hallinto ja sosiaalivakuutus	Public administration and social security
84.1_84.2	841_842	Julkinen hallinto	Public administration
84.3	843	Pakollinen sosiaalivakuutustoiminta	Compulsory social security activities
84.22	844	Maanpuolustuskalusto ja varusmiehet	Defence equipment and conscripts
	845	Radanpito	Maintaining of railways
	846	Tienpito	Maintaining of roads and streets
P	P	P Koulutus	P Education
85	85	Koulutus	Education
Q	Q	Q Terveys- ja sosiaalipalvelut	Q Human health and social work activities
86_88	86_88	Terveys- ja sosiaalipalvelut	Human health and social work activities
86	86	Terveyspalvelut	Human health activities
87_88	87_88	Sosiaalipalvelut	Social work activities
R	R	R Taiteet, viihde ja virkistys	R Arts, entertainment and recreation

90_96	90_96	Taiteet, viihde ja virkistys; Muu palvelutoiminta	Arts, entertainment and recreation, Other service activities
90_92	90_92	Kulttuuritoiminta ja rahapelit	Cultural activities and gambling
90_91	90_91	Kulttuuritoiminta	Cultural activities
92	92	Rahapeli- ja vedonlyöntipalvelut	Gambling and betting activities
93	93	Urheilu-, huvi- ja virkistyspalvelut	Sport, amusement and recreation activities
S	S	S Muu palvelutoiminta	S Other service activities
94	94	Järjestöjen toiminta	Activities of membership organisations
95	95	Kotitaloustavaroiden korjaus	Repair of household goods
96	96	Muut henkilökohtaiset palvelut	Other personal service activities
T	T	T Kotitalouspalvelut	T Household service activities
97_98	97_98	Kotitalouspalvelut	Household service activities

ANNEX 4 Classification of producer types

Table 225: Classification of producer types

FNA-code	Tuottajatyyppiluokitus (T)	Classification of producers by type
T0	Tuottajatyypit yhteensä	Types of producers total
T10	Markkinatuottajat	Market producers
T20	Omaan loppukäyttöön tuottajat	Producers for own final use
T30	Muut markkinattomat tuottajat	Other non-market producers

ANNEX 5 Classification of products

Table 226: Finnish National Accounts product classification (NACP)

Code	Tuotenimike	Product heading
011111	Tavallinen vehnä sekä vehnän ja rukiin sekavilja (durumvehnä)	Soft wheat and meslin
011120	Maissi	Maize (corn)
011131	Ohra	Barley
011132	Ruis	Rye
011133	Kaura	Oats
011140	Muu viljat	Other cereals
011160	Palkovilja	Green leguminous vegetables
011180	Öljykasvien siemenet ja hedelmät	Oil seeds and oleaginous fruits
011210	Riisi, esikuorimaton	Rice, not husked
011312	Kaalit	Cabbages
011314	Salaatit	Lettuces
011320	Muut lehti- ja varsivihannekset, melonit	Other leafy or stem vegetables, melons
011332	Kurkut	Cucumbers
011334	Tomaatit	Tomatoes
011335	Muut hedelmän valmistavat vihannekset	Other fruit-bearing vegetables n.e.c.
011341	Porkkanat ja nauriit	Carrots and turnips
011350	Perunat	Potatoes
011355	Muut mukulat ja juuret, sipulit, taimet	Other edible roots and tubers; live plants; bulbs
011371	Sokerijuurikas	Sugar beet
011379	Sokerijuurikkaan ja rehukasvien siemenet	Sugar beet seeds and seeds of forage plants
011389	Sienet, viljellyt	Mushrooms, cultivated
011410	Sokeriruoko	Sugar cane

011510	Valmistamaton tupakka	Unmanufactured tobacco
011611	Tekstiileissä käytetyt raa'at kasviaineet (puuvilla, pellava jne.)	Fibre crops
011619	Kannabiskasvit	Cannabis plants
011900	Oljet ja rehukasvit	Straw and forage
011920	Koristekasvit	Cut flowers and flower buds (including bouquets), wreaths and the like
011925	Kukkien ja kasvisten siemenet	Flower seeds and fruit seeds
011930	Raa'at kasviaineet teollisuuteen	Plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes
012100	Viininrypäleet	Grapes
012200	Banaanit ja muut trooppiset hedelmät	Bananas, pineapples, coconuts etc
012300	Sitrushedelmät	Citrus fruit
012400	Omenat ja muut kota- ja kivihedelmät	Other fruit, locust beans
012500	Marjat, viljellyt	Cultivated berries
012521	Muut hedelmät ja pähkinät	Other fruit, locust beans
012711	Kahvi, paahtamaton	Coffee, not roasted, not decaffeinated
012712	Teelehdet	Tea leaves
012714	Kaakaopavut	Cocoa beans
012800	Mausteet, muut kuin jalostetut	Spices, not processed
012910	Luonnonkumi	Natural rubber
012925	Joulupuut ja muut monivuotiset viljelykasvit	Christmas trees, cut
013000	Istutustuotteet: elävät kasvit, sipulit, mukulat ym.	Planting material: live plants, bulbs, tubers and roots, cuttings and slips; mushroom spawn
014110	Nautakarja	Bovine cattle, live
014120	Maito, jalostamaton	Raw milk from bovine cattle
014310	Hevoset	Horses. Live
014510	Lampaat, vuohet	Sheep, live
014511	Porot	Reindeer meat and raw hides
014530	Villa ja eläimenkarva	Wool and animal hair
014610	Elävät siat	Swine, live
014710	Elävä siipikarja	Poultry, live
014720	Kuorelliset munat	Eggs, in shell
014910	Muut elävät eläimet	Other live animals
014920	Muut eläintuotteet	Other farm animal products n.e.c.
014921	Luonnonhunaja	Natural honey
014930	Raa'at turkisnahat	Raw furskins and miscellaneous raw hides and skins
016000	Maatalouspalvelut	Agricultural and animal husbandry services, except veterinary services
017100	Riistan liha	Hunting and trapping
017200	Metsästystä palveleva toiminta ja riistanhoito	Services incidental to hunting
021100	Metsäpuiden taimet	Plants of forest trees
021200	Metsänviljely	Forest cultivation
021310	Mäntytukkipuu	Logs of pinewood
021320	Kuusitukkipuu	Logs of spruce
021330	Lehtitukkipuu (tukit muuta kuin havupuuta)	Logs of non-coniferous wood
021340	Mäntykuitupuu	Pulpwood, pinewood
021350	Kuusikuitupuu	Pulpwood, spruce
021360	Lehtikuitupuu	Pulpwood, non-coniferous wood
021370	Polttopuu ja hake	Fuel wood and wood chips
021380	Muu raakapuu (erikoispuutavaralajit)	Other wood in the rough (special timber assortments)

021385	Muut metsätalouden tuotteet	Other products incidental to forestry and logging
022000	Puunkorjuu- ja lähikuljetuspalvelut	Timber harvesting and short distance haul
023100	Metsämarjat	Forest berries
023200	Metsäsienet	Forest mushrooms
023300	Muut keräilytuotteet	Other products of collecting economy
024000	Metsätaloutta avustavat palvelut	Services incidental to forestry and logging
030010	Kala, elävä	Fish, live (fry)
030021	Kala, tuore tai jäähdytetty	Fish, fresh or chilled
030029	Kala virkistyskalastuksesta	Fish, recreational fishing
030080	Muut kalatalouden tuotteet	Other products incidental to fishing
030090	Kalatalouden palvelut	Services incidental to fishing
050000	Kivihiili	Coal and lignite
061000	Raakaöljy (maaöljyt ym)	Crude petroleum
062000	Luonnonkaasu eli maakaasu	Natural gas, liquefied or in gaseous state
071000	Rautamalmit	Iron ores
072911	Kuparimalmit ja -rikasteet	Copper ores and concentrates
072912	Nikkelimalmit ja -rikasteet	Nickel ores and concentrates
072915	Lyijy-, sinkki- ja tinamalmit ja niiden rikasteet	Lead, zinc and tin ores and concentrates
072920	Muut värimetallimalmit ja rikasteet	Other non-ferrous metal ores and concentrates n.e.c.
081090	Soran tai hiekan nosto-, seulonta-, lajittelu- sekä kiven murskaus- yms. käsittelypalvelut	Quarrying, sorting, grinding etc services of gravel or sand
081110	Koriste- tai rakennuskivi (graniitti, hiekkakivi ym.)	Ornamental or building stone (marble, granite etc.)
081120	Kalkkikivi, kipsikivi, liitu ja liuskekivi.	Limestone, gypsum, chalk and slate
081210	Luonnonhiekka, kivirouheet, -sirut ja -jauheet sekä kuonan ja sen kaltaisten teollisuusjätteiden seokset	Gravel and sand
081220	Savi ja kaoliini	Clays and kaolin
089100	Kemialliset ja lannoitemineraalit	Chemical and fertiliser minerals
089200	Turve	Peat
089300	Suola ja puhdas natriumkloridi	Salt and pure sodium chloride
089900	Muut mineraalit	Other minerals
099090	Muiden kivennäisaineiden (myös kemiallisten mineraalien) louhinta-, nosto- yms. käsittelypalvelut	Support services to other mining and quarrying n.e.c.
101111	Naudanliha, tuore, jäähdytetty ja jäädytetty	Meat of bovine animals, fresh, chilled or frozen
101112	Sianliha, tuore, jäähdytetty ja jäädytetty	Meat of swine, fresh, chilled or frozen
101113	Karitsan ja lampaanliha, tuore,jäähdytetty ja jäädytetty	Meat of sheep, fresh, chilled or frozen
101114	Muu liha ja muut syötävät eläimenosat	Meat of goats, horses and other equines, fresh, chilled or frozen
101140	Vuotavilla sekä nauta- ja hevoseläinten, lampaiden ja vuohien raakavuodat ja nahat	Pulled wool and raw hides and skins of bovine or equine animals, sheep and goats
101150	Naudan, lampaan, vuohen tai sian rasva	Fats of bovine animals, sheep, goats or pigs
101160	Raa'at eläimenosat, syötäväksi kelpaamattomat	Raw offal, inedible
101190	Teurastus- ja lihanleikkuupalvelut	Sub-contracted operations as part of manufacturing of processed and preserved meat
101200	Jalostettu ja säilötty siipikarjan liha	Processed and preserved poultry meat
101210	Höyhenet ja höyhenpeitteiset linnunnahat	Feathers and skins of birds with feathers
101311	Liha: palat, suolattu, kuivattu tai savustettu, muut syötävät eläimenosat (suolatut, suolavedessä, kuivatut tai savustetut) sekä lihasta ja muista eläimenosista valmistettu syötävä jauho ja jauhe	Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal
1013141	Makkarat	Sausages and similar products of meat, offal or blood

1013142	Muut valmisteet ja säilykkeet lihasta, muista eläimenosista tai verestä (pl. lihasta tai muista eläimenosista tehdyt valmisruoat)	Other prepared and preserved meat, meat offal or blood, except prepared meat and offal dishes
101316	Jauhot, jauheet ja rakeet (pellets) lihasta tai muista eläimenosista valmistetut, ihmisravinnoksi kelpaamattomat; eläinrasvan sulatusjätteet	Flours, meals and pellets of meat unfit for human consumption; greaves
101390	Lihavalmisteiden tuotantoon liittyvät kypsentämis- ym. valmistuspalvelut	Cooking and other preparation services for the production of meat products; sub-contracted operations as part of manufacturing of meat and poultry meat products
102011	Kalafileet, muu kalanliha ja kalan maksa, mäti ja maiti, tuore tai jäähdytetty	Fish fillets and other fish meat (whether or not minced), livers, roes, fresh or chilled
102013	Kala, kalafileet, muu kalanliha ja kalan maksa, mäti ja maiti, jäädytetty	Fish fillets and other fish meat (whether or not minced), livers, roes, frozen
102021	Kuivattu, suolattu tai suolavedessä oleva kala; savustettu kala; syötävä kalajauhe	Fish fillets, dried, salted or smoked; flours, meals and pellets of fish, fit for human consumption
102025	Kalavalmisteet ja -säilykkeet (pl. valmiit kalaruoat)	Fish, otherwise prepared or preserved, except prepared fish dishes
102030	Äyriäiset, nilviäiset ja muut vedessä elävät selkärangattomat, jäädytetyt, valmistetut tai säilötyt	Crustaceans, molluscs and other aquatic invertebrates, frozen, prepared or preserved
102040	Ihmisravinnoksi kelpaamattomat kalatuotteet	Flours, meals and pellets, unfit for human consumption, and other products n.e.c. of fish or of crustaceans, molluscs or other aquatic invertebrates
102090	Kalan, äyriäisten ja nilviäisten käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of processed and preserved fish, crustaceans and molluscs
103100	Jalostetut tai säilötyt perunat	Processed and preserved potatoes
103200	Hedelmä-, marja- ja kasvismehut	Fruit and vegetable juices
103910	Jalostetut tai säilötyt kasvikset (pl. perunat)	Processed and preserved vegetables, excluding potatoes
103920	Jalostetut tai säilötyt hedelmät, marjat ja pähkinät	Processed and preserved fruit and nuts
103930	Kasviaineet ja kasvialkuperää olevat jätteet sekä kasvialkuperää olevat jätetuotteet ja sivutuotteet	Vegetable materials and vegetable waste, vegetable residues and by-products
103990	Kypsentämiseen tai muuhun valmistukseen liittyvät palvelut (tiivistäminen ym.) hedelmien ja kasvisten säilöntää varten	Cooking and other preparation services for the preservation of fruit and vegetables; sub-contracted operations as part of manufacturing of other processed and preserved fruit and vegetables
104110	Eläinrasvat ja -öljyt sekä niiden jakeet, raa'at	Animal oils and fats, their fractions, crude
104120	Kasviöljyt, raa'at, puuvillalintterit	Vegetable oils, crude; cotton linters
104140	Öljykakut ja muut kasvirasvojen tai -öljyjen kiinteät jätetuotteet; öljysiemen- tai öljyhedelmäjauhot	Oil-cake and other solid residues, of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits
104150	Puhdistetut öljyt (pl. jätetuotteet), eläin- ja kasvirasvat - ja öljyt ja kasvivahat	Refined oils, except residues
104200	Margariini ja sen kaltaiset ravintorasvat	Margarine and similar edible fats
104090	Kasvi- ja eläinöljyjen ja -rasvojen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of vegetable and animal oils and fats
105110	Jalostettu nestemäinen maito ja kerma	Processed liquid milk and cream
105120	Maito ja kerma kiinteässä muodossa	Milk and cream of > 6 % fat, not concentrated or sweetened
105130	Voi ja maitorasvalevitteet	Butter and dairy spreads
105140	Juusto ja juustoaine	Cheese and curd
105150	Muut maitotaloustuotteet	Other dairy products
105200	Jäätelö, mehujää ja niiden kaltaiset jäädytetyt tuotteet, myös kaakaota sisältävät	Ice cream and other edible ice
105090	Maitotaloustuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of dairy products
106110	Riisi, osittain tai kokonaan hiottu, esikuorittu tai rikottu	Rice, semi- or wholly milled, or husked or broken

106120	Viljasta ja kasviksista valmistetut jauhot; niiden seokset	Cereal and vegetable flour; mixes thereof
106130	Rouhe, karkea jauho ja viljapelletit sekä muut viljatuotteet	Groats, meal and pellets and other cereal grain products
106140	Leseet, lesejauhot ja muut viljan käsittelyssä syntyneet jätetuotteet	Bran, sharps and other residues from the working of cereals
106200	Tärkkelys ja tärkkelystuotteet	Starches and starch products
106090	Mylly- ja tärkkelystuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of grain mill products, starches and starch products
107100	Leipä; tuoreet leivonnaiset ja kakut	Bread; fresh pastry goods and cakes
107200	Näkkileipä ja keksit; säilyvät leivonnaiset ja kakut	Rusks and biscuits; preserved pastry goods and cakes
107300	Makaronit, nuudelit, kuskus ja vastaavat jauhotuotteet	Macaroni, noodles, couscous and similar farinaceous products
107090	Leipomotuotteiden, makaronien yms. käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of bakery and farinaceous products
108110	Sokeri	Raw or refined cane or beet sugar; molasses
108120	Sokerijuurikasjätemassa, sokeriruokojäte ja muut sokerinvalmistuksen jätteet	Beet-pulp, bagasse and other waste of sugar manufacture
108210	Kaakaomassa; kaakaovoi, rasva ja öljy; kaakaojauhe	Cocoa paste, whether or not defatted, cocoa butter, fat and oil, cocoa powder
108220	Suklaa ja makeiset	Chocolate and sugar confectionery
108300	Jalostettu tee ja kahvi	Processed tea and coffee
108400	Mausteet ja maustekastikkeet	Condiments and seasonings
108500	Einekset ja valmisruoat	Prepared meals and dishes
108600	Homogenoidut ravintovalmisteet ja dieettiruoka	Homogenised food preparations and dietetic food
108910	Muut elintarvikkeet, muualle luokittelemattomat	Soups, eggs, yeasts and other food products; extracts and juices of meat, fish and aquatic invertebrates
108990	Elintarvikkeiden tuotantoon liittyvät kypsentämis- ym. valmistuspalvelut (pois lukien lihavalmisteet ja kasvikset)	Sub-contracted operations as part of manufacturing of other food products n.e.c.
109100	Valmistettu kotieläinrehu	Prepared feeds for farm animals
109090	Eläinten ruokien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of prepared animal feeds
109200	Valmistetut lemmikkieläinten ruoat	Prepared pet foods
110100	Tislatut alkoholijuomat	Distilled alcoholic beverages
110200	Rypäleistä valmistettu viini	Wine from grape
110300	Siideri ja muut hedelmä- ja marjaviinit	Cider and other fruit wines
110400	Muut tislaamattomat käymistietä valmistetut juomat	Other non-distilled fermented beverages
110510	Olut	Beer
110520	Rankki ja muut panimo- ja polttimojätteet	Brewing or distilling dregs
110600	Maltaat	Malt
110700	Virvoitusjuomat; kivennäisvesi ja muu pullotettu vesi	Soft drinks; mineral waters and other bottled waters
110090	Juomien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of beverages
120000	Tupakkatuotteet	Tobacco products
120090	Tupakkatuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of tobacco products
131000	Tekstiililangat	Textile yarn and thread
131090	Tekstiilikuitujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of textile yarn and thread
132000	Kudotut kankaat	Woven textiles
132090	Kankaiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of woven textiles
133000	Tekstiilien viimeistelypalvelut	Textile finishing services
139100	Neulokset	Knitted and crocheted fabrics

139210	Sovitetut tekstiilitavarat kotitalouksia varten	Made-up textile articles for the household
139221	Säkit ja pussit, jollaisia käytetään tavaroiden pakkaamiseen	Sacks and bags, of a kind used for the packing of goods
139222	Tavarapeitteet, ulkokaihtimet ja aurinkokatokset; purjeet veneitä, purjelautoja tai maakulkuneuvoja varten; teltat ja leirintävarusteet (myös ilmapatjat)	Tarpaulins, awnings and sunblinds; sails for boats, sailboards or landcraft; tents and camping goods (including pneumatic mattresses)
139224	Täytetyt vuodepeitteet, tyynyt ja pielukset, makuupussit ja sen kaltaiset tavarat, jousitetut tai millä aineella tahansa täytetyt tai pehmustetut tai huokoisesta kumista tai huokoisesta muovista tehdyt	Quilts, eiderdowns, cushions, pouffes, pillows, sleeping bags and the like, fitted with springs or stuffed or internally fitted with any material or of cellular rubber or plastics
139229	Muut sovitetut tekstiilitavarat (myös lattiarievut, tiskirievut, pölyrievut ja niiden kaltaiset puhdistusliinat, pelastusliivit ja vyöt) ja laskuvarjot	Other made-up textile articles (including floor cloths, dish-cloths, dusters and similar cleaning cloths, life-jackets and life-belts)
139300	Matot ja ryijyt	Carpets and rugs
139400	Purjelanka, nuora, sidelanka ja verkko	Cordage, rope, twine and netting
139500	Kuitukangas ja kuitukangastuotteet (pl. vaatteet)	Non-wovens and articles made from non-wovens, except apparel
139600	Muut tekniset ja teollisuustekstiilit	Other technical and industrial textiles
139900	Muut tekstiilituotteet, muualle luokittelemattomat	Other textiles n.e.c.
139090	Muiden tekstiilituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other textiles
141100	Nahkavaatteet	Leather clothes
141200	Työvaatteet	Workwear
141300	Muut takit, puvut, housut, hameet yms.	Other outerwear
141340	Käytetyt vaatteet ja muut käytetyt vaatetustavarat	Worn clothing and other worn articles
141400	Alusvaatteet	Underwear
141900	Muut vaatteet ja asusteet	Other wearing apparel and accessories
141090	Vaatteiden käsittely- ja valmistuspalvelut (pl. turkisvaatteet)	Sub-contracted operations as part of manufacturing of wearing apparel, except fur apparel
142000	Turkisvaatteet ja -tuotteet	Articles of fur
142090	Turkisvaatteiden ja -tuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of articles of fur
143100	Sukat ja sukkahousut	Knitted and crocheted hosiery
143900	Muut neulevaatteet	Other knitted and crocheted apparel
143090	Neulevaatteiden ja sukkien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of knitted and crocheted apparel
151110	Parkitut tai muokatut turkisnahat ja säämiskänahka	Tanned or dressed fur skins
151130	Nauta- ja hevoseläinten nahka ja muiden eläinten nahka, karvapeitteetön	Leather, of bovine or equine animals, without hair
151190	Nahan, turkisten ja niistä valmistettujen tuotteiden käsittely- ja valmistuspalvelut (pois lukien jalkineet)	Sub-contracted operations as part of manufacturing of tanned and dressed leather; dressed and dyed fur
151200	Matka-, käsi- ja sen kaltaiset laukut, satulat ja valjaat	Luggage, handbags and the like, saddlery and harness
152010	Jalkineet	Footwear
152040	Jalkineiden osat	Parts of footwear of leather; removable insoles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof
152090	Jalkineiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of footwear
161010	Puu, sahattu tai veistetty pituussuunnassa, tasoleikattu tai viiluksi sorvattu, paksuus > 6 mm; puiset rata- ja raitiotiepölkyt, kyllästämättömät	Wood, sawn and planed
161020	Puu, yhdeltä tai useammalta syrjältä tai pinnalta koko pituudelta muotoiltu; lastuvilla; puujauho; puu lastuina tai hakkeena	Wood continuously shaped along any of its edges or faces; wood wool; wood flour; wood in chips or particles

161030	Raakapuu; puiset rata- ja raitiotiepölkyt, kyllästetyt tai muuten käsitellyt	Wood in the rough; railway or tramway sleepers (cross-ties) of wood, impregnated or otherwise treated
161040	Sahanpuru, polttohake ja muu puujäte	Sawdust, wood in chips or particles, wood waste and scrap
161090	Puun kyllästys sekä muut puisten tavaroiden valmistus ja käsittelypalvelut	Drying, impregnation or chemical treatment services of timber; sub-contracted operations as part of manufacturing of wood, sawn and planed
162110	Ristiinliimattu vaneri, vaneroidut puulevyt ja niiden kaltainen kerrostettu puu; puusta tai muusta puumaisesta aineesta valmistettu lastulevy ja sen kaltainen levy	Plywood, veneered panels and similar laminated wood; particle boards and similar boards of wood or other ligneous materials
162120	Vaneriviilu; ristiinliimatun vanerin valmistuksessa käytettävä viilu; tiivistetty puu	Veneer sheets; sheets for plywood; densified wood
162200	Asennettavat parkettilattiat	Assembled parquet floors
162311	Ikkunat, ranskalaiset ikkunat ja niiden kehykset, ovet sekä niiden kehykset ja kynnykset, puuta	Windows, French windows and their frames, doors and their frames and thresholds, of wood
162312	Betonivalumuotit, kattopäreet ja -paanut, puuta	Shuttering for concrete constructional work, shingles and shakes, of wood
162319	Rakennuspuusepäntuotteet, muualle luokittelemattomat	Builders' joinery and carpentry, of wood, n.e.c.
162320	Tehdasvalmisteiset rakennukset, puuta	Other builders' carpentry and joinery
162390	Rakennuspuusepäntuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other builders' carpentry and joinery
162400	Puupakkaukset	Wooden containers
162900	Muut puutuotteet; korkki-, olki- ja punontatuotteet	Other products of wood; articles of cork, straw and plaiting materials
171100	Massa	Pulp
171210	Sanomalehtipaperi, käsintehty paperi ja muu päällystämätön paperi, kartonki tai pahvi graafiseen käyttöön	Newsprint, handmade paper and other uncoated paper or paperboard for graphic purposes
171220	Toaletti- ja kasvopyyhepehmopaperi, käsipyyhe- ja lautasliinapaperi, selluloosavanu ja selluloosakuituharso	Toilet or facial tissue stock, towel or napkin stock, cellulose wadding and webs of cellulose fibres
171230	Pakkauskartonki	Containerboard
171240	Päällystämätön paperi	Uncoated paper
171250	Päällystämätön kartonki ja pahvi (muu kuin kirjoitus-, painatus- tai muuhun graafiseen tarkoitukseen käytettävä)	Uncoated paperboard (other than that of a kind used for writing, printing or other graphic purposes)
171260	Pergamenttipaperi, rasvanpitävät paperit (voipaperit), kuultopaperit ja glassiinipaperi sekä muut kiillotetut läpinäkyvät tai läpikuultavat paperit	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers
171270	Jalostettu paperi, kartonki ja pahvi	Processed paper and paperboard
171290	Massan, paperin ja paperituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of paper and paperboard
172100	Aaltopaperi, -kartonki ja -pahvi sekä paperi-, kartonki- ja pahvipakkaukset	Corrugated paper and paperboard and containers of paper and paperboard
172200	Talous- ja hygieniatarvikkeet ja toalettitarvikkeet	Household and sanitary goods and toilet requisites
172300	Paperikauppatavara	Paper stationery
172400	Tapetit	Wallpaper
172911	Paperiset, kartonkiset tai pahviset nimi- ja osoitelaput	Labels of paper or paperboard
172919	Muut paperi-, kartonki- ja pahvituotteet	Other articles of paper and paperboard
172090	Paperi-, kartonki- ja pahvituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of articles of paper and paperboard
181100	Painetut sanomalehdet ja aikakauslehdet, vähintään neljä kertaa viikossa ilmestyvät	Newspaper printing services
181200	Muut painotuotteet (kirjat, esitteet, kaupallinen mainosaineisto ym.)	Other printing services
181300	Painamista ja julkaisemista edeltävät palvelut	Pre-press and pre-media services
181400	Sidonta ja siihen liittyvät palvelut	Binding and related services

182000	Tallenteiden jäljentämispalvelut	Reproduction services of recorded media
191000	Koksi	Coke oven products
191090	Koksituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of coke oven products
192010	Briketit ja niiden kaltaiset kiinteät polttoaineet	Briquettes, ovoids and similar solid fuels
192021	Moottoribensiini, myös lentobensiini	Motor spirit (gasoline), including aviation spirit
192022	Suihkumoottoribensiini	Spirit type (gasoline type) jet fuel
192023	Kevyet maaöljyt, kevyet valmisteet, muualle luokittelemattomat	Light petroleum oils, light preparations n.e.c.
192024	Petroli, myös lentopetroli	Kerosene
1920261	Dieselöljy	Dieseloil
1920269	Kevyt polttoöljy	Light fuel oils
192027	Teollisuusbensiini ym.	Medium petroleum oils; medium preparations n.e.c.
192028	Polttoöljyt, muualle luokittelemattomat	Fuel oils n.e.c.
192029	Voitelussa käytettävät maaöljyt; raskaat valmisteet, muualle luokittelemattomat	Lubricating petroleum oils; heavy preparations n.e.c.
192031	Propaani ja butaani, nesteytetyt	Propane and butane, liquefied
192032	Eteeni, propeeni, buteeni, butadieeni ja muut maaöljykaasut tai kaasumaiset hiilivedyt (pl. maakaasu)	Ethylene, propylene, butylene, butadiene and other petroleum gases or gaseous hydrocarbons, except natural gas
192041	Vaseliini; parafiini; maaöljy- ja muut vahat	Petroleum jelly; paraffin wax; petroleum and other waxes
192042	Maaöljykoksi; maaöljybitumi ja muut maaöljyjen jätetuotteet	Petroleum coke; petroleum bitumen and other residues of petroleum oils
192090	Öljyjen ym.192 tuotteiden puhdistus-, sekoitus-, käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of refined petroleum products
201100	Teollisuuskaasut	Industrial gases
201200	Värit ja pigmentit	Dyes and pigments
201300	Muut epäorgaaniset peruskemikaalit	Other inorganic basic chemicals
201314	Ydinreaktorien säteilyttämättömät polttoaine-elementit	Fuel elements (cartridges), non-irradiated, for nuclear reactors
201400	Muut orgaaniset peruskemikaalit	Other organic basic chemicals
201500	Lannoitteet ja typpiyhdisteet	Fertilisers and nitrogen compounds
201600	Ensiömuovit	Plastics in primary forms
201700	Synteettinen kumi alkumuodossa	Synthetic rubber in primary forms
201090	Peruskemikaalien, lannoitteiden ja typpiyhdisteiden, muoviaineiden ja synteettisen kumiraaka-aineen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of chemicals and chemical products
202000	Torjunta-aineet ja muut maatalouskemikaalit	Pesticides and other agrochemical products
202090	Torjunta-aineiden ja muiden maatalouskemikaalien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of pesticides and other agrochemical products
203010	Maalit ja lakat, jotka perustuvat polymeereihin	Paints and varnishes based on polymers
203020	Muut maalit ja lakat ja niihin liittyvät tuotteet; taiteilijanvärit ja painoväri	Other paints and varnishes and related products; artists' colour and printing ink
203090	Maalien, lakan, painovärien yms. käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of paints, varnishes and similar coatings, printing ink and mastics
204100	Saippua ja pesu-, puhdistus- ja kiillotusaineet	Soap and detergents, cleaning and polishing preparations
204200	Hajuvedet ja hygieniatuotteet	Perfumes and toilet preparations
204090	Saippuan, pesu-, puhdistus- ja kiillotusaineiden; hajuvesien ja hygieniatuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
205100	Räjähdysaineet	Explosives
205200	Liimat	Glues
205300	Haihtuvat öljyt	Essential oils

205910	Valokuvauslevyt ja filmit, kemiallisesti muunnetut eläin- ja kasvirasvat- ja öljyt, kirjoitus- ja piirustusmusteet	Photographic plates and film, instant print film; chemical preparations and unmixed products for photographic uses
205940	Voiteluvalmisteet; lisäaineet; jäätymistä estävät valmisteet	Lubricating preparations; additives; anti-freezing preparations
205951	Peptonit, muovailumassat, viimeistelyaineet, peittausaineet, valmistetut sitomisaineet ym.	Peptones, modelling pastes, activated carbon, finishing agents, pickling preparations etc.
205955	Biopolttonesteet tekniseen ja teolliseen käyttöön (dieselöljyn korvikkeet ja etanoli liikennepolttoainekäyttöön)	Tecnical and industrial biofuels (substitutes for dieseloil and ethanol for transport fuel)
205959	Erinäiset muut kemialliset tuotteet, muualle luokittelemattomat	Miscellaneous other chemical products n.e.c.
205999	Kemiallisten tuotteiden (myös kosmetiikka- yms. valmisteiden) ja katkottujen tekokuitujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other chemical products n.e.c.
206000	Tekokuidut	Man-made fibres
206090	Tekokuitujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of man-made fibres
211000	Lääkkeiden lähtöaineet	Basic pharmaceutical products
211090	Lääkeaineiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of basic pharmaceutical products
212010	Lääkevalmisteet	Medicaments
212024	Haavalaastarit, katgut ja muut sen kaltaiset aineet; ensiapulaatikot	Adhesive dressings, catgut and similar materials; first-aid boxes
212090	Lääkkeiden ja muiden lääkevalmisteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of pharmaceutical preparations
213000	Huumeet	Drugs
221100	Kumirenkaat; kumirenkaiden uudelleenpinnoitus	Rubber tyres and tubes; retreading and rebuilding of rubber tyres
221900	Muut kumituotteet	Other rubber products
221090	Kumituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of rubber products
222110	Monofilamenttilanka, jonka poikkileikkaus > 1 mm, sauvat, tangot ja profiilit, muovia	Monofilament > 1 mm, rods, sticks and profile shapes, of plastics
222120	Putket ja letkut sekä niiden liitos- ja muut osat, muovia	Tubes, pipes and hoses and fittings thereof, of plastics
222130	Laatat, levyt, kalvot, kaistaleet ja nauhat, muovia, muihin aineisiin tukemalla tai vastaavalla tavalla yhdistämättömät	Plates, sheets, film, foil and strip, of plastics, not supported or similarly combined with other materials
222140	Muut laatat, levyt, kalvot, kaistaleet ja nauhat, muovia	Other plates, sheets, film, foil and strip, of plastics
222200	Muovipakkaukset	Plastic packing goods
222300	Rakennusmuovit	Builders' ware of plastic
222910	Vaatteet ja vaatetustarvikkeet, myös käsineet, muovia	Apparel and clothing accessories (including gloves), of plastics
222920	Muut muovituotteet, muualle luokittelemattomat	Other plastic products n.e.c.
222990	Muovituotteiden käsittely- ja valmistuspalvelut	Manufacturing services of other plastic products; sub-contracted operations as part of manufacturing of other plastic products
231100	Tasolasi	Flat glass
231200	Muotoiltu ja muokattu tasolasi	Shaped and processed flat glass
231300	Ontto lasitavara (pullot, tölkit, lasiesineet ym.)	Hollow glass
231400	Lasikuitu	Glass fibres
231900	Muu muokattu lasi, myös tekninen lasi	Other processed glass, including technical glassware
231090	Lasin ja lasituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of glass and glass products
232000	Tulenkestävät keraamiset tavarat	Refractory products
232090	Tulenkestävien keraamisten tuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of refractory products

233000	Savesta valmistetut rakennusmateriaalit	Clay building materials
233090	Keraamisten rakennusaineiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of clay building materials
234100	Keraamiset talous- ja koriste-esineet	Ceramic household and ornamental articles
234200	Keraamiset saniteettikalusteet	Ceramic sanitary fixtures
234300	Muut keraamiset tuotteet (mm. eristimet, eristystarvikkeet ja muut tekniset keraamiset tuotteet)	Other technical ceramic products
234090	Muiden posliini- ja keramiikkatuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other porcelain and ceramic products
235100	Sementti	Cement
235200	Kalkki ja kipsi	Lime and plaster
235090	Sementin, kalkin ja kipsin käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of cement, lime and plaster
236100	Betonituotteet rakennustarkoituksiin	Concrete products for construction purposes
236200	Kipsituotteet rakennustarkoituksiin	Plaster products for construction purposes
236300	Valmisbetoni	Ready-mixed concrete
236400	Muurauslaasti	Mortars
236900	Kuitusementti ja muut betoni-, kipsi- ja sementtituotteet	Fibre cement and other articles of concrete, plaster and cement
236090	Betoni-, kipsi- ja sementtituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of articles of concrete, cement and plaster
237000	Leikattu, muotoiltu ja viimeistelty kivi	Cut, shaped and finished stone
237090	Leikatun, muotoillun ja viimeistellyn kiven käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of cut, shaped and finished stone
239100	Hiontatuotteet	Abrasive products
239912	Asfaltista tai sen kaltaisesta aineesta valmistetut tavarat	Articles of asphalt or of similar material
239919	Muut ei-metalliset mineraalituotteet	Non-metallic mineral products n.e.c.
239990	Ei-metallisten mineraalituotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other non-metallic mineral products n.e.c.
241010	Rauta ja teräs alkumuodossaan	Primary materials of iron and steel
241020	Raakateräs	Crude steel
241030	Levytuotteet terästä (kuumavalssatut, kylmävalssatut, pleteroidut tai muulla tavalla metallilla tai muulla aineella pinnoitetut), levytuotteet pikaterästä ja piiseosteista sähköteknistä terästä	Flat rolled products of steel
241060	Kuumamuokatut tangot, terästä	Hot processed bars and rods of steel
241070	Kuumamuokatut avoimet teräsprofiilit, ponttiteräs ja rauta- tai raitiotien rakennusmateriaali, terästä	Hot processed open sections of steel, sheet piling of steel and railway or tramway track construction material, of steel
241090	Raudan, teräksen ja rautaseosten käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of basic iron and steel and ferro-alloys
242000	Putket ja profiiliputket ja niihin liittyvät tarvikkeet, terästä	Tubes, pipes, hollow profiles and related fittings, of steel
242090	Putkien, profiiliputkien ja niihin liittyvien tarvikkeiden käsittely- ja valmistuspalvelut teräksestä	Sub-contracted operations as part of manufacturing of tubes, pipes, hollow profiles and related fittings, of steel
243000	Muu ensimmäisen jalostusasteen teräs	Other products of the first processing of steel
243090	Muun teräksen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other products of the first processing of steel
244100	Jalometallit	Precious metals
244210	Alumiini, muokkaamaton; alumiinioksidi	Aluminium, unwrought; aluminium oxide
244220	Puolivalmisteet, alumiinia tai alumiiniseosta	Semi-finished products of aluminium or aluminium alloys
244310	Lyijy, sinkki ja tina, muokkaamaton	Lead, zinc and tin, unwrought
244320	Puolivalmisteet lyijyä, sinkkiä ja tinaa tai niiden seosta	Semi-finished products of lead, zinc and tin or their alloys
244410	Muokkaamaton kupari; kuparikivi; sementoitu kupari	Copper, unwrought; copper mattes; cement copper

244420	Puolivalmisteet kuparia tai kupariseosta	Semi-finished products of copper or copper alloys
244511	Muokkaamaton nikkeli, puolivalmisteet nikkeliä tai nikkeliseosta	Nickel, unwrought semi-finished products of nickel or nickel alloys
244512	Nikkelikivi, nikkelioksidisintterit ja muut nikkelin valmistuksen välituotteet	Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy
244530	Muut värimetallit sekä niistä tehdyt tavarat; kermetit; tuhka ja jätteet, joissa on metalleja tai metalliyhdisteitä	Other non-ferrous metals and articles thereof; cermets; ash and residues, containing metals or metallic compounds
244600	Käsitelty ydinpolttoaine	Processed nuclear fuel
244090	Jalometallien ja muiden värimetallien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of basic precious and other non-ferrous metals
245000	Metallien valupalvelut	Casting services of metals
249090	Perusmetallien käsittely- ja valmistuspalvelut (pois lukien metallien valupalvelut)	Treatment and manufacturing services of base metals (excl. casting services of metals)
251100	Metallirakenteet ja niiden osat	Metal structures and parts of structures
251200	Ovet ja ikkunat, metallia	Doors and windows of metal
251090	Metallirakenteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of structural metal products
252100	Keskuslämmityspatterit ja -kattilat, kuumavesivaraajat	Central heating radiators and boilers
252900	Muut säiliöt, altaat ja astiat, metallia	Other tanks, reservoirs and containers of metal
252090	Metallisäiliöiden ja -altaiden yms. käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of tanks, reservoirs and containers of metal
253011	Höyrykattilat ja muut höyrynkehittimet; kuumavesikattilat, apulaitteet; höyrykoneiden lauhduttimet	Steam or other vapour generating boilers; super-heated water boilers; auxiliary plant for use with boilers; condensers for steam or other vapour power units
253013	Höyrykattiloiden osat	Parts of steam generators
253020	Ydinreaktorit ja niiden osat	Nuclear reactors and parts thereof
253090	Höyrykattiloiden käsittely- ja valmistuspalvelut (pl. keskuslämmityslaitteet)	Sub-contracted operations as part of manufacturing of steam generators, except central heating hot water boilers
254011	Sota-aseet, ei kuitenkaan revolverit, pistoolit tai niiden kaltaiset aseet	Military weapons, other than revolvers, pistols and the like
254012	Revolverit, pistoolit, muut kuin sotilaskäyttöön tarkoitetut tuliaseet ja niiden kaltaiset laitteet	Revolvers, pistols, non-military firearms and similar devices
254013	Pommit, ohjukset ja niiden kaltaiset sotatarvikkeet; patruunat, muut ammukset ja heittoaseet sekä niiden osat	Bombs, missiles and similar munitions of war; cartridges, other ammunition and projectiles and parts thereof
254014	Sota-aseiden ja muiden aseiden osat	Parts of military weapons and other arms
254090	Aseiden ja ammusten käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of weapons and ammunition
255000	Metallin takomis-, puristamis-, meistämis- ja valssauspalvelut; jauhemetallurgia	Forging, pressing, stamping and roll-forming services of metal; powder metallurgy
256100	Metallin käsittely- ja päällystämispalvelut	Treatment and coating services of metals
256211	Sorvatut metalliosat hanoihin, venttiileihin ja niiden kaltaisiin tavaroihin	Turning services of metal parts for taps and valves etc.
256213	Sorvatut metalliosat koneisiin ja mekaanisiin laitteisiin	Turning services of metal parts for machines and mechanical equipments
256215	Sorvatut metalliosat kulkuneuvoihin	Turning services of metal parts for transport equipment
256219	Sorvatut metalliosat sähkökoneisiin ja -laitteisiin, optisiin laitteisiin ym. ja muut sorvatut metalliosat	Turning services of metal parts for electronic, electrical and optical equipments
256220	Työstetyt metalliosat (pois lukien sorvatut metalliosat)	Other machining services
257100	Ruokailu- ja leikkuuvälineet	Cutlery
257200	Lukot ja saranat	Locks and hinges
257310	Käsityökalut, jollaisia käytetään maanviljelyksessä, puutarhanhoidossa tai metsänhoidossa	Hand tools of a kind used in agriculture, horticulture or forestry

257320	Käsisahat; kaikenlaisten sahojen terät ja muut käsityökalut	Hand saws; blades for saws of all kinds; other hand tools
257340	Vaihdettavat työkalut käsityökaluja (ml. voimakäyttöisiä) ja työstökoneita varten	Interchangeable tools for hand tools, whether or not power-operated, or for machine tools
257350	Muotit; kaavauskehykset metallinvalua varten; mallipohjat; valumallit	Moulds; moulding boxes for metal foundry; mould bases; moulding patterns
257360	Muut työkalut	Other tools
257090	Ruokailu- ja leikkuuvälineiden yms. sekä työkalujen ja rautatavaran käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of cutlery, tools and general hardware
259100	Metallipakkaukset ja -astiat	Steel drums and similar containers
259190	Metallialtaiden, -astioiden, -tynnyreiden ja tölkkien (tilavuus <= 300 litraa, ei kuitenkaan kaasuja varten) korjaus ja huolto	Sub-contracted operations as part of manufacturing of steel drums and similar containers
259200	Kevytmetallipakkaukset	Light metal packaging
259300	Metallilankatuotteet, ketjut ja jouset	Wire products, chain and springs
259400	Kiinnittimet ja ruuvikonetuotteet	Fasteners and screw machine products
259911	Astianpesupöydät ja pesualtaat, kylpyammeet ja muut saniteettitavarat sekä niiden osat, rautaa, terästä, kuparia tai alumiinia	Sinks, wash-basins, baths and other sanitary ware, and parts thereof, of iron, steel, copper or aluminium
259912	Pöytä-, keittiö- ja talousesineet sekä niiden osat rautaa, terästä, kuparia tai alumiinia	Table, kitchen or household articles and parts thereof, of iron, steel, copper or aluminium
259920	Muut tavarat, epäjaloa metallia	Other articles of base metal
259926	Alusten potkurit ja niiden siivet	Ships' or boats' propellers and blades thereof
259990	Metallituotteiden käsittely- ja valmistuspalvelut (pois lukien koneet ja laitteet)	Sub-contracted operations as part of manufacturing of other fabricated metal products n.e.c.
261100	Elektroniset komponentit	Electronic components
261200	Kalustetut piirilevyt	Loaded electronic boards
261090	Elektronisten komponenttien ja piirilevyjen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of electronic components and boards
262000	Tietokoneet ja niiden oheislaitteet	Computers and peripheral equipment
262090	Tietokoneiden ja muiden tietojenkäsittelylaitteiden käsittely- ja valmistuspalvelut	Computers and peripheral equipment manufacturing services; sub-contracted operations as part of manufacturing of computers and peripheral equipment
263010	Radio- tai televisiolähettimet, televisiokamerat	Radio or television transmission apparatus; television cameras
263021	Langalliset puhelimet, joissa on langaton kuuloke	Line telephone sets with cordless handsets
263022	Puhelimet langattomia verkkoja varten	Telephones for cellular networks or for other wireless networks
263023	Muut puhelimet ja äänen, kuvan tai muiden tietojen lähettämiseen tai vastaanottamiseen tarkoitetut laitteet, myös langallisissa tai langattomissa verkoissa (kuten lähi- tai alueverkoissa) käytettävät tietoliikennelaitteet	Other telephone sets and apparatus for transmission or reception of voice, images or other data, including apparatus for communication in a wired or wireless network (such as a local or wide area network)
263030	Sähköllä toimivien puhelin- tai lennätinlaitteiden osat, antennit ja antenniheijastimet sekä niiden osat	Parts of electrical telephonic or telegraphic apparatus aerials and aerial reflectors of all kind and parts thereof; parts of radio and television transmission apparatus and television cameras
263050	Murto- tai palohälyttimet sekä niiden kaltaiset laitteet:laitteiden osat	Burglar or fire alarms and similar apparatus
263090	Viestintälaitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of communication equipment
264010	Radiovastaanottimet	Radio broadcast receivers
264020	Televisiovastaanottimet, myös sellaiset, jotka sisältävät radiovastaanottimia tai äänen tai videosignaalin tallennus- tai toistolaitteita	Television receivers, whether or not combined with radio-broadcast receivers or sound or video recording or reproduction apparatus
264030	Äänen ja kuvan tallennus- ja toistolaitteet	Apparatus for sound and video recording and reproducing
264040	Mikrofonit, kaiuttimet, radiopuhelin- ja radiolennätinvastaanottimet	Microphones, loudspeakers, reception apparatus for radio-telephony or telegraphy

264050	Äänen ja kuvan tallennus- ja toistolaitteiden osat	Parts of sound and video equipment
264060	Videopelikonsolit (joita käytetään televisiovastaanottimen kanssa tai joissa on oma kuvaruutu) ja muut taito- ja onnenpelit, joissa on sähköinen näyttölaite	Video game consoles (used with a television receiver or having a self-contained screen) and other games of skill or chance with an electronic display
264090	Radio- ja televisiolaitteiden sekä äänen ja kuvan tallennus- ja toistolaitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of consumer electronics
265110	Navigointi-, meteorologiset, geofysikaaliset ja niiden kaltaiset kojeet ja laitteet sekä tutkalaitteet ja radionavigointilaitteet	Navigational, meteorological, geophysical and similar instruments and appliances; Radar apparatus and radio navigational aid apparatus; precision balances; instruments for drawing, calculating, measuring length and the like
265140	Sähkösuureiden ja ionisoivan säteilyn mittauskojeet, tarkkuusvaa'at, piirustus- ja laskukojeet, pituuksien mittauskojeet yms. kojeet	Instruments for measuring electrical quantities or ionising radiations
265150	Kojeet muiden fysikaalisten ominaisuuksien mittaamista varten	Instrument for checking other physical characteristics
265160	Muut mittaus-, tarkkailu- ja testauskojeet ja -laitteet	Other measuring, checking and testing instruments and appliances
265170	Lämmönsäätimet, paineensäätimet ja muut automaattiset säätö- tai valvontakojeet ja laitteet	Thermostats, manostats and other automatic regulating or controlling instruments and apparatus
265180	Mittaus-, testaus- ja navigointilaitteiden osat ja tarvikkeet	Parts and accessories for measuring, testing and navigating equipment
265190	Optisten, valokuvaus-, mittaus-, tarkkailu-, lääkintäkojeiden ja laitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of measuring, testing and navigating equipment
265200	Kellot ja niiden osat sekä ajanmerkitsemislaitteet ja pysäköintimittarit	Watches and clocks and parts; time registers, time recorders, parking meters; time switches with clock or watch movement
266000	Säteilylaitteet sekä sähkölääkintä- ja sähköterapialaitteet	Irradiation, electromedical and electrotherapeutic equipment
266090	Säteilylaitteiden sekä elektronisten lääkintä- ja terapialaitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of irradiation, electromedical and electrotherapeutic equipment
267010	Valokuvausvarusteet ja niiden osat	Photographic equipment and parts thereof
267020	Muut optiset kojeet ja niiden osat	Other optical instruments and parts thereof
267090	Optisten instrumenttien ja valokuvausvälineiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of optical instruments and photographic equipment
268000	Magneettiset ja optiset tallennevälineet	Magnetic and optical media
271110	Yleisvirtamoottorit, joiden antoteho > 37,5 W; moottorit, joiden antoteho<= 37,5 W; muut tasavirtamoottorit; tasavirtageneraattorit muut vaihtovirtamoottorit; vaihtovirtageneraattorit	Motors of an output <= 37,5 W; other DC motors; DC generators; universal AC/DC motors of an output > 37,5 W; other AC motors; AC generators (alternators)
271130	Sähkögeneraattoriyhdistelmät ja pyörivät sähkömuuttajat	Electric generating sets and rotary converters
271140	Sähkömuuntajat	Electrical transformers
271150	Purkauslamppujen kuristimet; staattiset muuttajat; muut induktorit	Ballasts for discharge lamps or tubes; static converters; other inductors
271160	Sähkömoottoreiden, -generaattoreiden ja -muuntajien osat	Parts of electrical motors, generators and transformers
271090	Sähkömoottorien, generaattorien, muuntajien sekä sähkönjakelu- ja valvontalaitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of electric motors, generators, transformers and electricity distribution and control apparatus
271210	Sähkölaitteet sähkövirtapiirin kytkemistä, katkaisemista tai suojaamista varten	Electrical apparatus for switching or protecting electrical circuits, for a voltage <= 1000 V
271230	Sähkötaulut	Boards
271240	Sähkönjakelu- ja -valvontalaitteiden osat	Parts of electricity distribution or control apparatus
272000	Paristot ja akut	Batteries and accumulators
272090	Paristojen ja akkujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of batteries and accumulators
273100	Optiset kuitukaapelit	Fibre optic cables

273200	Muut sähköjohdot ja kaapelit	Other electronic and electric wires and cables
273300	Kytkentälaitteet	Wiring devices
273090	Sähköjohtojen ja kytkentälaitteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of wiring and wiring devices
274010	Hehkulamput ja purkauslamput; kaarilamput	Electric filament or discharge lamps; arc lamps
274200	Valaisimet, valaistusvarusteet ja niiden osat	Lamps and lighting fitting; parts for lamps and lighting equipment
274090	Sähkölamppujen ja valaisimien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of electric lighting equipment
275110	Jääkaapit ja pakastimet; pesukoneet; sähköhuovat; tuulettimet	Refrigerators and freezers; washing machines; electric blankets; fans
275121	Sähkömekaaniset kodinkoneet, joissa on sisäänrakennettu sähkömoottori	Electro-mechanical domestic appliances, with self-contained electric motor
275122	Partakoneet, karvanpoistolaitteet ym. sähkölämpölaitteet hiustenmuotoilua ja käsien kuivaamista varten; sähkösilitysraudat ja muut sähkölämpölaitteet	Shavers, hair-removing appliances and hair clippers, with self-contained electric motor; electro-thermic hair-dressing or hand-drying apparatus; electric smoothing irons; other electro-thermic appliances
275125	Vedenkuumennuslaitteet ja kuumavedenvaraajat sekä uppokuumentimet, sähköllä toimivat	Electrical instantaneous or storage water heaters and immersion heaters
275126	Huoneiden tai vastaavien tilojen sähkölämmityslaitteet sekä maan sähkölämmityslaitteet	Electric space heating apparatus and electric soil heating apparatus
275128	Mikroaaltouunit ja muut uunit; liedet, keittolevyt, kuumennusrenkaat; grillit, paahtimet	Microwave ovens other ovens; cookers, cooking plates, boiling rings; grillers, roasters
275129	Sähkökuumennusvastukset	Electric heating resistors
275130	Sähköllä toimivien kodinkoneiden osat	Parts of electric domestic appliances
275210	Kotitalouskäyttöön tarkoitetut keitto- ja kuumennuslaitteet, muut kuin sähköllä toimivat	Domestic cooking and heating equipment, non-electric
275220	Uunien, liesien, lautasenlämmittimien ja niiden kaltaisten muiden kuin sähköllä toimivien kodinkoneiden osat	Parts of stoves, cookers, plate warmers and similar non-electric domestic appliances
275090	Kodinkoneiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of domestic appliances
279010	Muut sähkölaitteet ja niiden osat; Ilmaisintaulut, joissa on nestekide- tai loistediodinäyttö; sähköiset ääneen tai valoon perustuvat merkinantolaitteet	Other electrical equipment and parts thereof; indicator panels with liquid crystal devices or light-emitting diodes; electric sound or visual signalling apparatus
279031	Sähköllä toimivat juotto- ja hitsauskoneet ja -laitteet ja laitteiden osat; metallien tai sintrattujen metallikarbidien kuumaruiskutuksessa käytettävien koneiden ja laitteiden osat	Electrical machinery and apparatus for soldering, brazing or welding; electric machines and apparatus for hot spraying of metals or sintered metal carbides and parts thereof
279033	Muiden sähkölaitteiden osat; koneiden ja laitteiden muualle luokittelemattomat sähköosat	Parts of other electrical equipment; electrical parts of machinery or apparatus n.e.c.
279040	Sähkökondensaattori ja muut muualle luokittelemattomat sähkölaitteet	Electrical capacitors and other electrical equipment n.e.c. (including electro-magnets; electro-magnetic couplings and brakes; electro-magnetic lifting heads; electrical particle accelerators; electrical signal generators
279090	Muualle luokittelemattomien sähkölaitteiden käsittely- ja valmistuspalvelut (myös valaistuslaitteiden)	Sub-contracted operations as part of manufacturing of other electrical equipment
281111	Ulkolaita- ja perämoottorit alusten kuljettamiseen	Outboard motors for marine propulsion
281112	Kipinäsytytteiset moottorit alusten kuljettamiseen; muut moottorit	Marine propulsion spark-ignition engines; other engines
281113	Muut puristussytytteiset mäntämoottorit	Other compression-ignition internal combustion piston engines
281120	Turbiinit ja niiden osat	Turbines and parts thereof
281140	Moottoreiden osat	Parts for engines
281210	Hydrauliset ja pneumaattiset voimalaitteet	Fluid power equipment, except parts
281220	Hydraulisten ja pneumaattisten laitteiden osat	Parts of fluid power equipment

281310	Nestepumput; neste-elevaattorit, Iima- tai tyhjiöpumput; ilma- tai kaasukompressorit	Pumps for liquids; liquid elevators; air or vacuum pumps; air or other gas compressors
281330	Pumppujen ja kompressoreiden osat	Parts of pumps and compressors
281410	Hanat, venttiilit ja niiden kaltaiset laitteet putkijohtoja, höyrykattiloita, säiliöitä, astioita tai niiden kaltaisia tavaroita varten	Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like
281420	Hanojen ja venttiilien sekä niiden kaltaisten tavaroiden osat	Parts of taps and valves and similar articles
281510	Kuulalaakerit ja rullalaakerit, muut laakerit, hammaspyörät ja vaihteisto- ja ohjauselementit	Ball or roller bearings; other bearings, gears, gearing and driving elements
281530	Laakereiden, vaihteisto- ja ohjauselementtien osat	Parts of bearings, gearings and driving elements
281090	Yleiskäyttöön tarkoitettujen voimakoneiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of general-purpose machinery
282100	Uunit ja tulipesänpolttimet	Ovens, furnaces and furnace burners
282216	Hissit ja kippikauhavintturit, liukuportaat ja liukukäytävät	Lifts, skip hoists, escalators and moving walkways
282219	Nosto- ja käsittelylaitteiden osat, kauhat, myös kahmaisukauhat, ja tarttuimet	Parts of lifting and handling equipment
282250	Muut nosto- ja siirtolaitteet	Other lifting and handling equipment
282300	Toimistokoneet ja laitteet (ei kuitenkaan tietokoneet ja niiden oheislaitteet)	Office machinery and equipment (except computers and peripheral equipment)
282400	Voimakäyttöiset käsityökalut	Power-driven hand tools
282511	Lämmönvaihtimet ja ilman tai muun kaasun nesteytyslaitteet	Heat exchange units and machinery for liquefying air or other gases
282512	Ilmastointilaitteet	Air conditioning machines
282513	Jäähdytys- ja jäädytyslaitteet ja lämpöpumput, muut kuin kotitaloustyyppiset laitteet	Refrigeration and freezing equipment and heat pumps, except household type equipment
282514	Kaasujen suodatus- tai puhdistuskoneet ja -laitteet, muualle luokittelemattomat	Machinery and apparatus for filtering or purifying gases n.e.c.
282530	Tuulettimet, muut kuin pöytä-, lattia-, seinä-, ikkuna- tai kattotuulettimet, jäähdytys- ja jäädytyslaitteiden ja lämpöpumppujen osat	Fans, other than table, floor, wall, window, ceiling or roof fans; parts of refrigeration and freezing equipment and heat pumps
282910	Kaasugeneraattorit, tislaus- ja suodatuslaitteet	Gas generators, distilling and filtering apparatus
282921	Koneet ja laitteet pullojen tai muiden astioiden puhdistamista, täyttämistä, pakkaamista tai käärimistä varten	Machinery for cleaning, filling, packing or wrapping bottles or other containers
282922	Palosammuttimet, ruiskupistoolit, höyryn- tai hiekanpuhalluskoneet sekä niiden kaltaiset mekaaniset laitteet, ei kuitenkaan maataloudessa käytettävät	Fire extinguishers, spray guns, steam or sand blasting machines and similar mechanical appliances, except for use in agriculture
282923	Tiivisteet, jotka on valmistettu metallilevystä; mekaaniset tiivisteet	Gaskets of metal sheeting; mechanical seals
282930	Teollisuus- tai kotitalouskäyttöön tarkoitetut ja muut punnitus- ja mittalaitteet	Industrial, household and other weighing and measuring machinery
282940	Sentrifugit, kalanterikoneet ja tavaranmyyntiautomaatit	Centrifuges, calendaring and vending machines
282970	Muut yleiskäyttöön tarkoitetut koneet, muualle luokittelemattomat	Other general-purpose machinery n.e.c.
282980	Muiden yleiskäyttöön tarkoitettujen koneiden osat, muualle luokittelemattomat	Parts of other general-purpose machinery n.e.c.
282990	Höyrykattiloiden, koneiden, laitteiden ja niiden osien käsittely- ja valmistuspalvelut (PRODCOM)	Sub-contracted operations as part of manufacturing of other general-purpose machinery n.e.c.
283010	Maatalous- ja metsätraktorit	Agricultural and forestry machinery
283030	Maankäsittelykoneet	Soil machinery
283040	Ruohonleikkuukoneet	Mowers for lawns, parks or sports grounds
283050	Sadonkorjuukoneet	Harvesting machinery

283090	Maatalouskoneiden ja -laitteiden osat; maa- ja metsätalouskoneiden valmistukseen sisältyvät alihankintana teetetyt työt	Parts of agricultural machinery and equipment
283800	Muut maatalouskoneet	Other agricultural machinery
284110	Metallin muokkauksessa käytettävät koneet	Machine tools for working metal
284140	Osat ja tarvikkeet metallintyöstökoneita varten	Parts and accessories for metalworking machine tools
284910	Koneet kiven, puun tai niiden kaltaisten kovien aineiden työstöön	Machine tools for working stone, wood and similar hard materials
284920	Työkalunpitimet	Tool holders
284090	Metallin työstökoneiden ja konetyökalujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of metal forming machinery and machine tools
289100	Metallien jalostuskoneet ja niiden osat	Machinery for metallurgy
289210	Kaivoskoneet	Machinery for mining
289220	Muut maan, kivennäisten tai malmien siirto-, höyläys-, tasoitus-, raappaus-, kaivin-, tiivistys-, junttaus- tai louhintakoneet ja -laitteet, itseliikkuvat (myös puskutraktorit, kaivinkoneet ja tiejyrät	Other moving, grading, levelling, scraping, excavating, tamping, compacting or extracting machinery, self-propelled, for earth, minerals or ores (including bulldozers, mechanical shovels and road rollers)
289230	Muut kaivinkoneet ja -laitteet	Other excavating machinery
289240	Koneet ja laitteet maalajien, kivien, malmien tai muun kivennäisaineen lajittelua, jauhamista, sekoittamista tai niiden kaltaista käsittelyä varten	Machinery for sorting, grinding, mixing and similar treatment of earth, stone, ores and other mineral substances; track-laying tractors
289260	Kaivos-, louhinta- ja rakennuskoneiden ja -laitteiden osat	Parts of machinery for mining, quarrying and construction
289300	Elintarvike-, juoma- ja tupakkateollisuuden koneet ja laitteet ja niiden osat	Machinery for food, beverage and tobacco processing
289400	Tekstiili-, vaatetus- ja nahkateollisuuden koneet ja niiden osat	Machinery for textile, apparel and leather production
289440	Kotitaloustyyppiset ompelukoneet	Sewing machines of the household type
289511	Paperin, kartongin tai pahvin tuotannossa käytettävät koneet, ei kuitenkaan niiden osat	Machinery for paper and paperboard production, except parts thereof
289512	Paperin, kartongin tai pahvin tuotannossa käytettävien koneiden osat	Parts of machinery for paper and paperboard production
289600	Muovi- ja kumiteollisuudessa käytettävät koneet ja niiden osat	Plastics and rubber machinery
289910	Paino- ja kirjansitomakoneet ja -laitteet	Printing and bookbinding machinery
289930	Muualle luokittelemattomat erikoiskoneet	Special-purpose machinery n.e.c.
289950	Sellaisten koneiden ja laitteiden osat, jollaisia käytetään yksinomaan tai pääasiassa puolijohdetankojen tai -kiekkojen, puolijohdekomponenttien, elektronisten integroitujen piirien tai litteiden näyttöjen valmistuksessa; muiden erikoiskoneiden osat	Parts of machines and apparatus of a kind used solely or principally for the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays; parts of other special-purpose machinery
289090	Muiden erikoiskoneiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other special-purpose machinery
291010	Polttomoottorit, jollaisia käytetään moottoriajoneuvoissa	Internal combustion engines of a kind used for motor vehicles
291020	Autot henkilökuljetukseen, uudet, alle 10 hengen kuljettamiseen	Passenger cars, new
291025	Autot henkilökuljetukseen, käytetyt, alle 10 hengen kuljettamiseen	Passenger cars, used
291030	Moottoriajoneuvot vähintään 10 henkilön kuljettamiseen	Motor vehicles for the transport of 10 or more persons
291041	Tavarankuljetukseen tarkoitetut moottoriajoneuvot,uudet	Goods vehicles, new
291042	Tavarankuljetukseen tarkoitetut moottoriajoneuvot, käytetyt	Goods vehicles, used
291043	Maantiekuljetuksiin tarkoitetut puoliperävaunujen vetotraktorit	Road tractors for semi-trailers
291044	Alustat, moottorein varustetut, moottoriajoneuvoja varten	Chassis fitted with engines, for motor vehicles
291050	Erikoismoottoriajoneuvot	Special-purpose motor vehicles

291090	Autojen ja perävaunujen sekä niiden osien käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of motor vehicles and parts thereof
292010	Moottoriajoneuvojen korit	Bodies for motor vehicles
292021	Kontit, jotka on erityisesti suunniteltu yhtä tai useampaa kuljetusmuotoa varten	Containers specially designed for carriage by one or more modes of transport
292022	Matkailuperävaunut ja -puoliperävaunut asumista tai retkeilyä varten	Trailers and semi-trailers of the caravan type, for housing or camping
292023	Muut perävaunut ja puoliperävaunut	Other trailers and semi-trailers
292030	Perävaunujen, puoliperävaunujen ja muiden kuljetusvälineiden osat, moottoriajoneuvojen kunnostukseen, matkailuvaunujen varustamiseen ym. liittyvät palvelut	Fitting out services of trailers, semi-trailers, caravans and mobile homes
292080	Konttien korjaus- ja huoltopalvelut	Reconditioning, assembly, fitting out and bodywork services of containers
293100	Moottoriajoneuvojen sähkö- ja elektroniikkalaitteet	Electrical and electronic equipment for motor vehicles
293200	Muut moottoriajoneuvojen osat ja tarvikkeet	Other parts and accessories for motor vehicles
293090	Osien ja tarvikkeiden käsittely- ja valmistuspalvelut moottoriajoneuvoihin	Sub-contracted operations as part of manufacturing of parts and accessories for motor vehicles
301110	Sota-alukset	Naval ships
301121	Risteilyalukset, kiertoajelualukset ja niiden kaltaiset alukset henkilökuljetukseen; kaikenlaiset lautta-alukset	Cruise ships, excursion boats and similar vessels for the transport of persons; ferry-boats of all kinds
301122	Säiliöalukset raakaöljyn, öljytuotteiden, kemikaalien ja nestekaasun kuljetukseen	Tankers for the transport of crude oil, oil products, chemicals, liquefied gas
301124	Kuivalastialukset, jäähdytysalukset	Refrigerated vessels, except tankers; dry cargo ships
301130	Kalastusalukset ja muut erikoisalukset	Fishing vessels and other special vessels
301140	Offshoretoiminnan alukset ja infrastruktuuri	Offshore vessels and infrastructure
301150	Muut kelluvat rakenteet (kuten lautat, säiliöt, kasuunit, laiturit, poijut ja merimerkit)	Other floating structures (including rafts, tanks, coffer-dams, landing stages, buoys and beacons)
301190	Laivojen ja kelluvien lauttojen ja rakenteiden muuntaminen, kunnostus ja niiden varustamiseen liittyvät palvelut	Conversion, reconstruction and fitting out services of ships, floating platforms and structures; sub-contracted operations as part of manufacturing of ships and floating structures
301200	Huvi- ja urheiluveneet	Pleasure and sporting boats
302090	Raideliikenteen kulkuneuvojen uudistus, käsittely- ja valmistuspalvelut	Reconditioning and fitting out services (completing) of railway and tramway locomotives and rolling-stock; sub-contracted operations as part of manufacturing of railway locomotives and rolling stock
302100	Raideliikenteen veturit ja liikkuva kalusto sekä niiden osat, mekaaniset liikenteen valvonta- tai ohjauslaitteet	Rail locomotives and locomotive tenders; parts of railway or tramway locomotives or rolling-stock; fixtures and fittings and parts thereof; mechanical traffic control equipment
303010	Ilma-alusten ja avaruusalusten moottorit; laitteet maassa tapahtuvaa lentokoulutusta varten, niiden osat	Motors and engines for aircraft or spacecraft; ground flying trainers, and parts thereof
303020	Ilmapallot ja -laivat; purje- ja liitolentokoneet, riippuliitimet ja muut moottorittomat ilma-alukset	Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft
303030	Helikopterit ja lentokoneet	Helicopters and aeroplanes
303050	Ilma-alusten ja avaruusalusten muut osat	Other parts of aircraft and spacecraft
303060	Ilma-alusten ja ilma-alusten moottoreiden perushuoltoon ja muuntamiseen liittyvät palvelut	Overhaul and conversion services of aircraft and aircraft engines
303090	Sotilasilma-alusten ja niiden osien sekä siviili-ilma-alusten käsittely-, kokoonpano- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of air and spacecraft and related machinery
304000	Moottoroidut tankit ja muut panssaroidut taisteluajoneuvot ja niiden osat	Military fighting vehicles
304090	Taisteluajoneuvojen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of military fighting vehicles
309100	Moottoripyörät, sivuvaunut, osat ja tarvikkeet	Motorcycles and side-cars; parts thereof

309130	Polttomoottorit, jollaisia käytetään moottoripyörissä	Internal combustion engines of a kind used for motorcycles
309200	Polkupyörät (moottorittomat), liikuntarajoitteisten kulkuvälineet, lastenvaunut, osat ja tarvikkeet	Bicycles and invalid carriages baby carriages and parts thereof
309900	Muut kulkuneuvot, muualle luokittelemattomat	Other transport equipment n.e.c.
309090	Muualla luokittelematon kulkuneuvojen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of transport equipment n.e.c
310010	Istuimet	Seats and parts thereof
310020	Huonekalujen osat (sis. istuimien osat)	Parts of furniture
310100	Toimisto- ja myymäläkalusteet	Office and shop furniture
310200	Keittiökalusteet	Kitchen furniture
310300	Patjat	Mattresses
310910	Muut huonekalut	Other furniture
310990	Huonekalujen käsittely- ja valmistuspalvelut	Finishing services of new furniture; sub-contracted operations as part of manufacturing of other furniture
321100	Metallirahat	Coins
321200	Korut ja muut kultasepäntuotteet	Jewellery and related articles
321300	Jäljitelmäkorut ja muut vastaavat tuotteet	Imitation jewellery and related articles
321090	Korujen, kultasepäntuotteiden ja muiden vastaavien tuotteiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of jewellery, bijouterie and related articles
322000	Soittimet	Musical instruments
322090	Soitinten käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of musical instruments
323010	Urheiluvälineet	Sports goods
323090	Urheiluvälineiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of sports goods
324000	Pelit ja leikkikalut	Games and toys
324090	Pelien ja leikkikalujen käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of games and toys
325010	Lääkinnälliseen, kirurgiseen ja hammaslääkinnälliseen käyttöön tarkoitetut kojeet ja laitteet	Medical, surgical and dental instruments and appliances
325020	Terapeuttiset kojeet ja laitteet; proteesien ja ortopedisten välineiden tarvikkeet	Therapeutic instruments and appliances; accessories, protheses and orthopaedic appliances
325030	Lääkintähuonekalut, kirurgiset huonekalut, hammas- tai eläinlääkintähuonekalut; parturintuolit ja niiden kaltaiset tuolit sekä niiden osat	Medical, surgical, dental or veterinary furniture; barbers' chairs and similar chairs and parts thereof
325040	Silmälasit, linssit ja niiden osat	Spectacles, lenses and parts thereof
325050	Muut tuotteet lääkinnälliseen tai kirurgiseen käyttöön	Other articles for medical or surgical purposes
325090	Lääkintä- ja hammaslääkintäinstrumenttien ja -tarvikkeiden käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of medical and dental instruments and supplies
329000	Teollisesti valmistetut, muualle luokittelemattomat tuotteet	Other manufactured goods n.e.c.
329990	Muuhun tuotantoon liittyvät käsittely- ja valmistuspalvelut	Sub-contracted operations as part of manufacturing of other manufactured goods n.e.c.
331113	Metallituotteiden korjaus- ja huoltopalvelut, pl aseet ym.	Repair and maintenance services of fabricated metal products, except weapons and ammunition
331114	Aseiden ja ammusten korjaus- ja huoltopalvelut	Repair and maintenance services of weapons and ammunition
331211	Moottoreiden, turbiinien, nosto- ja siirtolaitteiden korjaus- ja huoltopalvelut	Repair and maintenance services of engines, turbines (except aircraft, vehicle and cycle engines) lifting and handling equipment
331212	Hydraulisten ja pneumaattisten laitteiden, muiden pumppujen, kompressoreiden sekä hanojen ja venttiilien korjaus- ja huoltopalvelut	Repair and maintenance services of fluid power equipment, other pumps, compressors, taps and valves

331218	Muuhun kuin kotitalouskäyttöön tarkoitettujen jäähdytys- ja tuuletuslaitteiden korjaus- ja huoltopalvelut	Repair and maintenance services of non-domestic cooling and ventilation equipment
331219	Muiden yleiskäyttöön tarkoitettujen koneiden ja laitteiden korjaus- ja huoltopalvelut	Repair and maintenance services of other general-purpose machinery n.e.c.
331221	Maa- ja metsätalouskoneiden korjaus- ja huoltopalvelut	Repair and maintenance services of agricultural and forestry machinery
331222	Metallin työstökoneiden, metallinjalostuskoneiden ja konetyökalujen korjaus- ja huoltopalvelut	Repair and maintenance services of metal forming machinery, machine tools, machinery for metallurgy
331224	Kaivos-, louhinta- ja rakennuskoneiden ja -laitteiden korjaus ja huoltopalvelut	Repair and maintenance services of machinery for mining, quarrying and construction
331225	Elintarvike-, juoma- ja tupakkateollisuuden koneiden korjaus- ja huoltopalvelut	Repair and maintenance services of machinery for food, beverage and tobacco processing
331226	Tekstiili-, vaatetus- ja nahkateollisuuden koneiden korjaus- ja huoltopalvelut	Repair and maintenance services of machinery for textile, apparel and leather production
331227	Paperi-, kartonki- tai pahviteollisuuden koneiden korjaus- ja huoltopalvelut	Repair and maintenance services of machinery for paper and paperboard production
331228	Muovi- ja kumiteollisuuden koneiden korjaus- ja huoltopalvelut	Repair and maintenance services of machinery for plastics and rubber
331229	Muiden erikoiskoneiden korjaus- ja huoltopalvelut	Repair and maintenance services of other special-purpose machinery
331300	Sähkölaitteiden sekä elektronisten ja optisten laitteiden korjauspalvelut	Repair services of electronic, electrical and optical equipment
331500	Laivojen ja veneiden korjaus- ja huoltopalvelut	Repair and maintenance services of ships and boats
331600	Ilma- ja avaruusalusten korjaus- ja huoltopalvelut	Repair and maintenance services of aircraft and spacecraft
331700	Muiden kulkuneuvojen korjaus- ja huoltopalvelut	Repair and maintenance services of other transport equipment
331900	Muiden laitteiden korjauspalvelut	Repair and maintenance services of other equipment n.e.c.
332011	Metallituotteiden asennuspalvelut (pl. koneiden ja laitteiden asennus)	Installation services of other fabricated metal products, except machinery and equipment
332020	Yleiskäyttöön tarkoitettujen koneiden asennuspalvelut	Installation services of general-purpose machinery
332031	Maa- ja metsätalouskoneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for agriculture
332032	Metallin työstökoneiden, jalostuskoneiden ja -laitteiden asennuspalvelut	Installation services of metal forming machinery, industrial machinery and equipment for metallurgy
332034	Kaivostoiminnan koneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for mining
332035	Elintarvike-, juoma- ja tupakkateollisuuden koneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for food, beverages and tobacco processing
332036	Tekstiili-, vaatetus- ja nahkateollisuuden koneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for textiles, apparel and leather production
332037	Paperi-, kartonki- tai pahviteollisuuden koneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for paper and paperboard production
332038	Muovi- ja kumiteollisuuden koneiden ja laitteiden asennuspalvelut	Installation services of industrial machinery and equipment for plastic and rubber production
332039	Muiden erikoiskoneiden asennuspalvelut	Installation services of other special-purpose machinery
332040	Sähkölaitteiden sekä elektronisten ja optisten laitteiden asennuspalvelut	Installation services of electronic and optical equipment
332060	Teollisuuden prosessinsäätölaitteiden asennuspalvelut	Installation services of industrial process control equipment
332070	Muiden tavaroiden asennuspalvelut	Installation services of other goods n.e.c.
351000	Sähkö	Electricity
351200	Sähkön siirtopalvelut ja jakelupalvelut	Transmission and distribution services of electricity
351400	Sähkökaupan palvelut	Trade services of electricity
352100	Valmistettu kaasu	Manufactured gas

352200	Kaasumaisten polttoaineiden jakelupalvelut putkiverkoston kautta	Distribution services of gaseous fuels through mains
353100	Höyry, kuuma vesi, jää	Steam, hot water and ice
353200	Kaukolämmön ja -kylmän jakelupalvelut	Steam, hot and cooled air water supply services
361000	Vesi	Water
362000	Veden puhdistus- ja jakelupalvelut putkiverkoston kautta	Treatment and distribution services of water through mains
370000	Viemäröintipalvelu	Sewerage services
381100	Jätteen keruupalvelut (sis romutettavaksi tarkoitetut)	Waste collection services
381150	Paperi, kartonki- ja pahvijäte	Paper and paperboard waste
381158	Tavanomainen metallijäte	Non-hazardous metal waste
381160	Muu jäte	Other non-hazardous recyclable waste, n.e.c.
381221	Ydinreaktoreiden käytetyt (säteilytetyt) polttoaine-elementit	Spent (irradiated) fuel elements (cartridges) of nuclear reactors
382000	Jätteen käsittely- ja loppusijoituspalvelut	Waste treatment and disposal services
383000	Materiaalien kierrätyspalvelut	Materials recovery services; secondary raw materials
390000	Kunnostuspalvelut ja muut jätehuoltopalvelut	Remediation services and other waste management services
411000	Rakennuttaminen ja rakennushankkeiden kehittäminen	Development of building projects
412110	Asuinrakennukset, uudisrakentaminen	New construction of residential buildings
412120	Asuinrakennukset, peruskorjaus	Refurbishment of residential buildings
412130	Asuinrakennukset, vuosikorjaus	Yearly repairs of residential buildings
412140	Muut talonrakennukset, uudisrakentaminen	New construction of non-residential buildings
412150	Muut talonrakennukset, peruskorjaus	Refurbishment of non-residential buildings
412160	Muut talonrakennukset, vuosikorjaus	Yearly repairs of non-residential buildings
420110	Maa- ja vesirakentaminen	Civil engineering work (excl. yearly repairs)
420120	Maa- ja vesirakentaminen, kunnossapito	Civil engineering work, yearly repairs
451000	Moottoriajoneuvojen kaupan palvelut	Trade services of motor vehicles
452000	Moottoriajoneuvojen huolto- ja korjauspalvelut	Maintenance and repair services of motor vehicles
461000	Agentuuritoiminnan palvelut	Sales on a fee or contract basis
462000	Tukkukaupan palvelut	Wholesale trade services
463000	Polttoaineiden tukkukaupan palvelut	Wholesale trade services of fuel
471000	Vähittäiskaupan palvelut	Retail trade services
473000	Polttoaineiden vähittäiskaupan palvelut	Retail trade services of fuel
491000	Rautateiden henkilöliikennepalvelut	Passenger rail transport services, interurban
492000	Rautateiden tavaraliikennepalvelut	Freight rail transport services
493110	Raitiotie- ja metroliikenne	Urban and suburban railway transport services of passengers
493120	Linja-autoliikenne	Other urban and suburban passenger land transport services
493200	Taksien käyttöön liittyvät palvelut	Taxi operation services
493900	Muut maaliikenteen henkilöliikennepalvelut	Other passenger land transport services n.e.c.
494000	Tieliikenteen tavaraliikennepalvelut	Freight transport services by road and removal services
495000	Putkijohtokuljetuspalvelut	Transport services via pipeline
500100	Vesiliikenteen henkilökuljetus	Passenger water transport services
500200	Vesiliikenteen tavarakuljetus	Freight water transport services
500900	Aikarahtaus	Time charter
511000	Matkustajalentoliikenteen palvelut	Passenger air transport services
512000	Lentoliikenteen tavarankuljetuspalvelut	Freight air transport services
521000	Varastointipalvelut	Warehousing and storage services
522100	Maaliikenteeseen liittyvät palvelut	Services incidental to land transportation
522200	Vesiliikenteeseen liittyvät palvelut	Services incidental to water transportation
522300	Lentoliikenteeseen liittyvät palvelut	Services incidental to air transportation
522400	Lastinkäsittelypalvelut	Cargo handling services

522900	Muut liikennettä avustavat palvelut	Other transportation support services
531000	Postin yleispalvelut	Postal services under universal service obligation
532000	Muut posti-, jakelu- ja kuriiripalvelut	Other postal and courier services
551000	Hotellipalvelut ja vastaavat majoituspalvelut	Hotel and similar accommodation services
552000	Retkeilymajojen, leirintäalueiden, lomakylä- ym. palvelut	Holiday and other short stay accommodation services, camping ground, recreational vehicle park and trailer park services
561000	Ravitsemispalvelut	Restaurant and mobile food serving services
562000	Ateriapalvelut ja muut ravitsemispalvelut	Event catering services and other food serving services
563000	Juomatarjoilupalvelut	Beverage serving services
581100	Kirjat ym. kustantaminen	Book publishing services
581200	Hakemistojen ja postituslistojen julkaiseminen	Publishing directories and mailing lists
581310	Sanomalehdet ja aikakauslehdet	Newspapers, journals and periodicals
581320	Sanomalehdet ja aikakauslehdet, tilatut	Newspapers, journals and periodicals, subscribed
581900	Muut kustannus- ja julkaisupalvelut	Other publishing services
582000	Ohjelmistojen kustantaminen	Software publishing services
591100	Elokuvien ja videofilmien tuotantopalvelut	Motion picture, video and television programme production services and products
591300	Elokuvien, videoiden ja televisio-ohjelmien jakelupalvelut	Motion picture, video and television programme distribution services
591400	Elokuvien esityspalvelut	Motion picture projection services
592000	Äänitallenteiden ja musiikin julkaisupalvelut	Sound recording and music publishing services
600000	Radio- ja televisiopalvelut	Programming and broadcasting services
611100	Kiinteän verkon puhelut	Fixed telephony services for wired telecommunications systems
611200	Kiinteän verkon laajakaistapalvelut (tiedonsiirto)	Data transmission services over wired telecommunications networks
611300	Kiinteän verkon yhdysliikennemaksut	Interconnection fees for wired telecommunications
612100	Langattoman verkon palvelut	Services for wireless telecommunications systems
612300	Langattoman verkon yhdysliikennemaksut	Interconnection fees for wireless telecommunications
619000	Muut televiestintäpalvelut	Other telecommunications services
620100	Tietokoneohjelmointipalvelut	Computer programming services
620200	Tietokoneeseen liittyvät konsultointipalvelut	Computer consultancy services
620300	Tietojenkäsittelylaitteistojen hallintapalvelut	Computer facilities management services
620900	Muut tietotekniset ja tietokoneisiin liittyvät palvelut	Other information technology and computer services
631100	Tietojenkäsittely- ja internet-palvelinpalvelut ja niihin liittyvät palvelut	Data processing, hosting and related services
631200	Verkkoportaalien sisältö	Web portal content
639100	Uutistoimistojen palvelut	News agency services
639900	Muut tietopalvelut, muualle luokittelemattomat	Other information services n.e.c.
640001	Välilliset rahoituspalvelut, lainat	Financial intermediation services
640002	Välilliset rahoituspalvelut, talletukset	
640003	Arvonlisäverolliset rahoituspalvelut (notariaatti- ja säilytyspalvelut, luoton perintä)	Financial services liable to value added tax (notariate, safekeeping and debt collection services)
641100	Keskuspankkipalvelut	Central banking services
641900	Muut pankkipalvelut	Other monetary intermediation services
649100	Rahoitusleasingpalvelut	Financial leasing services
649200	Muut luotonantopalvelut	Other credit granting services
649900	Muut rahoituksen välityspalvelut, muualle luokittelemattomat, ei kuitenkaan vakuutuspalvelut	Other services auxiliary to financial intermediation
651100	Henkivakuutuspalvelut	Life insurance services

651210	Moottoriajoneuvovakuutus	Motor vehicle insurance services
651220	Luotto- ja takausvakuutuspalvelut	Credit and suretyship insurance services
651230	Muut vakuutuspalvelut	Other insurance services
652000	Jälleenvakuutuspalvelut	Reinsurance services
653000	Eläkevakuutuspalvelut	Pension funding services
661100	Rahoituksen välityksen hallinnolliset tukipalvelut	Financial markets administration services
661200	Arvopapereiden kauppa- ja hallintapalvelut	Security broking and fund management services
661900	Muut rahoitusta ja sijoitusta tukevat palvelut, muualle luokittelemattomat	Other services auxiliary to financial intermediation and insurance
662100	Vakuutuksen kauppa- ja hallintapalvelut	Insurance brokerage and agency services
662900	Muu vakuutusta palveleva toiminta	Other services auxiliary to insurance
682010	Asuntojen vuokraus	Letting of dwellings
682020	Asuntojen hallinta	Operation of dwellings and residential real estate
682030	Muiden kiinteistöjen vuokraus, hallinta ja kauppa	Letting of other real estate
683100	Kiinteistönvälityspalvelut	Real estate agency services on a fee or contract basis
683200	Kiinteistöjen isännöintipalvelu	Management services of real estate on a fee or contract basis
691000	Lakiasiainpalvelut	Legal services
692000	Laskentatoimen ja kirjanpidon palvelut sekä tilintarkastuspalvelut; veroneuvontapalvelut	Accounting, bookkeeping and auditing services; tax consulting services
701000	Pääkonttorien palvelut	Services of head offices
702000	Liikkeenjohdon konsultointipalvelut	Management consulting services
711100	Arkkitehtipalvelut	Architectural services
711210	Yhdyskuntasuunnittelu	Town and city planning services
711220	Maa- ja vesirakentamisen tekninen palvelu	Civil engineering services
711230	Rakennetekninen palvelu	Structural engineering services
711240	LVI-tekninen suunnittelu	Heating, plumbing and air-conditioning design
711250	Sähkötekninen suunnittelu	Electrical engineering design
711260	Muu rakennustekninen palvelu	Other construction services
711270	Kone- ja prosessisuunnittelu	Mechanical and process engineering design
711280	Muu tekninen palvelu	Other architectural and engineering services
712100	Tekniset testaus- ja analysointipalvelut	Technical testing and analysis services
712200	Autokatsastus	Technical inspection services of road transport vehicles
720001	Tutkimus- ja kehittämispalvelut, palvelu	Research and development services, service
720002	Tutkimus- ja kehittämispalvelut, vara	Research and development services, asset
731100	Mainostoimistojen palvelut	Services provided by advertising agencies
731200	Mainostilan tai -ajan myynti	Media representation services
732000	Markkina- ja mielipidetutkimuspalvelut	Market research and public opinion polling services
741000	Erikoistuneet muotoilu- ja suunnittelupalvelut	Specialised design services
742000	Valokuvaamot ja muu kuvaustoiminta	Photographic services
743000	Käännös- ja tulkkauspalvelut	Translation and interpretation services
749100	Muut ammatilliset, tieteelliset ja tekniset palvelut	Other professional, scientific and technical services n.e.c.
750000	Eläinlääkintäpalvelut	Veterinary services
771100	Henkilöautojen ja kevyiden moottoriajoneuvojen vuokraus- ja leasingpalvelut	Rental and leasing services of cars and light motor vehicles
771200	Kuorma-autojen vuokraus- ja leasingpalvelut	Rental and leasing services of trucks
772000	Henkilökohtaisten ja kotitaloustavaroiden vuokraus- ja leasingpalvelut	Rental and leasing services of personal and household goods
773100	Maatalouskoneiden ja -laitteiden vuokraus- ja leasingpalvelut	Rental and leasing services of agricultural machinery and equipment

773200	Rakennuskoneiden ja -laitteiden vuokraus- ja leasingpalvelut	Rental and leasing services of construction and civil engineering machinery and equipment
773300	Toimistokoneiden ja -laitteiden (ml. tietokoneet) vuokraus- ja leasingpalvelut	Rental and leasing services of office machinery and equipment (including computers)
773400	Vesiliikennevälineiden vuokraus- ja leasingpalvelut	Rental and leasing services of water transport equipment
773500	Ilmaliikennevälineiden vuokraus- ja leasingpalvelut	Rental and leasing services of air transport equipment
773900	Muiden muualle luokittelemattomien koneiden, laitteiden ja tavaroiden vuokraus- ja leasingpalvelut	Rental and leasing services of other machinery, equipment and tangible goods n.e.c.
774000	Lisenssit, patentit ja rojaltit	Licensing services for the right to use intellectual property and similar products, except copyrighted works
781000	Työnvälitystoiminta	Services provided by employment placement agencies
782100	Teollisuuden henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of industrial personnel
782200	Hotelli- ja ravintola-alan henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of hotels and restaurants personnel
782300	Terveydenhoito- ja sosiaalialan henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of medical and social work personnel
782400	Kaupan alan henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of commercial and trade personnel
782500	Rakennusalan henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of construction personnel
782600	Kuljetus-, varasto- ja logistiikka-alan henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of transport, warehousing, logistics or industrial workers
782700	Muun henkilöstön vuokrauspalvelut	Temporary employment agency services for the supply of other personnel
783000	Muut henkilöstön hankintapalvelut	Other human resources provision services
790000	Matkatoimistojen ja matkanjärjestäjien palvelut, muut varauspalvelut ja niihin liittyvät palvelut	Travel agency, tour operator and other reservation services and related services
800000	Turvallisuus-, vartiointi- ja etsiväpalvelut	Security and investigation services
811000	Kiinteistönhoitopalvelut	Combined facilities support services (of buildings)
812000	Siivouspalvelut	Cleaning services
813000	Maisemanhoitopalvelut	Landscape services
821000	Hallinto- ja toimistopalvelut	Office administrative and support services
822000	Puhelinpalvelukeskusten palvelut	Call centre services
823000	Kokousten ja messujen järjestämispalvelut	Convention and trade show organisation services
829100	Perintä- ja luottotietopalvelut	Collection agency and credit bureau services
829200	Pakkauspalvelut	Packaging services
829900	Muut liike-elämän tukipalvelut	Other business support services n.e.c.
841100	Yleiset julkishallinnon palvelut	General public administration services
841200	Terveydenhuollon, koulutuksen, kulttuurin ja muiden yhteiskuntapalvelujen hallintopalvelut (pl. sosiaaliturvapalvelut)	Administrative services for the regulation of health care, education, cultural services and other social services, excluding social security
841300	Yritysten toimintaa tukevat hallintopalvelut	Administrative services for more efficient operation of businesses
842100	Ulkoasiainhallinnon palvelut	Foreign affairs services
842200	Maanpuolustuspalvelut	Defence services
842300	Oikeustoimen palvelut	Justice and judicial services
842400	Yleiseen turvallisuuteen ja järjestykseen liittyvät palvelut	Public order and safety services
842500	Palo- ja pelastuspalvelut	Fire brigade services
843000	Pakolliset sosiaalivakuutuspalvelut	Compulsory social security services
844000	Maanpuolustuskalusto ja varusmiehet	Defences and servicemen
845000	Radanpito	Railway maintenance

846000	Tienpito	Road maintenance
851000	Koulutuspalvelut	Education services
855300	Kuljettajakoulutuspalvelut	Driving school services
855900	Muut koulutuspalvelut	Other education services n.e.c.
861000	Sairaalapalvelut	Hospital services
862100	Lääkäripalvelut	General medical practice services
862300	Hammashoitopalvelut	Dental practice services
869000	Muut terveydenhuoltopalvelut	Other human health services
870000	Laitoshoitopalvelut	Residential care services
880000	Sosiaalihuollon avopalvelut	Social work services without accommodation
900100	Esittävä taide ja luomistyö	Services of performing artists
900400	Taidelaitosten palvelut	Arts facility operation services
910100	Kirjastojen ja arkistojen palvelut	Library and archive services
910200	Museoiden palvelut	Museum services
910400	Kasvitieteellisten puutarhojen, eläintarhojen ja luonnonpuistojen palvelut	Botanical and zoological garden services and nature reserve services
920000	Rahapeli- ja vedonlyöntipalvelut	Gambling and betting services
931000	Urheilutoiminta	Sporting services
932000	Huvi- ja virkistystoiminta	Amusement and recreation services
941000	Elinkeinoelämän, työnantaja- ja ammattialajärjestöjen palvelut	Services furnished by business, employers and professional membership organisations
942000	Ammattiyhdistysten palvelut	Services furnished by trade unions
949000	Muiden järjestöjen palvelut	Services furnished by other membership organisations
949100	Uskonnollisten järjestöjen palvelut	Services furnished by religious organisations
951000	Tietokoneiden ja viestintälaitteiden korjauspalvelut	Repair services of computers and communication equipment
952000	Henkilökohtaisten ja kotitaloustavaroiden korjauspalvelut	Repair services of personal and household goods
960100	Pesulapalvelut	Washing and (dry-)cleaning services of textile and fur products
960200	Kampaamo- ja muut kauneudenhoitopalvelut	Hairdressing and other beauty treatment services
960300	Hautausalan palvelut	Funeral and related services
960400	Fyysistä hyvinvointia edistävät palvelut	Physical well-being services
960900	Muut henkilökohtaiset palvelut, muualle luokittelemattomat	Other personal services n.e.c.
970000	Kotitalouspalvelut	Private households with employed persons
999230	Suomal. kotitalouksien ostot ulkomailla	Final consumption by Finnish households in the rest of the world
999240	Ulkom. kotitalouksien ostot Suomessa	Final consumption by non-resident households in Finland
999320	CIF-FOB-korjaus, vakuutus- ja rahtitulo	CIF-FOB-adjustment

ANNEX 6 Classification of individual consumption (ECOICOP)

Table 227: Classification of individual consumption (ECOICOP)

NA-ECOICOP-code	Summary level	Kulutusluokka (FI)	Heading (EN)
01	x	ELINTARVIKKEET JA ALKOHOLITTOMAT JUOMAT	FOOD AND NON-ALCOHOLIC BEVERAGES
01.1	x	Elintarvikkeet	Food
01.1.1	x	Viljatuotteet ja leipä	Bread and cereals
01.1.1.1.ND		Riisi	Rice
01.1.1.2.ND		Jauhot ja muut viljat	Flour and other cereals
01.1.1.3.ND		Leipä	Bread
01.1.1.4.ND		Muut leipomotuotteet	Other bakery products

01.1.1.5.ND		Pizzat ja suolaiset piirakat	Pizza and quiche
01.1.1.6.ND		Pastatuotteet ja kuskus	Pasta products and couscous
01.1.1.7.ND		Aamiaisviljatuotteet	Breakfast cereals
01.1.1.8.ND		Muut viljatuotteet	Other cereal products
01.1.2	x	Liha	Meat
01.1.2.1.ND		Naudan- ja vasikanliha	Beef and veal
01.1.2.2.ND		Sianliha	Pork
01.1.2.3.ND		Lampaan- ja vuohenliha	Lamb and goat
01.1.2.4.ND		Siipikarjan liha	Poultry
01.1.2.5.ND		Muu liha	Other meats
01.1.2.6.ND		Syötävät sisäelimet	Edible offal
01.1.2.7.ND		Kuivattu, suolattu tai savustettu liha	Dried, salted or smoked meat
01.1.2.8.ND		Muut lihavalmisteet	Other meat preparations
01.1.3	x	Kala ja äyriäiset	Fish and seafood
01.1.3.1.ND		Tuore tai jäähdytetty kala	Fresh or chilled fish
01.1.3.2.ND		Pakastettu kala	Frozen fish
01.1.3.3.ND		Tuoreet tai jäähdytetyt äyriäiset	Fresh or chilled seafood
01.1.3.4.ND		Pakastetut äyriäiset	Frozen seafood
01.1.3.5.ND		Kuivattu, savustettu tai suolattu kala ja äyriäiset	Dried, smoked or salted fish and seafood
01.1.3.6.ND		Muut säilötyt tai käsitellyt kala- ja äyriäisvalmisteet	Other preserved of processed fish and seafood-based preparations
01.1.4	x	Maitotuotteet, juusto ja kanamunat	Milk, cheese and eggs
01.1.4.1.ND		Tuore täysmaito	Whole milk (Milk, whole, fresh – includes UHT)
01.1.4.2.ND		Tuore vähärasvainen maito	Low fat milk (Milk, low fat, fresh – includes UHT)
01.1.4.3.ND		Säilötty maito	Preserved milk
01.1.4.4.ND		Jogurtti	Yoghurt
01.1.4.5.ND		Juusto ja juustoaine	Cheese and curd
01.1.4.6.ND		Muut maitotuotteet	Other milk products
01.1.4.7.ND		Munat	Eggs
01.1.5	x	Öljyt ja rasvat	Oils and fats
01.1.5.1.ND		Voi	Butter
01.1.5.2.ND		Margariini ja muut kasvirasvat	Margarine and other vegetable fats
01.1.5.3.ND		Oliiviöljy	Olive oil
01.1.5.4.ND		Muut syötävät ruokaöljyt	Other edible oils
01.1.5.5.ND		Muut syötävät eläinrasvat	Other edible animal fats
01.1.6	x	Hedelmät ja marjat	Fruit
01.1.6.1.ND		Tuoreet tai jäähdytetyt hedelmät ja marjat	Fresh or chilled fruit
01.1.6.2.ND		Pakastetut hedelmät ja marjat	Frozen fruit
01.1.6.3.ND		Kuivatut hedelmät ja marjat ja pähkinät	Dried fruit and nuts
01.1.6.4.ND		Säilötyt hedelmät ja marjat ja hedelmä- ja marjapohjaiset tuotteet	Preserved fruit and fruit-based products
01.1.7	x	Vihannekset	Vegetables
01.1.7.1.ND		Tuoreet ja jäähdytetyt vihannekset, muut kuin perunat ja muut mukulakasvit	Fresh or chilled vegetables other than potatoes and other tubers
01.1.7.2.ND		Pakastetut vihannekset, muut kuin perunat ja muut mukulakasvit	Frozen vegetables other than potatoes and other tubers

01.1.7.3.ND		Kuivatut kasvikset, muut säilötyt tai käsitellyt vihannekset	Dried vegetables, other preserved or processed vegetables
01.1.7.4.ND		Perunat	Potatoes
01.1.7.5.ND		Perunalastut	Crisps
01.1.7.6.ND		Muut mukulakasvit ja mukulakasvivalmisteet	Other tubers and products of tuber vegetables
01.1.8	x	Sokeri, hillot, hunaja, suklaa ja makeiset	Sugar, jam, honey, chocolate and confectionery
01.1.8.1.ND		Sokeri	Sugar
01.1.8.2.ND		Hillot, marmeladit ja hunaja	Jams, marmalades and honey
01.1.8.3.ND		Suklaa	Chocolate
01.1.8.4.ND		Makeistuotteet	Confectionery products
01.1.8.5.ND		Mehujäät ja jäätelöt	Edible ices and ice cream
01.1.8.6.ND		Keinotekoiset makeutusaineet	Artificial sugar substitutes
01.1.9	x	Ruokatuotteet, muualle luokittelemattomat	Food products n.e.c.
01.1.9.1.ND		Kastikkeet ja maustekastikkeet	Sauces, condiments
01.1.9.2.ND		Suola, mausteet ja mausteyrtit	Salt, spices and culinary herbs
01.1.9.3.ND		Vauvanruoat	Baby food
01.1.9.4.ND		Valmisruoat	Ready-made meals
01.1.9.9.ND		Muut ruokavalmisteet, muualle luokittelemattomat	Other food products n.e.c.
01.2	x	Alkoholittomat juomat	Non-alcoholic beverages
01.2.1	x	Kahvi, tee ja kaakao	Coffee, tea and cocoa
01.2.1.1.ND		Kahvi	Coffee
01.2.1.2.ND		Tee	Tea
01.2.1.3.ND		Kaakao ja kaakaojauhe	Cocoa and powdered chocolate
01.2.2	x	Kivennäisvedet, virvoitusjuomat, hedelmä- ja vihannesmehut	Mineral waters, soft drinks, fruit and vegetable juices
01.2.2.1.ND		Kivennäis- ja lähdevedet	Mineral or spring waters
01.2.2.2.ND		Virvoitusjuomat	Soft drinks
01.2.2.3.ND		Hedelmä-, marja- ja vihannesmehut	Fruit and vegetable juices
02	x	ALKOHOLIJUOMAT, TUPAKKA JA HUUMAUSAINEET	ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS
02.1	x	Alkoholijuomat	Alcoholic beverages
02.1.1	x	Väkevät alkoholijuomat	Spirits
02.1.1.X.ND		Väkevät alkoholijuomat	Spirits
02.1.2	x	Viini	Wine
02.1.2.X.ND		Viini	Wine
02.1.3	x	Olut	Beer
02.1.3.X.ND		Olut	Beer
02.2	x	Tupakka	Tobacco
02.2.0	x	Tupakka	Tobacco
02.2.0.X.ND		Tupakka	Tobacco
02.3	x	Huumausaineet	Narcotics
02.3.0	x	Huumausaineet	Narcotics
02.3.0.0.ND		Huumausaineet	Narcotics
03	x	VAATETUS JA JALKINEET	CLOTHING AND FOOTWEAR
03.1	x	Vaatetus	Clothing
03.1.1	x	Vaatteiden valmistusaineet	Clothing materials

03.1.1.0.SD		Kankaat	Clothing materials
03.1.2	x	Vaatteet	Garments
03.1.2.1.SD		Miesten vaatteet	Garments for men
03.1.2.2.SD		Naisten vaatteet	Garments for women
03.1.2.3.SD		Vauvojen (0-2-vuotiaat) ja lasten (3-13-vuotiaat) vaatteet	Garments for infants (0 to 2 years) and children (3 to 13 years)
03.1.3	x	Muut asusteet ja vaatetustarvikkeet	Other articles of clothing and clothing accessories
03.1.3.X.SD		Muut asusteet ja vaatetustarvikkeet	Other articles of clothing and clothing accessories
3.1.4	x	Vaatteiden pesu, korjaus ja vuokraus	Cleaning, repair and hire of clothing
03.1.4.X.S		Vaatteiden pesu, korjaus ja vuokraus	Cleaning, repair and hire of clothing
03.2	x	Jalkineet	Footwear
03.2.1	x	Kengät ja muut jalkineet	Shoes and other footwear
03.2.1.1.SD		Miesten jalkineet	Footwear for men
03.2.1.2.SD		Naisten jalkineet	Footwear for women
03.2.1.3.SD		Vauvojen ja lasten jalkineet	Footwear for infants and children
03.2.2	x	Jalkineiden korjaus ja vuokraus	Repair and hire of footwear
03.2.2.0.S		Jalkineiden korjaus ja vuokraus	Repair and hire of footwear
04	x	ASUMINEN, VESI, SÄHKÖ, KAASU JA MUUT POLTTOAINEET	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS
04.1	x	Todelliset asumisvuokrat	Actual rents for housing
04.1.X	x	Todelliset asumisvuokrat	Actual rents for housing
04.1.X.X.S		Todelliset asumisvuokrat	Actual rents for housing
04.2	x	Laskennalliset asumisvuokrat	Imputed rents for housing
04.2.X	x	Laskennalliset asumisvuokrat	Imputed rents for housing
04.2.X.X.S		Laskennalliset asumisvuokrat	Imputed rents for housing
04.3	x	Asunnon huolto ja korjaus	Maintenance and repair of dwelling
04.3.1	x	Asunnon huoltoon ja korjaukseen liittyvät materiaalit	Materials for the maintenance and repair of dwelling
04.3.1.0.ND		Asunnon huoltoon ja korjaukseen liittyvät materiaalit	Materials for the maintenance and repair of dwelling
04.3.2	x	Asunnon huoltoon ja korjaukseen liittyvät palvelut	Services for the maintenance and repair of dwelling
04.3.2.X.S		Asunnon huoltoon ja korjaukseen liittyvät palvelut	Services for the maintenance and repair of dwelling
04.4	x	Vesihuolto ja sekalaiset asumispalvelut	Other services relating to housing
04.4.1	x	Vesihuolto	Water supply
04.4.1.0.ND		Vesihuolto	Water supply
04.4.2	x	Jätteiden keruu	Waste collection
04.4.2.0.S		Jätteiden keruu	Waste collection
04.4.3	x	Jätevesi	Sewage services
04.4.3.0.S		Jätevesi	Sewage services
04.4.4	x	Muut asumiseen liittyvät palvelut, muualle luokittelemattomat	Other services relating to housing n.e.c.
04.4.4.X.S		Muut asumiseen liittyvät palvelut, muualle luokittelemattomat	Other services relating to housing n.e.c.
04.5	x	Sähkö, kaasu tai muut polttoaineet	Electricity, gas and other fuels
04.5.1	x	Sähkö	Electricity
04.5.1.0.ND		Sähkö	Electricity
04.5.2	x	Kaasu	Gas
04.5.2.X.ND		Kaasu	Gas

04.5.3	x	Nestemäiset polttoaineet	Liquid fuels
04.5.3.0.ND		Nestemäiset polttoaineet	Liquid fuels
04.5.4	x	Kiinteät polttoaineet	Solid fuels
04.5.4.X.ND		Kiinteät polttoaineet	Solid fuels
04.5.5	x	Lämpöenergia	Hot water, steam and ice
04.5.5.0.ND		Lämpöenergia	Hot water, steam and ice
05	x	KALUSTEET, KOTITALOUSKONEET JA YLEINEN KODINHOITO	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE
05.1	x	Huonekalut ja kalusteet, matot ja muut lattianpäällysteet	Furniture and furnishings, carpets and other floor coverings
05.1.1	x	Huonekalut ja kalusteet	Furniture and furnishings
05.1.1.1.D		Kodin kalusteet	Household furniture
05.1.1.2.D		Puutarhakalusteet	Garden furniture
05.1.1.3.D		Valaisimet	Lighting equipment
05.1.1.9.D		Muut huonekalut ja kalusteet	Other furniture and furnishings
05.1.2	x	Matot ja muut lattianpäällysteet	Carpets and other floor coverings
05.1.2.X.D		Matot ja muut lattianpäällysteet	Carpets and other floor coverings
05.1.3	x	Huonekalujen, kalusteiden ja lattianpäällysteiden korjaus	Repair of furniture, furnishings and floor coverings
05.1.3.0.S		Huonekalujen, kalusteiden ja lattianpäällysteiden korjaus	Repair of furniture, furnishings and floor coverings
05.2	x	Kodintekstiilit	Household textiles
05.2.0	x	Kodintekstiilit	Household textiles
05.2.0.1.SD		Sisustuskankaat ja verhot	Furnishings fabrics and curtains
05.2.0.2.SD		Vuodevaatteet	Bed linen
05.2.0.3.SD		Pöytäliinat ja pyyhkeet	Table linen and bathroom linen
05.2.0.4.S		Kodintekstiilien korjaus	Repair of household textiles
05.2.0.9.SD		Muut kodintekstiilit	Other household textiles
05.3	x	Kodinkoneet	Household appliances
05.3.1	x	Sähkökäyttöiset ja muut kuin sähkökäyttöiset suuret kodinkoneet	Major household appliances whether electric or not
05.3.1.1.D		Jääkaapit, pakastimet ja jääkaappipakastimet	Refrigerators, freezers and fridge-freezers
05.3.1.2.D		Pesukoneet, kuivausrummut ja astianpesukoneet	Clothes washing machines, clothes drying machines, and dish washing machines
05.3.1.3.D		Liedet	Cookers
05.3.1.4.D		Lämmittimet, ilmastointilaitteet	Heaters, air conditioners
05.3.1.5.D		Puhdistuslaitteet	Cleaning equipment
05.3.1.9.D		Muut suuret kodinkoneet	Other major household appliances
05.3.2	x	Kodin sähkökäyttöiset pienkoneet	Small electric household appliances
05.3.2.X.SD		Kodin sähkökäyttöiset pienkoneet	Small electric household appliances
05.3.3	x	Kodinkoneiden korjaus	Repair of household appliances
05.3.3.0.S		Kodinkoneiden korjaus	Repair of household appliances
05.4	x	Lasitavarat, astiat ja kotitaloustarvikkeet	Glassware, tableware and household utensils
05.4.0	x	Lasitavarat, astiat ja kotitaloustarvikkeet	Glassware, tableware and household utensils
05.4.0.1.SD		Lasi-, kristalli-, keramiikka- ja posliinitavarat	Glassware, crystal-ware, ceramic ware and chinaware
05.4.0.2.SD		Ruokailuvälineet	Cutlery, flatware and silverware
05.4.0.3.SD		Muut kuin sähkökäyttöiset keittiötarvikkeet	Non-electric kitchen utensils and articles

05.4.0.4.S		Lasitavaroiden, astioiden ja taloustavaroiden korjaus	Repair of glassware, tableware and household utensils
05.5	x	Kodin ja puutarhan työkalut ja laitteet	Tools and equipment for house and garden
05.5.1	x	Suuret työkalut ja laitteet	Major tools and equipment
05.5.1.X.D		Suuret työkalut ja laitteet	Major tools and equipment
05.5.2	x	Pienet työkalut ja erilaiset lisävarusteet	Small tools and miscellaneous accessories
05.5.2.X.SD		Pienet työkalut ja erilaiset lisävarusteet	Small tools and miscellaneous accessories
05.6	x	Taloudenhoitoon liittyvät tavarat ja palvelut	Goods and services for routine household maintenance
05.6.1	x	Kodin kulutustavarat	Non-durable household goods
05.6.1.1.ND		Siivous- ja puhdistustuotteet	Cleaning and maintenance products
05.6.1.2.ND		Muut pienet kodin kulutustuotteet	Other non-durable small household articles
05.6.2	x	Kodin- ja taloudenhoitopalvelut	Domestic services and household services
05.6.2.1.S		Palkattujen henkilöiden kodinhoitopalvelut	Domestic services by paid staff
05.6.2.2.S		Siivouspalvelut	Cleaning services
05.6.2.3.S		Huonekalujen ja kalusteiden vuokraus	Hire of furniture and furnishings
05.6.2.9.S		Muut kotitalouspalvelut	Other domestic services and household services
06	x	TERVEYS	HEALTH
06.1	x	Lääkevalmisteet, hoitolaitteet ja -välineet	Medical products, appliances and equipment
06.1.1	x	Farmaseuttiset tuotteet	Pharmaceutical products
06.1.1.0.ND		Farmaseuttiset tuotteet	Pharmaceutical products
06.1.2	x	Muut lääkevalmisteet	Other medical products
06.1.2.X.ND		Muut lääkevalmisteet	Other medical products
06.1.3	x	Hoitolaitteet ja -välineet	Therapeutic appliances and equipment
06.1.3.X.D		Hoitolaitteet ja -välineet	Therapeutic appliances and equipment
06.2	x	Avohoitopalvelut	Out-patient services
06.2.1	x	Sairaanhoitopalvelut	Medical services
06.2.1.X.S		Sairaanhoitopalvelut	Medical services
06.2.2	x	Hammashoito	Dental services
06.2.2.0.S		Hammashoito	Dental services
06.2.3	x	Avustavat hoitopalvelut	Paramedical services
06.2.3.X.S		Avustavat hoitopalvelut	Paramedical services
06.3	x	Sairaalapalvelut	Hospital services
06.3.0	x	Sairaalapalvelut	Hospital services
06.3.0.0.S		Sairaalapalvelut	Hospital services
07	x	LIIKENNE	TRANSPORT
07.1	x	Ajoneuvojen hankinta	Purchase of vehicles
07.1.1	x	Autot	Motor cars
07.1.1.1.D		Uudet autot	New motor cars
07.1.1.2.D		Käytetyt autot	Second-hand motor cars
07.1.2	x	Moottoripyörät	Motorcycles
07.1.2.0.D		Moottoripyörät	Motorcycles
07.1.3	x	Polkupyörät	Bicycles
07.1.3.0.D		Polkupyörät	Bicycles
07.1.4	x	Eläinvetoiset ajoneuvot	Animal drawn vehicles
07.1.4.0.D		Eläinvetoiset ajoneuvot	Animal drawn vehicles

07.2	x	Yksityisajoneuvojen käyttö	Operation of personal transport equipment
07.2.1	x	Yksityisajoneuvojen varaosat ja lisävarusteet	Spare parts and accessories for personal transport equipment
07.2.1.1.SD		Renkaat	Tyres
07.2.1.2.SD		Yksityisajoneuvojen varaosat	Spare parts for personal transport equipment
07.2.1.3.SD		Yksityisajoneuvojen lisävarusteet	Accessories for personal transport equipment
07.2.2	x	Yksityisajoneuvojen polttoaineet ja voiteluöljyt	Fuels and lubricants for personal transport equipment
07.2.2.1.ND		Diesel	Diesel
07.2.2.2.ND		Bensiini	Petrol
07.2.2.3.ND		Muut yksityisajoneuvojen polttoaineet	Other fuels for personal transport equipment
07.2.2.4.ND		Voiteluaineet	Lubricants
07.2.3	x	Yksityisajoneuvojen huolto ja korjaus	Maintenance and repair of personal transport equipment
07.2.3.0.S		Yksityisajoneuvojen huolto ja korjaus	Maintenance and repair of personal transport equipment
07.2.4	x	Muut yksityisajoneuvoihin liittyvät palvelut	Other services in respect of personal transport equipment
07.2.4.1.S		Autotallin, pysäköintipaikan ja yksityisajoneuvojen vuokraus	Hire of garages, parking spaces and personal transport equipment
07.2.4.2.S		Käyttömaksut ja pysäköintimaksut	Toll facilities and parking meters
07.2.4.3.S		Ajo-opetus, ajokokeet ja ajokortit sekä auton katsastus	Driving lessons, tests, licences and road worthiness tests
07.3	x	Liikennepalvelut	Transport services
07.3.1	x	Matkustajien kuljetus rautatieliikenteessä	Passenger transport by railway
07.3.1.1.S		Matkustajien kuljetus junalla	Passenger transport by train
07.3.1.2.S		Matkustajien kuljetus maanalaisella ja raitiovaunulla	Passenger transport by underground and tram
07.3.2	x	Matkustajien kuljetus tieliikenteessä	Passenger transport by road
07.3.2.1.S		Matkustajien kuljetus linja-autolla	Passenger transport by bus and coach
07.3.2.2.S		Matkustajien kuljetus taksilla ja kuljettajalla varustetulla vuokra-autolla	Passenger transport by taxi and hired car with driver
07.3.3	x	Matkustajien kuljetus lentoliikenteessä	Passenger transport by air
07.3.3.X.S		Matkustajien kuljetus lentoliikenteessä	Passenger transport by air
07.3.4	x	Matkustajaliikenne meri- ja sisävesiliikenteessä	Passenger transport by sea and inland waterway
07.3.4.X.S		Matkustajaliikenne meri- ja sisävesiliikenteessä	Passenger transport by sea and inland waterway
07.3.5	x	Yhdistetty matkustajaliikenne	Combined passenger transport
07.3.5.0.S		Yhdistetty matkustajaliikenne	Combined passenger transport
07.3.6	x	Muut kuljetuspalvelut	Other purchased transport services
07.3.6.X.S		Muut kuljetuspalvelut	Other purchased transport services
08	x	VIESTINTÄ	COMMUNICATION
08.1	x	Postipalvelut	Postal services
08.1.0	x	Postipalvelut	Postal services
08.1.0.1.S		Kirjeiden käsittelypalvelu	Letter handling services
08.1.0.9.S		Muut postipalvelut	Other postal services
08.2	x	Puhelin- ja faksilaitteet	Telephone and telefax equipment
08.2.0	x	Puhelin- ja faksilaitteet	Telephone and telefax equipment
08.2.0.X.D		Puhelin- ja faksilaitteet	Telephone and telefax equipment
08.3	x	Puhelin- ja faksipalvelut	Telephone and telefax services
08.3.0	x	Puhelin- ja faksipalvelut	Telephone and telefax services
08.3.0.1.S		Kiinteän puhelinverkon palvelut	Wired telephone services

08.3.0.2.S		Langattoman puhelinverkon palvelut	Wireless telephone services
08.3.0.3.S		Internet-yhteyksien tarjontaan liittyvät palvelut	Internet access provision services
08.3.0.4.S		Yhdistetyt telepalvelut	Bundled telecommunication services
08.3.0.5.S		Muut tiedonsiirtopalvelut	Other information transmission services
09	x	KULTTUURI JA VAPAA-AIKA	RECREATION AND CULTURE
09.1	x	Audiovisuaaliset laitteet, valokuvauslaitteet ja tietojenkäsittelylaitteet	Audio-visual, photographic and information processing equipment
09.1.1	x	Äänen ja kuvan vastaanottoon, tallennukseen ja toistoon käytetyt laitteet	Equipment for the reception, recording and reproduction of sound and picture
09.1.1.1.D		Äänen vastaanottoon, tallennukseen ja toistoon käytetyt laitteet	Equipment for the reception, recording and reproduction of sound
09.1.1.2.D		Äänen ja kuvan vastaanottoon, tallennukseen ja toistoon käyttävät laitteet	Equipment for the reception, recording and reproduction of sound and vision
09.1.1.3.D		Kannettavat äänen- ja kuvantoistolaitteet	Portable sound and vision devices
09.1.1.9.D		Muut äänen ja kuvan vastaanottoon, tallennukseen ja toistoon käytettävät laitteet	Other equipment for the reception, recording and reproduction of sound and vision
09.1.2	x	Valokuvaus- ja elokuvalaitteet ja optiset laitteet	Photographic and cinematographic equipment and optical instruments
09.1.2.X.D		Valokuvaus- ja elokuvalaitteet ja optiset laitteet	Photographic and cinematographic equipment and optical instruments
09.1.3	x	Tietojenkäsittelylaitteet	Information processing equipment
09.1.3.1.D		Tietokoneet	Personal computers
09.1.3.2.D		Tietojenkäsittelylaitteiden lisävarusteet	Accessories for information processing equipment
09.1.3.3.D		Ohjelmistot	Software
09.1.3.4.D		Laskimet ja muut tietojenkäsittelylaitteet	Calculators and other information processing equipment
09.1.4	x	Tallennusvälineet	Recording media
09.1.4.1.SD		Valmiiksi tallennetut tallennusvälineet	Pre-recorded recording media
09.1.4.2.SD		Tallentamattomat tallennusvälineet	Unrecorded recording media
09.1.4.9.SD		Muut tallennusvälineet	Other recording media
09.1.5	x	Audiovisuaalisten laitteiden, valokuvauslaitteiden ja tietojenkäsittelylaitteiden korjaus	Repair of audio-visual, photographic and information processing equipment
09.1.5.0.S		Audiovisuaalisten laitteiden, valokuvauslaitteiden ja tietojenkäsittelylaitteiden korjaus	Repair of audio-visual, photographic and information processing equipment
09.2	x	Muut kulttuuriin ja vapaa-aikaan liittyvät suuret kestokulutustavarat	Other major consumer durables for recreation and culture
09.2.1	x	Suuret ulkokäyttöön tarkoitetut kestokulutustavarat	Major durables for outdoor recreation
09.2.1.X.D		Suuret ulkokäyttöön tarkoitetut kestokulutustavarat	Major durables for outdoor recreation
09.2.2	x	Soittimet ja muut sisäkäyttöön tarkoitetut vapaa-ajan kestokulutustavarat	Musical instruments and major durables for indoor recreation
09.2.2.X.D		Soittimet ja muut sisäkäyttöön tarkoitetut vapaa-ajan kestokulutustavarat	Musical instruments and major durables for indoor recreation
09.2.3	x	Kulttuuriin ja vapaa-aikaan liittyvien muiden kestokulutustavaroiden huolto ja korjaus	Maintenance and repair of other major durables for recreation and culture
09.2.3.0.S		Kulttuuriin ja vapaa-aikaan liittyvien muiden kestokulutustavaroiden huolto ja korjaus	Maintenance and repair of other major durables for recreation and culture
09.3	x	Muut vapaa-aikaan liittyvät tarvikkeet ja laitteet, puutarhanhoito ja lemmikkieläimet	Other recreational items and equipment, gardens and pets
09.3.1	x	Pelit, lelut ja harrastusvälineet	Games, toys and hobbies
09.3.1.1.SD		Pelit ja harrastusvälineet	Games and hobbies
09.3.1.2.SD		Lelut ja juhliin liittyvät tavarat	Toys and celebration articles
09.3.2	x	Urheilu-, retkeily- ja ulkoiluvälineet	Equipment for sport, camping and open-air recreation
09.3.2.X.SD		Urheilu-, retkeily- ja ulkoiluvälineet	Equipment for sport, camping and open-air recreation

09.3.3	x	Puutarhat, kasvit ja kukat	Garden, plants and flowers
09.3.3.1.SD		Puutarhatarvikkeet	Garden products
09.3.3.2.ND		Kasvit ja kukat	Plants and flowers
09.3.4	x	Lemmikkieläimet ja niihin liittyvät tuotteet	Pets and related products
09.3.4.1.SD		Lemmikkieläinten hankinta	Purchase of pets
09.3.4.2.ND		Lemmikkieläintuotteet	Products for pets
09.3.5	x	Eläinlääkintäpalvelut ja muut lemmikkieläinpalvelut	Veterinary and other services for pets
09.3.5.0.S		Eläinlääkintäpalvelut ja muut lemmikkieläinpalvelut	Veterinary and other services for pets
09.4	x	Kulttuuri- ja vapaa-ajan palvelut	Recreational and cultural services
09.4.1	x	Vapaa-aikaan ja urheiluun liittyvät palvelut	Recreational and sporting services
09.4.1.X.S		Vapaa-aikaan ja urheiluun liittyvät palvelut	Recreational and sporting services
09.4.2	x	Kulttuuripalvelut	Cultural services
09.4.2.1.S		Elokuvateatterit, teatterit ja konsertit	Cinemas, theatres, concerts
09.4.2.2.S		Museot, kirjastot ja eläintarhat	Museums, libraries, zoological gardens
09.4.2.3.S		Televisio- ja radiolupamaksut, maksulliset lähetykset	Television and radio licence fees, subscriptions
09.4.2.4.S		Kulttuuriin liittyvien laitteiden ja varusteiden vuokraus	Hire of equipment and accessories for culture
09.4.2.5.S		Valokuvauspalvelut	Photographic services
09.4.2.9.S		Muut kulttuuripalvelut	Other cultural services
09.4.3	x	Rahapelit	Games of chance
09.4.3.0.S		Rahapelit	Games of chance
09.5	x	Sanomalehdet, kirjat ja paperitavarat	Newspapers, books and stationery
09.5.1	x	Kirjat	Books
09.5.1.X.SD		Kirjat	Books
09.5.2	x	Sanoma- ja aikakauslehdet	Newspapers and periodicals
09.5.2.1.ND		Sanomalehdet	Newspapers
09.5.2.2.ND		Aikakauslehdet	Magazines and periodicals
09.5.3	x	Sekalaiset painotuotteet	Miscellaneous printed matter
09.5.3.0.ND		Sekalaiset painotuotteet	Miscellaneous printed matter
09.5.4	x	Paperitavarat ja piirustustarvikkeet	Stationery and drawing materials
09.5.4.X.ND		Paperitavarat ja piirustustarvikkeet	Stationery and drawing materials
09.6	x	Valmismatkat	Package holidays
09.6.0	x	Valmismatkat	Package holidays
09.6.0.X.S		Valmismatkat	Package holidays
10	x	KOULUTUS	EDUCATION
10.X	x	Koulutus	Education
10.X.X	x	Koulutus	Education
10.X.X.X.S		Koulutus	Education
11	x	RAVINTOLAT JA HOTELLIT	RESTAURANTS AND HOTELS
11.1	x	Ravintola-, kahvila- ja muut ateriapalvelut	Catering services
11.1.1	x	Ravintolat, kahvilat ja muut vastaavat	Restaurants, cafes and the like
11.1.1.1.S		Ravintolat, kahvilat ja virkistyspaikoissa myyty ruoka ja juoma	Restaurants, cafes and dancing establishments
11.1.1.2.S		Pika-, nouto- ja tilausruokapalvelut	Fast food and take away food services
11.1.2	x	Ruokalat	Canteens
11.1.2.0.S		Ruokalat	Canteens

11.2	x	Majoituspalvelut	Accommodation services
11.2.0	x	Majoituspalvelut	Accommodation services
11.2.0.1.S		Hotellit, motellit, majatalot ja muut vastaavat majoituspalvelut	Hotels, motels, inns and similar accommodation services
11.2.0.2.S		Lomakylät, leirintäalueet, retkeilymajat ja muut vastaavat majoituspalvelut	Holiday centres, camping sites, youth hostels and similar accommodation services
11.2.0.3.S		Muut majoituspalvelut	Accommodation services of other establishments
12	x	MUUT TAVARAT JA PALVELUT	MISCELLANEOUS GOODS AND SERVICES
12.1	x	Henkilökohtainen hygienia ja kauneudenhoito	Personal care
12.1.1	x	Kampaamot, parturit ja kauneushoitolat	Hairdressing salons and personal grooming establishments
12.1.1.1.S		Miesten ja lasten parturi- ja kampaamopalvelut	Hairdressing for men and children
12.1.1.2.S		Naisten kampaamopalvelut	Hairdressing for women
12.1.1.3.S		Kauneudenhoitopalvelut	Personal grooming treatments
12.1.2	x	Henkilökohtaisen hygienian hoitoon tarkoitetut sähkökäyttöiset laitteet	Electric appliances for personal care
12.1.2.X.SD		Henkilökohtaisen hygienian hoitoon tarkoitetut sähkökäyttöiset laitteet	Electric appliances for personal care
12.1.3	x	Muut henkilökohtaisen hygienian hoitoon tarkoitetut laitteet ja tuotteet	Other appliances, articles and products for personal care
12.1.3.1.SD		Muut kuin sähkökäyttöiset laitteet	Non-electric appliances
12.1.3.2.ND		Henkilökohtaiset hygienia-, kauneudenhoito- ja kosmetiikkatuotteet	Articles for personal hygiene and wellness, esoteric products and beauty products
12.2	x	Prostituutio	Prostitution
12.2.0	x	Prostituutio	Prostitution
12.2.0.0.S		Prostituutio	Prostitution
12.3	x	Henkilökohtaiset esineet, muualle luokittelemattomat	Personal effects n.e.c.
12.3.1	x	Korut, kellot ja rannekellot	Jewellery, clocks and watches
12.3.1.1.D		Korut	Jewellery
12.3.1.2.D		Kellot ja rannekellot	Clocks and watches
12.3.1.3.S		Korujen, kellojen ja rannekellojen korjaus	Repair of jewellery, clocks and watches
12.3.2	x	Muut henkilökohtaiset esineet	Other personal effects
12.3.2.1.SD		Laukut ja matkustustarvikkeet	Travel goods
12.3.2.2.SD		Vauvantarvikkeet	Articles for babies
12.3.2.3.S		Henkilökohtaisten esineiden korjaus	Repair of other personal effects
12.3.2.9.SD		Muut henkilökohtaiset esineet, muualle luokittelemattomat	Other personal effects n.e.c.
12.4	x	Sosiaalipalvelut	Social protection
12.4.0	x	Sosiaalipalvelut	Social protection
12.4.0.X.S		Sosiaalipalvelut	Social protection
12.5	x	Vakuutukset	Insurance
12.5.1	x	Henkivakuutukset	Life insurance
12.5.1.0.S		Henkivakuutukset	Life insurance
12.5.2	x	Asumiseen liittyvät vakuutukset	Insurance connected with dwelling
12.5.2.0.S		Asumiseen liittyvät vakuutukset	Insurance connected with dwelling
12.5.3	x	Terveyteen liittyvät vakuutukset	Insurance connected with health
12.5.3.X.S		Terveyteen liittyvät vakuutukset	Insurance connected with health
12.5.4	x	Liikenteeseen liittyvät vakuutukset	Insurance connected with transport

12.5.4.1.S		Moottoriajoneuvovakuutukset	Motor vehicle insurance
12.5.4.2.S		Matkavakuutukset	Travel insurance
12.5.5	x	Muut vakuutukset	Other insurance
12.5.5.0.S		Muut vakuutukset	Other insurance
12.6	x	Rahoituspalvelut, muualle luokittelemattomat	Financial services n.e.c.
12.6.1	x	Välilliset rahoituspalvelut (FISIM)	FISIM
12.6.1.1.S		Välilliset rahoituspalvelut (FISIM) lainoista	FISIM on loans
12.6.1.2.S		Välilliset rahoituspalvelut (FISIM) talletuksista	FISIM on deposits
12.6.2	x	Muut rahoituspalvelut, muualle luokittelemattomat	Other financial services n.e.c.
12.6.2.X.S		Muut rahoituspalvelut, muualle luokittelemattomat	Other financial services n.e.c.
12.7	x	Muut palvelut, muualle luokittelemattomat	Other services n.e.c.
12.7.0	x	Muut palvelut, muualle luokittelemattomat	Other services n.e.c.
12.7.0.X.S		Muut palvelut, muualle luokittelemattomat	Other services n.e.c.
D	x	KESTOKULUTUSTAVARAT	DURABLE GOODS
ND	x	LYHYTIKÄISET TAVARAT	NON-DURABLE GOODS
S	x	PALVELUT	SERVICES
SD	x	PUOLIKESTÄVÄT KULUTUSTAVARAT	SEMI-DURABLE GOODS
P31 DC S14	x	KOTITALOUKSIEN KULUTUSMENOT SUOMESSA	CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND
TUR S14	x	TURISMIMENOT	EXPENDITURE ON TOURISM
P33 S14		Suomalaisten kotitalouksien kulutusmenot ulkomailla	Consumption expenditure of resident households in the rest of the world
P34 S14		Ulkomaalaisten kulutusmenot Suomessa	Consumption expenditure of non-resident households in Finland
P31 NC S14	x	SUOMALAISTEN KOTITALOUKSIEN KULUTUSMENOT	CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS
P31 S15	x	Voittoa tavoittelemattomien yhteisöjen kulutusmenot	Consumption expenditure of non-profit institutions
P31 DC S14+S15	x	YKSITYISET KULUTUSMENOT SUOMESSA	PRIVATE CONSUMPTION EXPENDITURE IN FINLAND
P31 NC S14+S15	x	YKSITYISET KULUTUSMENOT	PRIVATE CONSUMPTION EXPENDITURE

ANNEX 7 Classification of fixed assets

Table 228: Classification of fixed assets according to ESA 2010 and FNA2010

ESA 2010	**FNA 2010 (FI)**	**FNA 2010 (EN)**
Code	**P51 Kiinteän pääoman bruttomuodostus**	**P51 Gross fixed capital formation**
AN.1	TOT Varat yhteensä	TOT Gross fixed capital formation, total
AN.11	N11 Kiinteät varat	N11 Fixed assets
AN.111	N111 Asuinrakennukset	N111 Dwellings
AN.112	N112 Muut rakennukset ja rakennelmat	N112 Other buildings and structures
AN.1121	N1121 Muut talorakennukset	N1121 Non-residential buildings
AN.1122	N1122 Maa- ja vesirakennukset	N1122 Other structures
AN.1123	N1123 Maanparannukset	N1123 Land improvements
AN.113	N113 Koneet, laitteet ja kuljetusvälineet	N113 Machinery, equipment and transport equipment
AN.1131	N1131 Kuljetusvälineet	N1131 Transport equipment
AN.1132	N1132 Tieto- ja viestintätekniset laitteet	N1132 ICT equipment
	N11321 Tietokoneet ja oheislaitteet	N11321 Computers and peripheral equipment

	N11322 Muut viestintätekniset laitteet	N11322 Other communications technology equipment
AN.1139	N1139 Muut koneet ja laitteet	N1139 Other machinery and equipment
AN.114	N114 Asejärjestelmät	N114 Weapons systems
AN.115	N115 Kasvatettavat biologiset varat	N115 Cultivated biological resources
AN.1151	N1151 Eläinvarat	N1151 Animal resources
AN.1152	N1152 Puu-, viljelykasvi- ja kasvivarat	N1152 Tree, crop and plant resources
AN.116	N116 Valmistamattomien varojen omistusoikeuden siirtokulut	N116 Costs of ownership transfer on non-produced assets
AN.117	N117 Henkiset omaisuustuotteet	N117 Intellectual property products
AN.1171	N1171 Tutkimus ja kehittäminen	N1171 Research and development
AN.1172	N1172 Mineraalien etsintä ja arviointi	N1172 Mineral exploration and evaluation
AN.1173	N1173 Tietokoneohjelmistot ja tietokannat	N1173 Computer software
AN.1174	N1174 Viihteen, kirjallisuuden ja taiteen alkuperäisteokset	N1174 Entertainment, literary or artistic originals
AN.1179	N1179 Muut henkiset omaisuustuotteet	N1179 Other intellectual property products
	P52 Varastojen muutokset	**P52 Changes in inventories**
AN.12	N12 Varastot varastotyypeittäin	N12 Inventories by type of inventory
AN.121	N121 Aineet ja tarvikkeet	N121 Materials and supplies
	N1211 Polttoaineet	N1211 Fuels
	N1219 Muut aineet ja tarvikkeet	N1219 Other materials and supplies
AN.122	N122 Keskeneräiset työt	N122 Work-in-progress
AN.1221	N1221 Keskenkasvuiset kasvatettavat biologiset varat	N1221 Work-in-progress on cultivated biological assets
	N1222 Keskeneräiset rakennukset	N1222 Work-in-progress on buildings
	N1223 Keskeneräiset koneet, laitteet ja kuljetusvälineet	N1223 Work-in-progress on machinery, equipment and transport equipment
	N1229 Muut keskeneräiset työt	N1229 Other work-in-progress
AN.123	N123 Valmisteet	N123 Finished goods
AN.124	N124 Puolustustarvikevarastot	N124 Military inventories
AN.125	N125 Kauppatavarat	N125 Goods for resale
AN.13	N13 Arvoesineet	N13 Valuables
AN.131	N131 Jalometallit ja -kivet	N131 Precious metals and stones
AN.132	N132 Antiikki ja muut taide-esineet	N132 Antiques and other art objects
AN.133	N133 Muut arvoesineet	N133 Other valuables

ANNEX 8 Classification of international trade

Table 229: International trade classification of the National Accounts

Code	Label
G11	International merchandise trade statistics (Customs source data)
G1211	CIF-FOB adjustment: Freight transport by sea
G1212	CIF-FOB adjustment: Freight transport by air
G1213	CIF-FOB adjustment: Freight transport on rail
G1214	CIF-FOB adjustment: Freight transport on road
G1215	CIF-FOB adjustment: Import insurance
G12211	Processing abroad: ITSS

G12212	Processing abroad: Other than IMTS NoT codes
G12213	Processing abroad: IMTS NoT codes
G12221	Processing in Finland: Supplements
G12222	Processing in Finland: Other than IMTS NoT codes
G12223	Processing in Finland: IMTS NoT codes
G12231	Factoryless processing (negative credit)
G12232	Factoryless processing (credit)
G12321	Adjustments for classification: Goods procured by carriers in seaports
G12322	Adjustments for classification: Goods procured by carriers in airports
G12323	Adjustments for classification: Goods procured by carriers in other ports
G1231	Adjustments for classification: Nonmonetary gold
G131	Coverage: Smuggling
G132	Coverage: e-Commerce
G133	Coverage: Import of cars by individuals
G141	Goods procured in ports by carriers: In seaports
G142	Goods procured in ports by carriers: In airports
G143	Goods procured in ports by carriers: In other ports
G21	Goods acquired under merchanting (negative credit)
G22	Goods sold under merchanting (credit)
G3	Nonmonetary gold
SA	Manufacturing services on physical inputs owned by others, processing fee
SB	Maintenance and repair services n.i.e.
SC11	Sea transport; Passenger
SC12	Sea transport; Freight
SC13	Sea transport; Other than passenger and freight
SC21	Air transport; Passenger
SC22	Air transport; Freight
SC23	Air transport; Other than passenger and freight
SC3A	Space transport
SC3B1	Rail transport; Passenger
SC3B2	Rail transport; Freight
SC3B3	Rail transport; Other than passenger and freight
SC3C1	Road transport; Passenger
SC3C2	Road transport; Freight
SC3C3	Road transport; Other than passenger and freigh
SC3D1	Inland waterway transport; Passenger
SC3D2	Inland waterway transport; Freight
SC3D3	Inland waterway transport; Other than passenger and freight
SC3E	Pipeline transport
SC3F	Electricity transmission
SC3G	Other supporting and auxiliary transport services
SC4	Postal and courier services
SDA1	Travel; Business; Acquisition of goods and services by border, seasonal, and other short-term workers
SDA2	Travel; Business; Other than acquisition of goods and services by border, seasonal, and other short-term workers

SDB1	Travel; Personal; Health-related
SDB2	Travel; Personal; Education-related
SDB3	Travel; Personal; Other than heath-related and education-related
SE1	Construction abroad
SE2	Construction in the reporting economy
SF11Y	Gross life insurance premiums receivable (credits) and payable (debits)
SF11Z	Gross life insurance claims receivable (credits) and payable (debits)
SF12Y	Gross freight insurance premiums receivable (credits) and payable (debits)
SF12Z	Gross freight insurance claims receivable (credits) and payable (debits)
SF13Y	Gross direct insurance (other than life and freight insurance) premiums receivable (credits) and payable (debits)
SF13Z	Gross direct insurance (other than life and freight insurance) claims receivable (credits) and payable (debits)
SF2	Reinsurance
SF3	Auxiliary insurance services
SF41	Pension services
SF42	Standardized guarantee services
SG1	Financial services explicitly charged and other financial services
SG21	FISIM on loans
SG22	FISIM on deposits
SH1	Franchises and trademarks licensing fees
SH2	Licences for the use of outcomes of research and development
SH3	Licences to reproduce and/or distribute computer software
SH41	Licences to reproduce and/or distribute audio-visual products
SH42	Licences to reproduce and/or distribute other than audio-visual products
SI1	Telecommunications services
SI21	Computer software
SI22	Computer services other than computer software
SI31	News agency services
SI32	Information services other than news agency services
SJ111	Provision of customized and non-customized research and development services
SJ1121	Patents
SJ1122	Copyrights arising from research and development
SJ1123	Industrial processes and designs
SJ1124	Sales of proprietary rights arising from research and development other than patents, copyrights arising from research and development and industrial processes and designs
SJ12	Research and development services other than work undertaken on a systematic basis to increase the stock of knowledge
SJ211	Legal services
SJ212	Accounting, auditing, bookkeeping, and tax consulting services
SJ213	Business and management consulting and public relations services
SJ22	Advertising, market research, and public opinion polling services
SJ311	Architectural services
SJ312	Engineering services
SJ313	Scientific and other technical services
SJ321	Waste treatment and de-pollution

SJ322	Services incidental to agriculture, forestry and fishing
SJ323	Services incidental to mining, and oil and gas extraction
SJ33	Operating leasing services
SJ34	Trade-related services
SJ35	Other business services n.i.e.
SK11	Audio-visual services
SK12	Artistic related services
SK21	Personal, cultural, and recreational services other than audiovisual and related services; Health services
SK22	Personal, cultural, and recreational services other than audiovisual and related services; Education services
SK23	Personal, cultural, and recreational services other than audiovisual and related services; Heritage and recreational services
SK24	Personal, cultural, and recreational services other than audiovisual and related services; Personal services other than health, education and heritage and recreational services
SL1	Embassies and consulates
SL2	Military units and agencies
SL3	Government goods and services n.i.e other than embassies and consulates and military units and agencies

ANNEX 9 The average service lives used in PIM in Finland

Table 230: Table of all the average service lives used in PIM in Finland (years)

Activity code in NACE	Activity label	N111	N1121	N1122	N1123	N1131	N11321	N11322	N1139	N114	N115	N116	N1171	N1172	N1173	N1174
A	Agriculture, forestry, fishing															
A01	Crop and animal production, hunting and related service activities		37	43	50	13	7	15	10		8		10		5	
A02	Forestry and logging	60	40	30	30	9	7	15	5			25	10		5	
A03	Fishing and aquaculture		40			10	7	15	15				10			
B	Mining and quarrying															
B05_06	Mining of coal and lignite, extraction of crude petroleum and natural gas												10-			
B07	Mining of metal ores		38-	33	30	8	7	15	22				10	10	5	
B08	Other mining and quarrying		30	25	30	7	7	15	17				10		5	
B09	Mining support service activities		40	40					17				10			
C	Manufacturing															
C10	Manufacture of food products		40	25		7	7	15	17				10		5	
C11	Manufacture of beverages		39	33		7	7	15	18				10		5	
C12	Manufacture of tobacco products		40	25		7	7	15	19				10		5	
C13	Manufacture o textiles		35	40		7	7	15	14				10		5	
C14	Manufacture of wearing apparel		37	40		7	7	15	14				10		5	
C15	Manufacture of leather and related products		35	40		7	7	15	14				10		5	
C16	Manufacture of wood and of products of wood and cork,etc.		35	25		10	7	15	16				10		5	
C17	Manufacture of paper and paper products		47	39		10	7	15	24				10		5	

C18	Printing and reproduction of recorded media		42	35		6	7	15	15				10		5	
C19	Manufacture of coke and refined petroleum products		43	40		11	7	15	22				10		5	
C20	Manufacture of chemicals and chemical products		40	35		10	7	15	18				20		5	
C21	Manufacture of basic pharmaceutical products and preparations		40	35		10	7	15	18				20		5	
C22	Manufacture of rubber and plastics products		44	46		8	7	15	16				10		5	
C23	Manufacture of other non-metallic mineral products		40	40		10	7	15	18				10		5	
C24	Manufacture of basic metals		37	31		9	7	15	20				10		5	
C25	Manufacture of fabricated metal products, except machinery & equipment		36	30		8	7	15	16				10		5	
C26	Manufacture of computer, electronic and optical products		39	33		8	7	15	10				10		5	
C27	Manufacture of electrical equipment		40	30		7	7	15	11				10		5	
C28	Manufacture of machinery and equipment n.e.c.		35	32		9	7	15	16				10		5	
C29	Manufacture of motor vehicles, trailers and semi-trailers		45	40		9	7	15	14				10		5	
C30	Manufacture of other transport equipment		39	44		12	7	15	23				10		5	
C31	Manufacture of furniture		35	35		8	7	15	14				10		5	
C32	Other manufacturing		35	35		8	7	15	14				10		5	
C33	Repair and installation of machinery and equipment		37	30		8	7	15	16				10		5	
D	Electricity, gas, steam and air conditioning supply															
D35	Electricity, gas, steam and air conditioning supply		52	45		10	7	15	37				10		5	
E	Water supply; sewerage, waste management and remediation activities															
E36	Water collection, treatment and supply		50	35	30	8	7	15	23				10		5	
E37	Sewerage		50	40		8	7	15	10				10		5	
E38	Waste collection, treatment and disposal activities; material recovery		47	52	30	9	7	15	13				10		5	
E39	Remediation activities and other waste management services		50	40		8	7	15	10				10		5	
F	Construction															
F41	Construction of buildings		40	30	25	9	7	15	10			25	10		5	
F41_43	Construction of buildings, specialised construction activities		40				7	15	10				10		5	
F42	Civil engineering			35		10										
F42_43	Civil engineering, specialised construction activities	60	40				7	15	10				10		5	
G	Wholesale and retail trade; repair of motor vehicles and															

	motorcycles															
G45	Wholesale and retail trade and repair of motor vehicles and motorcycles		40	30		10	7	15	15				10		5	
G46	Wholesale trade, except of motor vehicles and motorcycles		43	30		10	7	15	15				10		5	
G47	Retail trade, except of motor vehicles and motorcycles		40	30		10	7	15	15				10		5	
H	Transportation and storage															
H49	Land transport and transport via pipelines		43	43		10	7	15	13				10		5	
H50	Water transport		50	40		25	7	15	13				10		5	
H51	Air transport		20	40		15	7	15	15				10		5	
H52	Warehousing and support activities for transportation		42	44		10	7	15	15				10		5	
H53	Postal and courier activities		40	20		10	7	15	15				10		5	
I	Accommodation and food service activities															
I55	Accommodation		40	40		10	7	15	15				10		5	
I56	Food and beverage service activities		40	30	25	10	7	15	15			25	10		5	
J	Information and communication															
J58	Publishing activities		40	35		6	7	15	15				10		5	10
J59	Motion picture, video and television programme production sound recording and music publishing		50	40		8	7									
J59_60	Motion picture, video and TV programme production, programming and broadcasting activities		50			8	7	15	10				10		5	10
J61.	Telecommunications		40	20		10	7	15	15				10		5	10
J62	Computer programming, consultancy and related activities		47	40	25	8	7		15				7			
J62_63	IT and other information services		40			8	7	15	10			25	7		5	10
K	Financial and insurance activities															
K64	Financial service activities, except insurance and pension funding		40				7	15	10				10		5	
K65	Insurance, reinsurance and pension funding, except compulsory S.S.		45			10	7	15	10				10		5	
K66	Activities auxiliary to financial service and insurance activities		40				7	15	10				10		5	
L	Real estate activities															
L68	Real estate activities (of which: imputed rents of owner-occupied dwellings)	60	42	43	28	8	7	15	11			25	10		5	
M	Professional, scientific and technical activities															
M69	Legal and accounting activities		40			8	7	15	12				10		5	
M70	Activities of head offices; management consultancy		40			8	8	13	10				10		5	

	activities															
M69_70.	Legal and accounting activities, activities of head offices, management consultancy															
M71	Architectural and engineering activities; technical testing & analysis		45	50		9	7	15	12				10		5	
M72	Scientific research and development	60	50	60	70	10	7	15	13				10		5	
M73	Advertising and market research		40			8	7	15	10				10		5	
M74	Other professional, scientific and technical activities		40			8	7	15	10				10		5	
M75	Veterinary activities		40			8	7	15	10				10		5	
M74_75	Other professional, scientific and technical activities; veterinary activities															
N	Administrative and support service activities															
N77	Rental and leasing activities		40			8	7	15	10				10		5	
N78	Employment activities	60	40	15		9	7	15	12				10		5	
N79	Travel agency, tour operator, reservation service & related activities		40	40		10	7	15	15				10		5	
N80	Security and investigation activities		40	50		8	7	15	10				10		5	
N81	Services to buildings and landscape activities	60	50	60		9	7	15	12				10		5	
N82	Office administrative, office support and other business support activities		40	30		8	7	15	10				10		5	
O	Public administration and defence; compulsory social security															
O84	Public administration and defence; compulsory social security	60	50	54	40	10	7	15	15	25			10		5	
P	Education															
P85	Education	60	50	46	25	10	7	15	13			25	10		5	10
Q	Human health and social work activities															
Q86	Human health activities	60	47	45	25	9	7	15	12			25	10		5	
Q87	Residential care activities	60	48	60		9										
Q87_88	Residential care and social work activities					10	7	15	15				10		5	
R	Arts, entertainment and recreation															
R90	Creative arts and entertainment activities	60	50	52		9										
R90_91	Creative arts and entertainment activities, libraries, archives, museums and other cultural activities		50			8	7	15	12				10		5	10
R92	Gambling and betting activities		50	40		8	7	15	10				10		5	10
R93	Sports activities and amusement and recreation activities	60	50	48	25	9	7	15	11		8		10		5	10

S	Other services activities															
S94	Activities of membership organizations		50		70	8	7	15	14				10		5	
S95	Repair of computers and personal and household goods		40	30		9	7	15	15				10		5	
S96	Other personal service activities		50	40		10	7	15	10			25	10		5	
T	Activities of households as employers; undifferentiated goods and services producing activities of households for own use															
T97_98	Activities of households as employers of domestic personnel, undifferentiated goods - and services - producing activities of private households for own use												10			
U	Activities of extraterritorial organizations and bodies															
X	Unspecified activities															
TOTAL	Overall Average Service Life by Asset	60	41	37	35	9	7	15	14	25	8	25	10	10	5	10

ANNEX 10 Examples of the calculation rules

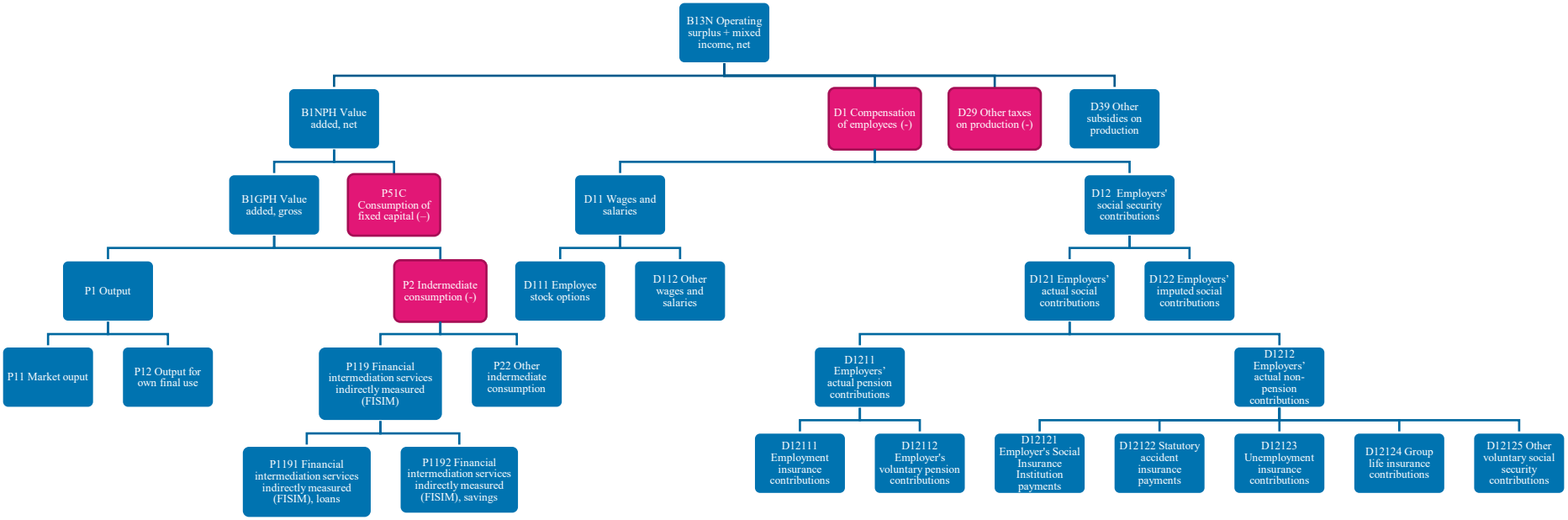

Figure 22: Calculation rule for transactions in production accounts by industries: market producers and producers for own final use (T10, T20; excluding Central Bank)

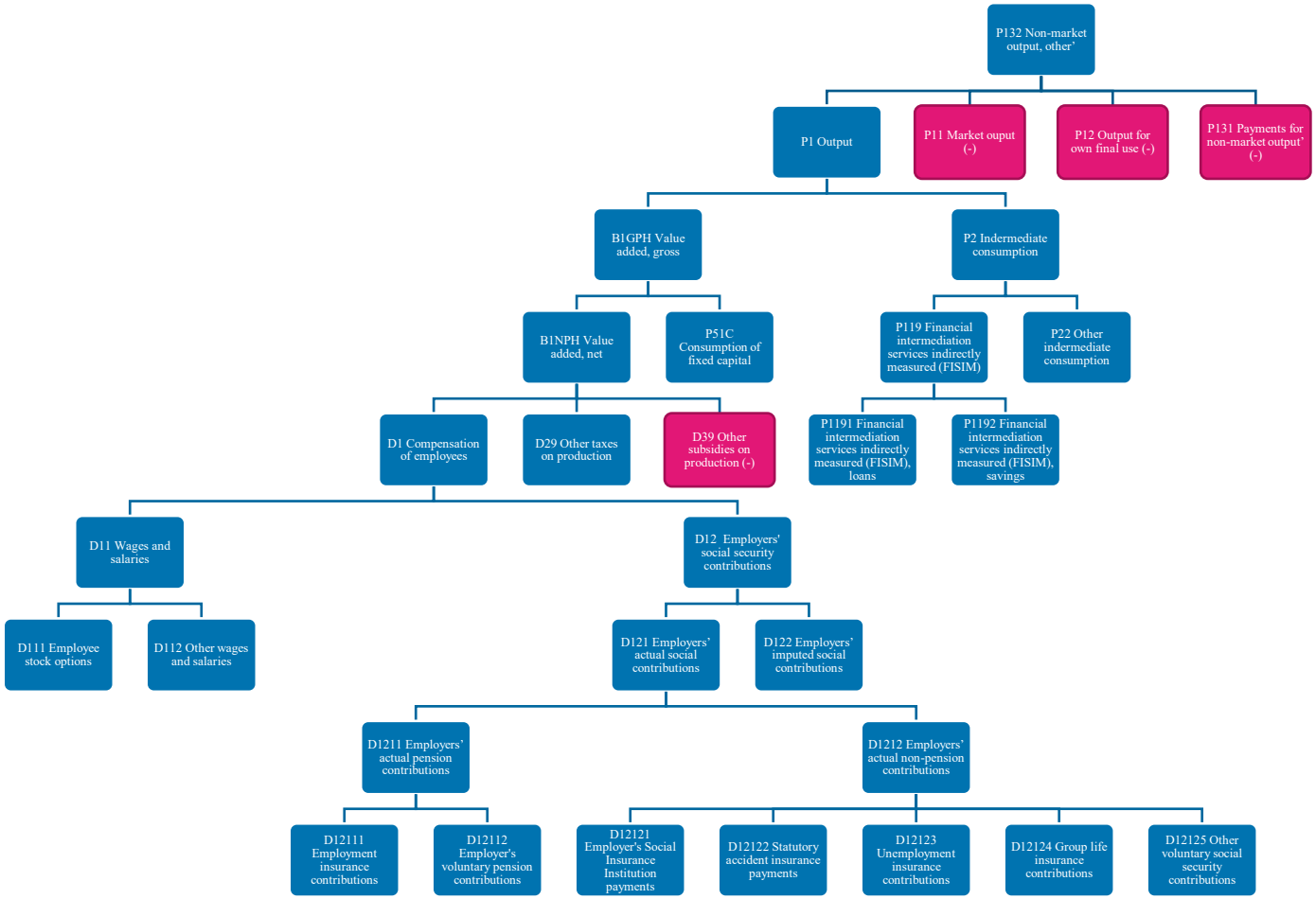

Figure 23: Calculation rule for transactions in production accounts by industries: other non-market producers (T30)