

# ESA 2010 GNI Inventory, Finland

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## 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 (volume, amount) methods 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, expenditure), 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 the System of National Accounts, 2008 (2008 SNA). There are also ample specifying legislation and instructions at EU level.

The National Accounts are a 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 structural 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 describes the entire economic development.

The main data are published on Statistics Finland's website. Statistical databases contain more detailed data. A press conference is arranged about the first preliminary data. All published data are also available in the 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 includes Finland's geographic area based on the borders of the country (incl. Åland), excluding foreign

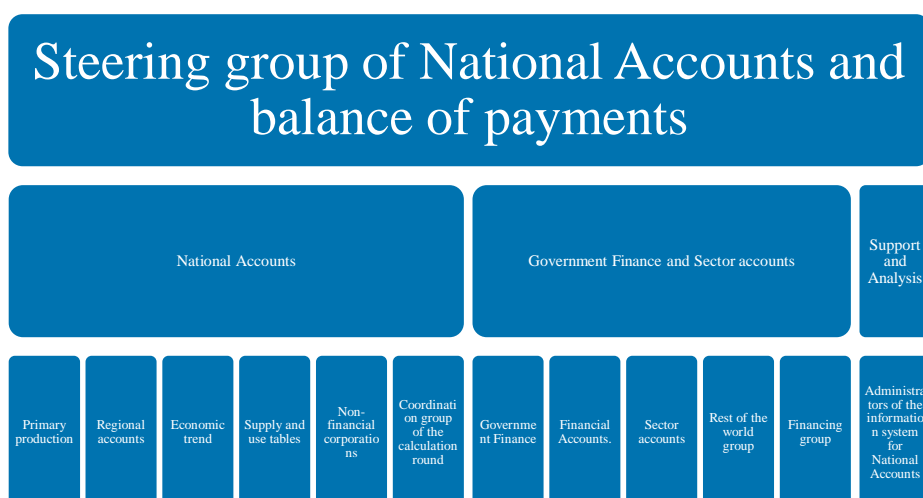
countries' embassies and consulates situated in Finland, as well as supranational and international organisations. Finland's territorial enclaves situated in the rest of the world (embassies, consulates, scientific bases, etc.) are included in the economic territory of Finland. Finland's national air-space 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 2012 with example figures.

### 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 and Environmental Statistics Department responsible for statistics on macroeconomics. The unit is divided into three units. The National Accounts unit is responsible for the compilation of the Annual National Accounts and regional accounts. The Support and Analysis unit is responsible for the renewal of the accounting system and for large development projects. The Government Finance and Sector Accounts unit is responsible for financial accounts and the sector accounts of the National Accounts, excluding the non-financial corporations sector. The units 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 groups that consist of experts from several teams.

**Figure 1. Organisation of National Accounts**



**Figure 2. Tasks of National Accounts**

National Accounts	Government Finance and Sector Accounts	Support and Analysis
<ul style="list-style-type: none"> <li>• Annual National Accounts</li> <li>• Quarterly National Accounts</li> <li>• Trend Indicator of Output</li> <li>• Supply and use tables</li> <li>• Input-output</li> <li>• Capital stock</li> <li>• Regional accounts</li> <li>• Productivity (KLEMS)</li> <li>• Satellite accounts</li> <li>• GNI reporting</li> <li>• Weighted VAT tax basis</li> <li>• Economic Accounts for Agriculture and Forestry (EU)</li> </ul>	<ul style="list-style-type: none"> <li>• Sector accounts (annual, quarterly)</li> <li>• Financial accounts (annual, quarterly)</li> <li>• Statistics on general government</li> <li>• EDP reporting</li> <li>• General government expenditure by function (COFOG)</li> <li>• Tax ratio</li> <li>• Statistics on general government expenditure (GFS)</li> </ul>	<ul style="list-style-type: none"> <li>• Information system support</li> <li>• Large projects</li> <li>• Special analysis</li> </ul>

At the beginning of 2015, altogether 21 persons in the National Accounts unit and the Head of Statistics participated in the calculation. In addition to the Head of Statistics, the Government Finance and Sector Accounts unit employs 19 persons and the Support and Analysis unit has four experts working with the National Accounts. 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 beginning of 2015, a total of 46 persons of the good 120 people working at the Economic and Environmental 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 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 and Environmental Statistics Department does not compile the source statistics of the National Accounts, except for economic statistics on municipalities, consumer and producer price indices, finance statistics and balance of payment statistics, whose compilation 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 beginning of 2015, the personnel at Statistics Finland numbered around 900.

### *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 year, departments make agreement with the director general on the work and development programme. When the work programme is planned, the Economic and Environmental Statistics Department organises meetings with the department responsible for the most important source statistics (Business Statistics Department). In the annual planning process, there are also meetings with service departments like the IT department.

In addition, Statistics Finland has a special steering group for all statistical departments, which discusses and prepares for decision-making, issues linked to the production of statistics. In terms of the strategy of economic statistics, another steering group follows implementation of the strategy.

The annual work programme and release calendar for all statistics is a part of Statistics Finland's normal planning process. They are regularly monitored by the directors.

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 co-operation 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 co-operation group are invited to the information meetings concerning the National Accounts calculations and results before publication.

There is also a co-operation committee with the main users of the National Accounts. The committee informs about and discusses important issues going on in the field of the National Accounts. The group supplies good feedback on the results of the National Accounts calculations.

Because many Statistics Finland employees have retired during the last years, attention has been paid to transferring knowledge from old staff to younger employees (a system for mentoring, improving documentation and developing a system for deputies).

### 1.1.4.2 Service level agreements

Formal service level agreements are made with many institutes. For example, 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 (The Finnish Pension Alliance), Trafi (The Finnish Transport Safety Agency), and so on.

Inside Statistics Finland, the abovementioned work 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. In addition, the above-mentioned annual planning meetings for the National Accounts with the main source statistics and the IT department 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.

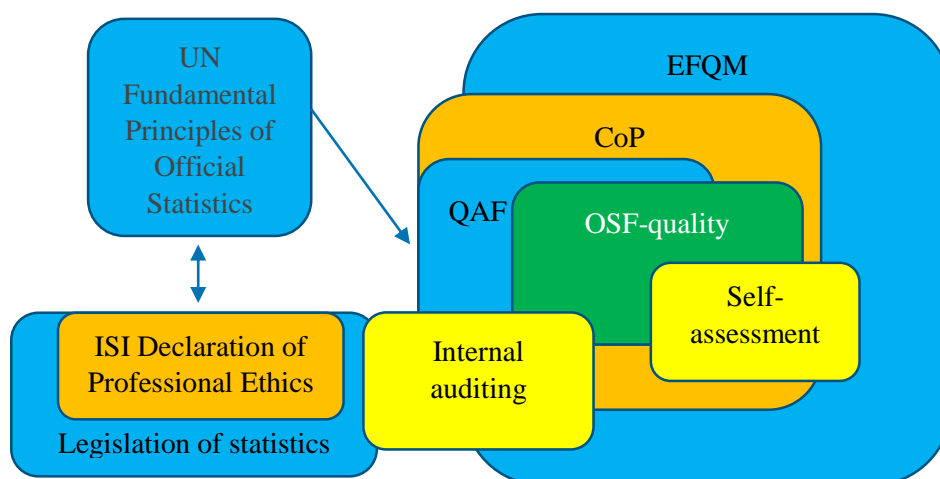
Statistics Finland observes the European Statistics Code of Practice approved by the European Commission and supports other producers of Official Statistics of Finland in their development of quality and implementation of the Code. Statistics Finland also organises training in matters related to the quality of statistics and quality development. A Peer Review was conducted in 2014, see Report:

<http://ec.europa.eu/eurostat/documents/64157/4372828/2015-FI-Report/688a9a11-741e-4311-b2f8-a0943104c933>

The quality principles and good practices of statistical work have been gathered into the handbook, Quality Guidelines for Official Statistics, which is updated at regular intervals of a couple of years. See:

[http://tilastokeskus.fi/org/periaatteet/laadun\\_periaatteet\\_en.html](http://tilastokeskus.fi/org/periaatteet/laadun_periaatteet_en.html)

**Figure 3. Framework of Statistics Finland's quality management**



For published official statistics, there are quality criteria, which consist of nine criteria including a criterion that every statistics should contain a quality report ([http://tilastokeskus.fi/meta/svt/svt-laatukriteerit\\_en.html](http://tilastokeskus.fi/meta/svt/svt-laatukriteerit_en.html)). So-called quality descriptions 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 connected to the quality of statistics. Statistics Finland has published Guidelines on Professional Ethics 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. See:

[http://www.stat.fi/tup/julkaisut/tiedostot/julkaisuluettelo/yksk30\\_201400\\_2014\\_12559\\_net.pdf](http://www.stat.fi/tup/julkaisut/tiedostot/julkaisuluettelo/yksk30_201400_2014_12559_net.pdf)

Examples of quality descriptions of statistical products:

[http://www.stat.fi/til/ssij/2013/ssij\\_2013\\_2014-11-18\\_laa\\_001\\_en.html](http://www.stat.fi/til/ssij/2013/ssij_2013_2014-11-18_laa_001_en.html)

[http://tilastokeskus.fi/til/tyti/2015/09/tyti\\_2015\\_09\\_2015-10-20\\_laa\\_001\\_en.html](http://tilastokeskus.fi/til/tyti/2015/09/tyti_2015_09_2015-10-20_laa_001_en.html)

#### *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 of the Annual National Accounts checks the calculations in meetings attended by the team responsible for each area and statisticians from source statistics. For the quarterly accounts, this kind 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 his/her special area after the calculation round. Besides latest developments in the area concerned, the report also consists of a description of the main methodological changes.

During recent years, the Economic and Environmental Statistics Department has developed a system for documentation and controlling of processes of statistics including detailed work-instructions.

The new IT system for the National Accounts produces 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.

#### *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. building cost index, producer price index and producer price index for services, renovation building statistics, statistics on trade and manufacturing inventories. Among the National Accounts statistics Regional Accounts, Financial Accounts, Sector Accounts, Quarterly National Accounts and the Trend Indicator of Output have been audited over the years.

The main objectives of the regular statistical audit system are:

To evaluate and question ways of working, methods and techniques, leading to development proposals at the end of an audit process;

To identify and search for good practices used by different statistics and disseminate (by the steering group) them at the organisation level;

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 relevant part of the system.

The target comprises 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.

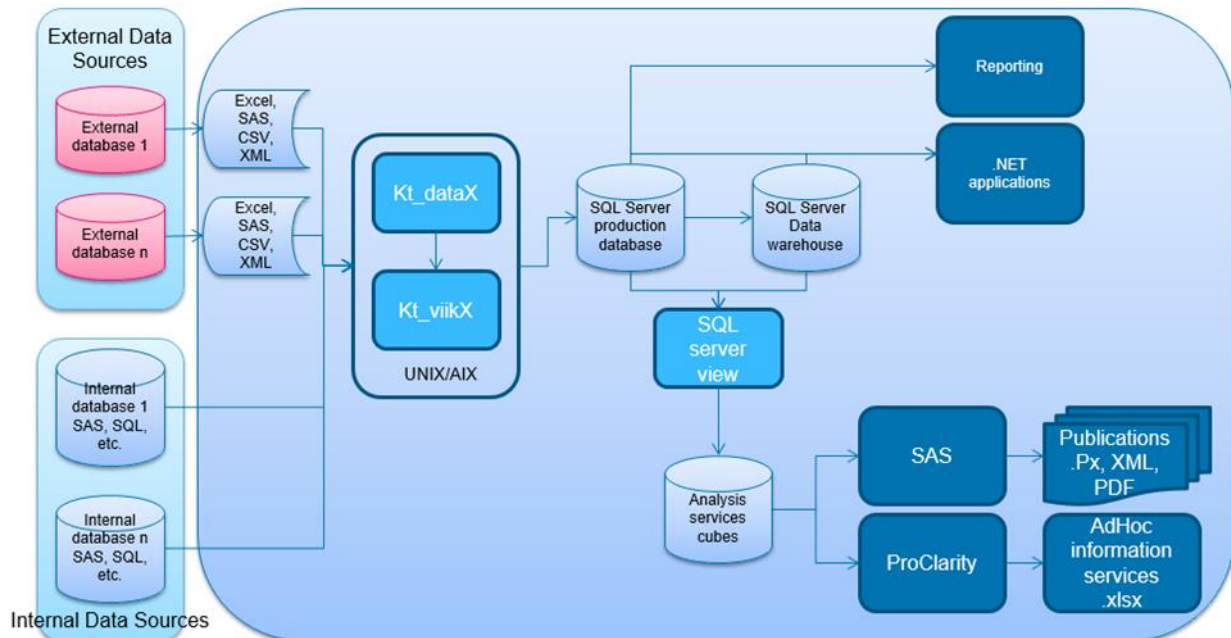
#### *1.1.5 Information system of the National Accounts*

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

**Figure 4.**

**Information system of the National Accounts**

## The Finnish National Accounts Compilation System A Simplified Data Flow



The source data of the accounts are processed with SAS software entities that have been created in a uniform model and they are stored in version management. In the source data process, classifications according to the National Accounts are derived to the data and possible conceptual corrections in accordance with the National Accounts are made. In source data production, data processing is carried out at 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, general rationality and internal dependencies.

A majority of the source data used by the National Accounts come from Statistics Finland's internal databases and external databases/data sources. All source data are processed with SAS and detailed data are stored in the source data pool of the National Accounts' database server. Source data that cannot be directly found in databases or in electronic sources can also be compiled and entered into the information system. These data are compiled into fixed format files that follow the classifications of the National Accounts, e.g., in Excel.

Aggregate files that are stored into their own folders on the database server are formed from source data. Aggregates formed from the source data are uploaded into the production database of the National Accounts using an interface created for uploading. In connection with the transfer, summing of the source processes in accordance with the National Accounts is



performed so that sources are summed into total processes and other necessary processes all the way to the result process. In addition, aggregate calculations in accordance with the calculation rules of the accounting system and data variable of the information system are performed.

The production database and data warehouse of the National Accounts are located on a SQL database server where database tables related to annual accounts, quarterly accounts, financial accounts, and supply and use tables have been formed into calculation entities. The entities have, in turn, been divided into smaller sub-entities (sub-systems), like production, sector, investment, inventory accounts, etc. When processing source data, the data are always loaded into all sub-systems to which information derives from the data. Only the calculation round in production and the latest completed calculation round, which is needed for benchmarking other calculation systems, are stored in the production database. Data between the sub-systems stay consistent with the help of bootstrapping and benchmarking between the sub-systems. Calculation related functions, like procedure calls, data transfers between sub-systems, extrapolation, benchmarking, seasonal adjustment, etc. can be started from the applications.

In data analysing, ready-made editing and analysing views created in the calculation application, SAS software, which are used to make source data queries, and a cubic browser that includes ready-made analysing views into the real-time OLAP cubes of the cubic server, are used.

The National Accounts' information system has its own categories (columns) for editing source data. In practice, part of this editing, for example, part of error corrections, are made directly in the data. For example, the source data can generate a new version that takes into account the comments provided by the National Accounts, or centralised source data corrections are made in the source data process. The correction categories available in the calculation systems of the National Accounts are conceptual changes, data error corrections, statistical delimitations, coverage corrections, the underground economy, and balancing.

In conceptual changes, differences caused by valuation of source data and the National Accounts are corrected. In addition, for example, manufacturing services on physical inputs owned by others, project suppliers, merchanting, securities trading, partial debiting and merchandise should be recorded in conceptual changes if they have not been corrected earlier.

Data error corrections are usually a result of turning enterprise data into establishment level data or of imputation. Forms may have remained unchecked or the data are inconsistent with other data sources.

In corrections of statistical delimitations, corrections related to the delimitation of source data are made, typically transfers in industry classes and transfers in sectors.

Other corrections related to coverage than those that are recoded in statistical delimitations or in the underground economy are recoded in

coverage corrections, e.g. units missing from the data (extra units are removed). For example, business organisations are added.

Account balancing needs discovered in the last stage that are not directed to the above-mentioned corrections are made in balancing corrections.

Exhaustiveness methods are described in more detailed level in chapter 7.

Metadata in the joint metadata table of the accounts is saved on each correction made with the calculation application. 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.

The PC-Axis database tables, XML appendix tables and own products of the statistics in the National Accounts (PDF publications) required by Statistics Finland's publishing system are created from the National Accounts with SAS. SDMX format files are created with SAS and an SDMX converter for Eurostat reporting. Data have been drawn from the cubic and SQL database interfaces.

Table 1. Number of lines in the databases of the National Accounts (million lines)

	Production database	Data warehouse
Annual National Accounts	26	218
Quarterly National Accounts	12	70
Financial Accounts	41	105
Balance of goods	3	

## *1.2 The revisions policy and the timetable for revising and finalising the estimates; major revisions since the last version of the GNI (the switchover from ESA 1995 to ESA 2010)*

### *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 2.1.1. 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 two years after the end of the statistical reference year.

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, TOL95 also adopted). In the level revisions, the time series were revised retrospectively to 1975, and in 1984 to 1960.

Three types of revisions were made to the time series in level revisions. First of all, detected errors were corrected. Secondly, so-called level revisions were made to the figures that were the result of the benchmark 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 (at the same time TOL 2002 was adopted as the Standard Industrial Classification) 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.

ESA2010 was adopted in July 2014. The most significant change was that R&D expenditure was included in gross fixed capital formation. The target of the methodological description of the GNI is this calculation of the National Accounts.

In calculations based on annually changed base years, level revisions are needed mainly when considerable 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.

### 1.2.2 Timetables for data checks

The first preliminary data for the year  $t$  are completed at the end of February of  $t+1$ . This first version has a less extensive data content than the actual National Accounts. The data content of the first version corresponds with the data content of the Quarterly National Accounts but also contains the preliminary data of the entire data content of sector accounts for all sectors.

The quarterly accounts concerning the other quarters have since 2014 been completed in 60 days after the end of the quarter, previously the delay used to be 65 days.

The second version of the annual accounts is completed in early July of year  $t+1$ . At this time, the National Accounts for year  $t$  are for the first time compiled for all non-financial accounts. The supply and use tables are not compiled at this time.

The third version is completed at the end of January of year  $t+2$ . The fourth final version based on the supply and use tables is published in January of year  $t+3$ . The supply and use tables are released in December of year  $t+2$ .

Table 2. An example of the completion times of the different versions of the Annual National Accounts for 2012:

Version	Month of completion
1.	March 2013
2.	July 2013
3.	January 2014
4.	January 2015

Also in future, the final figures will be 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 are changed. For example, the production and income formation accounts for all sectors are compiled for the first time in July of year  $t+1$  (version 2). After this, the production and income formation accounts of a particular sector can change the next time, for example, in January of year  $t+2$ , when nearly final data are available.

Mainly three things affect the compilation timetable of the National Accounts: users' needs, compilation of source statistics and the ESA 2010 transmission programme.

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 description of the completion of source statistics mainly explains the completion of statistics concerning 2011 and 2012.

When compiling the first version (in February 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. This type of statistics include, for example, periodic tax return data on value added taxation and employer contributions.

When compiling the second version (in June to July 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, statistics on foreign trade and periodic tax return data on value added taxation and 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.

When compiling the third version (in January of year  $t+2$ ) new available data are, for example, taxation data and insurance company statistics. The index of wage and salary earnings, bank statistics and economic statistics on municipalities and joint municipal authorities, as well as the Register of Enterprises and Establishments, structural statistics of various industries, industrial product statistics, the Household Budget Survey (every five to six years), 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.

When compiling the fourth version (in November to December of year  $t+2$ ) no new source data are available unless the publication of particular source statistics has been exceptionally delayed. At this stage, the product-specific supply and use tables are compiled, which form the final National Accounts.

## 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.

### *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.

### *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.

#### **Standard Industrial Classification**

The Finnish National Accounts contain 183 industries at the most detailed calculation level. The production and income formation accounts are compiled by industry. There are around 100 industries in the preliminary calculation.

#### **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 776 products. The classification is based on the CPA2008 classification. The product classification is explained in Section 6 and the actual classification can be found in Appendix 1.

Production and income formation accounts at current prices are thus compiled with three classifications: classified by industry, producer type and institutional sector. The institutional sector classification is also the classification basis for industry production. Information on industries is also compiled based on producer type even though at publication level the data are usually presented at the level of producer types total. There is cross-tabulation between the industrial and sector classifications and also between the industrial and producer type classifications.

### *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 the economic statistics on municipalities and joint municipal authorities.

#### *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. From the beginning of 2006, fixed priced figures at the

previous year's prices have been used. This description discusses the compilation of the National Accounts at 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. Any training and recreation costs possibly included in social security costs are transferred to intermediate consumption by comparing different data sources with one another.

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

### *1.4.2 Moving from business bookkeeping and administrative concepts to the ESA 2010 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. Similar total data are, for example, the Register of Enterprises and Establishments, business structural statistics, economic statistics on municipalities and joint municipal authorities, central government's bookkeeping and financial statement material, statistics on credit institutions, and insurance company statistics.

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*

##### *Wages and salaries*

The biggest challenge in ensuring the coverage of wages and salaries is hidden wages. The calculation of the underground economy is described in more detail in Section 7.1.3.

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.

##### *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

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 amount 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.

### *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.

### 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 recorded 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 ESA 2010 concepts of the National Accounts*

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.

### *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+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.

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 priced.
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+19 months) of the National Accounts' various sub-systems (SS).

In the compilation of SUT, the product transaction specific data concerning the supply and use of the National Accounts are divided into 776 products according to the National Accounts' classification of products (NACP) (Appendix) that is based on the CPA2008 classification. The supply and use data are divided into ten supply data categories and 40 use data categories in accordance with the National Accounts. The industry, sector, producer type and output type classifications, and the accuracy of the classifications are the same as in annual accounts. The Standard Industrial Classification contains 179 NACE industries. Only gross fixed capital formation and the change in inventories are compiled in SUT without the Standard Industrial Classification, deviating from annual accounts.

The product transaction specific data of the preliminary annual accounts are divided into NACP products based on source data. The source data are mainly the same as in the preliminary annual accounts. All source data are annual data apart from the Household Budget Survey that is used as the source data for the product data on households' consumption expenditure. All product data used as source data are value data.

### *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 supply and use data products are converted into basic prices with the help of price formation data in accordance with the following equation:

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

To calculate the price formation items of use data, product-specific share data are created for the price formation items. Processing rules have been separately defined for each price formation item according to which product-specific share data are applied for various uses. The calculation wholes for the price formation items are:

- Subsidies on products
- Import duties
- Value added tax (non-deductible)
- Other taxes on products
- Trade margins
- Transport margins

#### *1.6.4 Compilation of the unbalanced product account.*

The first complete but still unbalanced balance of goods 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 balance of goods comprises the values of price formation items in use data and use data at basic prices by product.

At this point, it is checked that the supply and use of certain defined products, like FISIM and housing services are in balance. Correspondingly, the output types P12 Output for own final use, P131 Non-market goods, sales and purchases, and P132 Other non-market output must be in balance by product because their use data are determined from the industry-specific output data of supply.

In addition, the values of the price formation items in use data are checked. The values of the subsidies and taxes on products of use data must be close to the paid taxes of products and collected subsidies on products at this point of the compilation of supply and use tables, and the trade and transport margins must be close to the supply values of service products that produce trade and transport margins. Finally, it is checked that the values of the balance of products match the values of the product transactions in the preliminary annual accounts. At this stage, the values of product transactions in the preliminary annual accounts can also be revised if shortcomings or errors are detected in the preliminary 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 776 NACP products and their difference, i.e. the balance situation is calculated. In other words, the balancing condition for each product is

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

Balancing of supply and use data is carried out in four stages:

1. Manual balancing (product-specific)
2. Automatic balancing of price formation items
3. Elimination of the statistical discrepancy
4. Automatic balancing (product-specific)

#### *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 addition, some of the product-specific use data, for example in terms of investments, are calculated based on the previous year's structure of balance of products due to lack of source data. These data are manually corrected in balancing as required by the balance of the products in question. 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-described 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 levels of industry-specific supply and intermediate consumption data, imports and end use are changed in manual balancing only in exceptional cases when, for example, shortcomings and errors found in preliminary data need to be corrected.

In practice, manual balancing is done with the help of the balance of products interface. In the interface, balancing data (e.g. the original and corrected value and the comment text related to the correction) are saved to the database table reserved for metadata.

Around 300 NACP products were selected for manual balancing in 2012. In addition to the above-mentioned 300 products, 180 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 15 billion.

### *Automatic balancing of price formation items*

After the manual balancing, it is time for automatic balancing of price formation items. At this stage, the values of price formation items in use data are close to the actual values, and the final revision is done for them in order to make the subsidies and taxes on products in use data correspond with the paid and collected subsidies and taxes on products, and the trade and transport margins correspond with the supply values of service products that produce trade and transport margins.

### *Elimination of the statistical discrepancy*

After the automatic balancing of price formation items, we are able to see to which products the statistical discrepancy 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 the elimination of the



statistical discrepancy, the preliminary levels of industry-specific output and intermediate consumption data, imports and end use change. In practice, the corrections are usually made in the intermediate consumption data. The effect of the changes determine the final value of the GDP.

The statistical discrepancy of the balance of supply was EUR -459 million in the preliminary data in 2012. During the compilation of the input data of the supply and use tables and the manual balancing, the statistical discrepancy decreased by EUR 65 million. The final correction of the statistical discrepancy was EUR 394 million. The correction was made in the intermediate consumption of the non-financial corporations sectors' service industries.

### *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 performed, 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 NACP products are included in automatic balancing. Altogether, use data at purchaser's prices were corrected in automatic balancing with good EUR nine billion in 2012. 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.

### *1.6.7 Balancing of sector accounts*

Sector accounts describe the production and income formation, distribution of primary income and secondary distribution of income, income use, and capital formation and financing of the various sectors in the National Accounts from the viewpoint of the decision-making sector. The separately presented financial accounts describe the assets and liabilities of various

sectors and financial transactions that affect their amount by financial asset category.

### *Balancing between sectors*

Even before the levels of the balance of supply items have been fixed, the current transfer and capital transfer items of sector accounts can be matched so that the income received by one is always paid by some other sector. There are various tests for this purpose in the IT systems of annual accounts that notify of the magnitude of the differences.

The following types of cases can be found for current transfers:

1. In terms of data for two sectors, it has been agreed which sector's data are to be used (e.g. other current transfers between central and local government)
2. The sector data are derived as a sum of other sectors (e.g. social insurance contributions and social benefits for the households sector)
3. The actual levels of received and paid current transfers must be decided separately (e.g. interests and dividends, separate balancing process)
4. A particular sector is left as residual when the data of the other sectors are known (e.g. non-financial corporations' non-life insurance premiums and claims)
5. Stick to the aggregation information of the receiving sector and it is divided between the paying sectors with a separate calculation (direct taxes).

### *Reconciliation of the balance of supply and sector accounts*

The sum of the sector accounts must correspond with the balance of supply. The aggregates presented in the balance of supply usually determine the sector-specific sums of the following transactions:

- Operating surplus
- Consumption of fixed capital
- Consumption expenditure
- Gross fixed capital formation
- Change in inventories

The data concerning consumption expenditure are transferred as such from households' consumption expenditure calculations and the production accounts of non-profit activities to the sector accounts. The consumption expenditure of public activities is collected from the "other non-market output" item of the production account and social benefits in kind (direct purchases from market producers). Data on change in inventories are also available by sector.

The following items of the balance of supply are determined based on the sector accounts' own data sources:

- wages and salaries equal the total households' and foreign wage and salary income
- employer's social insurance contributions equal total employer's social insurance contributions collected by all sectors (in practice they do not occur in the housing corporations and households sectors)
- taxes on production and imports equal total general government and foreign tax revenues from these taxes
- subsidies equal total general government and foreign subsidies paid.

### *Comparison with financial accounts*

The independently compiled sector-specific net lending in financial accounts that is called "financial transactions, net" is compared with the above-mentioned, so-called sector-specific net lending on the real side. Net lending in the financial economy can also provide useful information on sector-specific net lending on the real side. In practice, financial accounts are compiled quarterly. The annual data of the financial accounts are for the first time compiled in June to July of the year following the statistical reference year, so the net lending of financial accounts is available when calculating annual accounts in summer.

## *1.7 Overview of the allowances for exhaustiveness*

### *1.7.1 Main data sources*

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. In industry-specific final reconciliation of various data sources, changes in the annual level value, volumes, productivity and industry-specific average earnings are utilised. Work input and employment data are needed for the calculation of

productivity and average earnings, and thus they become one of the bases for compiling the National Accounts.

The data sources concerning public sector units are exhaustive. The statistics on finances of municipalities 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.

In recent years, public sector units have been moved to enterprises, from non-market units to market units. Exact records have been kept on the transfers to ensure that all units are included in the calculations and no double counting occurs.

The business structural statistics and public sector data provide information on production and income formation, as well as fixed capital formation and change in inventories.

Other data sources for supply items are foreign trade statistics, balance of payments data and the Household Budget Survey. The Household Budget Survey is not conducted every year so in the intermediate years compensating data sources or interpolation between survey years are used. The coverage of foreign trade statistics compiled by the National Board of Customs is estimated to be good. In order to reach full coverage, small corrections are made for the purposes of balance of payments and the National Accounts. Statistics on international trade in services are compiled at Statistics Finland based on an inquiry.

The non-observed economy has been estimated with special analyses, with employment comparisons between the Labour Force Survey and the National Accounts and by utilising data from tax audits. Based on the analyses, the share of the non-observed economy is not very large in Finland. Due to the calculation methods, some of the non-observed economy has always been included in the Finnish National Accounts (construction, housing services). Using tax audits only give indicative results, as the audits are not representative samples. Due to the nature of the calculation, it is not possible to estimate the non-observed economy precisely.

### *1.7.2 Compilation of households' consumption expenditure*

The data sources for calculating households' consumption expenditure are the Household Budget Survey, turnover data of retail trade from various data sources, data from trade organisations, and data generated in the calculation of production.

Industry-specific turnover data for retail trade establishments are available for all industries at the most detailed classification level produced by Statistics Finland's Register of Enterprises and Establishments. These data are mainly based on data collected by the Tax Administration. These data are usually available only when final consumption expenditure data are calculated. When estimating preliminary data, value change data on

turnover at less detailed industry-level produced by statistics on economic trends in trade are used.

In addition to data collected directly from enterprises, data are also collected from the Tax Administration's material on value added taxation and payment control material concerning employer contributions.

The result is an estimate on households' consumption expenditure derived from statistics on retail trade. 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, e.g., the Household Budget Survey, and the best estimate is selected.

In an ideal situation, estimates of final consumption expenditure deduced from data in different sources should be compared every year. This is not possible because, according to current information, the Household Budget Survey is only carried out roughly every fifth year instead of the annual survey tested in the mid-1990s.

A heading link to the corresponding consumption headings in the National Accounts is added to the heading-specific data derived from 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.

The data derived by linking from the Household Budget Survey in the manner described above are converted into consumption expenditure (not revised) that match the headings of the National Accounts. Certain revisions are required to edit the 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. The revision results in the so-called population revised consumption expenditure.

Next, the differences caused by the bias and random variation in the Household Budget Survey and by possible differences in concepts and definitions are revised. The magnitude of the bias is assessed based on comparisons with other basic data of the consumption expenditure calculation. In order to eliminate the effects of random variation, comparisons with other basic data must be used in order to detect deviating items and repairing them.

Finally, when the consumption expenditure of foreign households in Finland is added to the figures, the revised National Accounts estimate of consumption expenditure derived from the data of the Household Budget Survey is reached. This estimate of consumption expenditure is compared with estimates of consumption expenditure systematically derived from other data sources in order to select the estimate of consumption expenditure to be accepted into the National Accounts. When calculating

final figures, the final level of consumption expenditure is determined in the balancing of supply and use tables.

### *1.7.3 Gross fixed capital formation*

Data on investment supply is available for construction of residential buildings and other buildings.

The supply of residential buildings is derived by adding the costs of the constructor, the value added tax of construction and estate agents' fees (incl. VAT) to the newbuilding and renovation values at basic prices of building construction.

The data on newbuilding are based on building permits and prices of completed buildings. Statistics Finland receives the data from the Population Register Centre's information system. These data are used to calculate the value and volume. The available data concern actual market prices of construction and a detailed quality classification that is based on the structural of different types of building is used to help calculate the volume at fixed prices.

The permit and price data are quite exhaustive and also include own-account construction. All types of construction are classified, so a value at basic price is also derived for own-account construction (e.g. single-family houses, summer cottages, buildings in agriculture).

The value of renovation building is based on a basic survey from 2014. Other sources are the volume index of renovation building and data on households' expenditure on renovations.

The data sources for civil engineering are taxation payment control data (at 4 to 5-digit level of the Standard Industrial Classification), employment, earnings level and price data, preliminary data of the business structural statistics, and business bookkeeping data of municipalities and joint municipal authorities.

The demand for construction and other investment is calculated by industry. The supply data for construction are available as appropriate for the calculation of industry-specific demand. A majority of the gross fixed capital formation is calculated utilising industry-specific separate data and by comparing various sources.

An important data source for industry-specific investment demand is the combined database of the business structural statistics that includes the direct inquiry data of the Tax Administration, the Register of Enterprises and Establishments and the business structural statistics combined by enterprise. The share of the establishment data is estimated based on the Register of Enterprises and Establishments. This type of combined data can be considered extremely exhaustive. In terms of gross fixed capital formation, the underground economy is not very likely compared to, for example, unreported turnover.

There are also numerous different data sources used in the industry-specific calculations, such as separate data on industries. In addition, separate calculations are compiled on transport equipment based on data from the Finnish Vehicle Administration. A centralised overall calculation is also compiled on software investments. Intangible fixed capital and ownership transfer costs of land, etc. are also calculated in a centralised manner.

Public activities' investments are also based on exhaustive data sources. Central government's bookkeeping and financial statement material are used for central government and economic statistics are used for municipalities and joint municipal authorities. The final level of gross fixed capital formation is determined in the balancing of supply and use tables.

#### *1.7.4 Estimating the underground economy*

The statistical base of the Finnish National Accounts has expanded over the past good ten years. The business structural statistics have been improved and especially the coverage has increased with the help of combining the business taxation register and the financial statements inquiry for enterprises. This, and other improvements of basic statistics, like the renewal of the Business Register provide a good basis for GDP figures. The work to establish the coverage has found instructions and basis in the studies "Epävirallinen talous ja Suomen kansantalouden tilinpito" (unofficial economy and Finnish National Accounts) (1995) and "Finland's non-observed economy" (2008). Employment comparisons and tax audit analysis have also been made.

The main calculation method for the Finnish National Accounts is the output approach. The most important source data are total data (Business Register, business structural statistics) and they cover all registered economic units. Even though the main sources are total data, there may be differences between the sources due to random errors and other reasons. The calculation compares figures with one another and with other possible basic data.

The following may remain outside the contents of the main sources:

- Occasionally some of the data on registered units (non-response and not possible to estimate with common methods)
- Temporary (small) units and units not registered for tax evasion reasons.

These groups are the object when evaluating the extent of the non-observed economy in the National Accounts.

#### *Using tax audit data*

Special tax audit analyses have mainly been in use since 1996. Due to the way the audits are carried out it has not been easy to use the results for the National Accounts. Tax audits have usually been made in enterprises whose taxation has been suspicious in some way.

This means that only a rough estimate can be made based on the tax audits. The tax audit data have been used together with other data sources on the

non-observed economy. The tax audits contain three types of income: moonlighting wages, additions to income, and so-called hidden dividends. The compilation of Finnish National Accounts is primarily based on the output approach. In terms of this approach, the main one of the three non-observed economy items is hidden additions to income because they increase total revenues (and production). The two other hidden income items are distribution of value added. Naturally, these two items are important in the income approach.

As stated above, the shortcoming of tax audits is that they are normally carried out only based on a suspected tax evasion. Only in two available cases (taxis, restaurants), had the audit objects been selected representatively from a particular area. Only in these two cases, the audits were carried out without a specific preliminary reason. Based on these two cases, it is not possible to make generalisations without further assumptions. In any case, the results from the two above-mentioned industries have been used in the National Accounts.

For other industries, the results are not as clear and the audit material only gives an estimate of the maximum extent of the non-observed economy. The results of tax audits have often been used together with other sources to analyse the non-observed economy.

## *1.8 The transition from GDP to GNI*

The gross national income (GNI) is derived from the gross domestic product (GDP) 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 3. GNI items paid from abroad to Finland and from Finland to abroad



Year, EUR million	2010	2011	2012
D1 / Compensation of employees, receivable	639	661	698
D1 / Compensation of employees, payable	540	588	608
D2 / Taxes on production and imports, payable	152	191	185
D3 / Subsidies, receivable	784	772	773
D4 / Property income, payable	11,778	13,613	13,522
D4 / Property expenditure, receivable	13,582	13,851	13,887

### *1.8.1 Compensation of employees*

This item includes both wages and salaries and employer's social insurance contributions.

#### *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 2000. The social contributions paid by employers obtained from abroad have on average been estimated as 16 per cent of income earned from abroad.

#### *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.

### *Calculation method and size of employers' social contributions related to foreign wages and salaries*

#### *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.

## ***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 of standard size, 16 per cent, of the wagebill received from abroad in 1995 to 2004.

### ***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 Interests*

Statistics Finland and the Bank of Finland jointly collect 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 entity with duty to report 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. If necessary, some respondents are asked for a separate report on business acquisitions and mergers.

In addition, the Bank of Finland collects data for the balance of payments also in connection with the ECB's balance sheet data collections of financial institutions and mutual funds.

The basic principle of the statistical system is an inquiry directly from the data source, i.e. the institutional units making investment and financing decisions. Balance of payments inquiries are by nature total surveys from which small enterprises have been left out. Small enterprises are taken into account by methodological means.

#### *1.8.5 Distributed income of corporations*

Distributed income of corporations are dividends.

Dividend income and expenditure received by enterprises from abroad are derived based on the annual inquiry on direct investments and they are part of return on capital. Dividends received and paid on portfolio investments from/to abroad are derived from the above-mentioned inquiries on foreign assets and liabilities.

#### *1.8.6 Withdrawals from income of quasi-corporations*

In connection with the ESA2010 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.

### *1.8.7 Reinvested earnings on direct foreign investment*

Data on reinvested earnings on direct foreign investment are based on the annual inquiry on balance of payments. (Section 1.8.4.)

Reinvested earnings are the residual when dividends paid are subtracted from income on equity.

### *1.8.8 Property income attributed to insurance policyholders*

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 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, 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.

Insurance corporations' (S.128) property 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.

### *1.8.9 Rents paid on land*

The item is not separately compiled into statistics in Finland as the item is included in interests. The item is likely to be small.

## *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 ESA2010 sector classification is not in use. However, the fifth digit of FNA 2010 is used in the national sub-category. A more detailed description of the classification can be found in Section 9.1.1.

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 SUT, the product transaction specific data concerning the supply and use of the National Accounts are divided into 776 products according to the National Accounts' classification of products (NACP) that 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 COICOP classification well. In the Finnish classification, five characters and a durability class label are used to separate the products. In education and insurance, the Finnish classification has only one group compared to the COICOP's division by level of education and insurance type. For rents, one group has been used for both actual and imputed rents. Otherwise, the differences are insignificant.

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*

### *1.10.1 Statistical studies and other data sources in the production approach*

#### *1.10.1.1. Register of Enterprises and Establishments*

Statistics Finland maintains Finland's Register of Enterprises and Establishments. 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 Register of Enterprises and Establishment also has its own data collection that annually collects data from all multi-establishment enterprises and single-establishment enterprises with at least 20 employees. Among enterprises employing under 20 persons those whose data have changed based on administrative registers, commercial data or Statistics Finland's other inquiries are approached. Established new enterprises are included in the survey of new enterprises fairly shortly after the start of their operation. The inquiry provides, for example, the number of personnel, turnover, industry and location. Numbers of employees are estimated from data on wages and salaries for enterprises not included in the surveys.

### *1.10.1.2 Statistics on Finnish enterprises*

The Register of Enterprises and Establishment annually publishes statistics that contains data on the number of groups, enterprises and establishments engaged in business activities, number of their personnel and turnover and their changes by industry, region and legal form.

The basic data of the statistics are the enterprises and establishments engaged in business activities belonging to Statistics Finland's Register of Enterprises and Establishments. Of agricultural enterprises include are the ones, whose income from agriculture exceed the statistical threshold of turnover. General government and non-profit institutions are not included. The statistics cover all industries, geographical regions, legal forms and types of owner. Enterprises and establishments that have operated for more than six months in the reference year and employed more than one-half of a person or had a turnover in excess of an annually specified statistical limit (e.g. EUR 10,595 in 2012) are included in the statistics.

### *1.10.1.3. Business structural statistics*

#### *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 statistical unit of the data is an independent business enterprise and the data do not contain groups or establishments. Central and local government enterprises are included in the data. Excluded from the description of the financial statement statistics are units of public sector authorities, non-profit institutions, financial and insurance activities and those agricultural units that do not act as employers. The identifying code is the enterprise's Business Identity Code, or Business ID. The data are collected once a year.

The data include profit and loss account and balance sheet data, itemised data on income and expenditure, itemised balance sheet data, increases and decreases in fixed assets, the number of personnel, wages and salaries and social costs. Basic data and classification categories on enterprises obtained from Statistics Finland's Business Register are included as well. 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.

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 survey (Table 141).

### ***Establishment level data – Statistics Finland's regional and industrial statistics***

Data produced by Statistics Finland's Regional and industrial statistics on manufacturing, Regional and industrial statistics on construction, and Regional and industrial statistics on services are used in the calculation of the production accounts of the non-financial corporations and households sector.

The examined variables in the regional and industrial statistics are data on personnel, production, production output and investments. The statistical unit is the establishment of an enterprise or another unit engaged in economic transactions. The identifying code is the establishment code defined by the Register of Enterprises and Establishments. The basic frame of the statistics is formed by Statistics Finland's Business Register. The main classification variables, such as industry, region and number of personnel are derived from the Business Register. The reference period of the statistics is the enterprise's financial period.

The establishments in the regional and industrial statistics have been selected using the same limitations concerning the enterprise's period of operation, personnel and turnover as in the Statistics of Finnish enterprises. The extent of the activities must employ more than one-half of a person or have a turnover in excess of an annually specified statistical limit (EUR 10,595 in 2012) and they must have been operating for more than six months.

Regional and industrial statistics on services and Regional and industrial statistics on construction do not have their own data collections. The data sources for the statistics are the enterprise data from the financial statement statistics and the establishment data from the Register of Enterprises and Establishments. The financial statement statistics contain all the data needed in the production of these statistics at enterprise level. Thus, single-establishment enterprises are assigned data direct from the statistics on financial statements. Data for the establishments of multiple-establishment enterprises are produced with statistical methods by exploiting data on enterprises from the statistics on financial statements and data on establishments from the Register of Enterprises and Establishments. The number of personnel and turnover are the establishment-based data from the Register of Enterprises and Establishments.

The data of the regional and industrial statistics on services and on construction covers all service industries excluding financing (K) and public administration (O) services.

#### *1.10.1.4 Business Register / Business taxation data*

The Business taxation register (BTR) contains profit and loss account, balance sheet and fixed assets data of all enterprises liable to pay business tax. The Tax Administration collects the data with forms. The Tax Administration stores the data and delivers them to Statistics Finland electronically. Data concerning a particular tax year become available to Statistics Finland in several batches in the time period between April and November. The data are partially erroneous or otherwise insufficient, which means that the BTR data must be processed at Statistics Finland in order to be able to utilise the data in statistics production and fee-based services.

#### *1.10.1.5 Bus and coach transport inquiry*

Statistics Finland collects financial statements data from bus and coach companies on assignment of the Ministry of Transport and Communications and Linja-autoliitto ry. Statistics Finland is entitled to use the inquired data to complement its financial statements database.

#### *1.10.1.6 Statistics on financial leasing*

Statistics Finland has compiled statistics on financial leasing since 1985. The statistics contain data by sector and industry on the financial leasing activities of credit institutions and other lessors. Direct leasing is not included in the statistics.

#### *1.10.1.7 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.

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.



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.

#### *1.10.1.8 Statistics on industrial production (statistics on commodities)*

The statistics on industrial production or the statistics on manufacturing commodities describe industrial production by product category or commodity. Value and volume data on the production of enterprises and the materials and supplies used for production are included in statistics. 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.

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).

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.

#### *1.10.2 Statistical research and other data sources used in the income approach*

The source used for wages, salaries and fees is Statistics Finland's Register of Enterprises and Establishments (Section 1.10.1.1).

The main data source for taxes on production and imports, and subsidies is the data on financial statements of the state that covers the entire budget economy of the state (Section 1.10.1.7).

#### **Statistics on finances and activities of municipalities and joint municipal authorities**

The statistics on finances and activities of municipalities and joint municipal authorities 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.

The statistics on finances and activities of municipalities and joint municipal authorities 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.

### **Labour Force Survey**

The Labour Force Survey collects statistical data on the participation in work, employment, unemployment and activity of persons outside the labour force among the population aged between 15 and 74. The Labour Force Survey data collection is based on a random sample drawn twice a year from Statistics Finland's population database. The monthly sample consists of some 12,000 persons and the data are collected with computer-assisted telephone interviews. Based on the information provided by the respondents, a picture emerges of the activities of the entire population aged between 15 and 74. A so-called ad hoc module with annually changing topics is also carried out in connection with the Labour Force Survey.

The Labour Force Survey produces monthly, quarterly and annual data on employment, unemployment, different employment relationships, working hours and work input, for example. The activity of the population outside the labour force is also examined. Data are available by gender, level of education, age and area. In addition, the Labour Force Survey contains data reported annually on the employment of households. The majority of the data collected are required by the EU regulation.

### **Index of wage and salary earnings**

The index of wage and salary earnings 2010=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. Overtime and pay components like holiday bonus do not affect the index. Taxes and employees' social security contributions have not been subtracted from the wages and salaries.

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 or monthly-paid employees. There are a total of 296 average earnings series accordant with the group's earnings concept that are weighted together with the weight ratios based on the wages and salaries sum.

### *1.10.3 Statistical studies and other data sources used in the expenditure approach*

#### **Household Budget Survey**

The Household Budget Survey carried out by Statistics Finland in separately agreed years (Section 5.7.2.2) is the main source for households' consumption expenditure.

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 2012 from households with telephone interviews and diaries filled in by them, and from purchase receipts and administrative registers.

#### **Foreign trade statistics**

The foreign trade 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.

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 internal and external trade are published as one set of statistics of foreign trade.

#### **Statistics on international trade in services**

The main source for exports and imports of services is Statistics Finland's enterprise inquiry of the statistics on international trade in services based on which the statistics on international trade in services are also published. The inquiry has been renewed in 2014 to correspond with the new calculation requirements of the National Accounts and balance of

payments. In the annual inquiry on international trade in services, enterprises are asked about international trade in services divided by country and service type.

The inquiry covers manufacturing services, maintenance and repair services n.e.c., postal and courier services, transport services, construction services, financing services, telecommunication, information technology and information services, royalties and licence fees, other business services, and personal, cultural and recreational services. The inquiry does not include tourism and insurance services.

#### *1.10.4 Statistical studies and other data sources used when moving from the GDP to GNI*

##### **Statistics of balance of payment and international investment position**

Statistics on balance of payment and international investment position form the corpus of international statistics that depicts the external balance of the national economy and foreign asset and liability stocks.

Balance of payments refers to an accounts composition that systematically describes transactions between the national economy and the rest of the world during a certain time period from the perspectives of both real and financial economy. The balance of payment statistics and international investment position are part of the system of the National Accounts.

The balance of payments covers transactions that are carried out between economic units belonging to the national economy (resident in Finland) and economic units belonging to another country (resident abroad).

The international investment position statistics describes the foreign asset and liability stocks generated from financial account capital flows.

The instructions and recommendations of the IMF's Balance of Payments Manual (6th edition, 2009) are applied to the compilation of statistics on balance of payments and international investment position. In Europe, balance of payments statistics are directed by the European Central Bank (financial account) and Eurostat (current account).

Direct data collection and data derived from other economic statistics are used to compile the balance of payment statistics. Finnish Customs collects data on foreign trade in goods and publish statistics on foreign trade. Statistics Finland gathers data on foreign trade, secondary income and capital transfers. Statistics Finland collects, in cooperation with the Bank of Finland, data for the statistics on financial account, investment income and international investment position.

## ***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 2.1.1. 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 two years after the end of the statistical reference year.

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 to 1975, and in 1984 to 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 benchmark 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.

ESA2010 was adopted in July 2014. The most significant change was that R&D expenditure was included in gross fixed capital formation. The target of the methodological description of the GNI is this calculation of the National Accounts.

In calculations based on annually changing base years, level revisions are needed mainly when considerable 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.

### 2.1.2 Timetables for data checks

The first preliminary data for the year  $t$  are completed at the end of February of year  $t+1$ . This first version has a less extensive data content than the actual National Accounts. The data content of the first version corresponds with the data content of the Quarterly National Accounts but also contains the preliminary data of the entire data content of sector accounts for all sectors.

The quarterly accounts concerning the other quarters has since 2011 been completed in 65 days after the end of the quarter, the delay used to be 70 days.

The second version of the annual accounts is completed in early July 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 at the end of January of year  $t+2$ . The fourth final version based on the supply and use tables is published in January of year  $t+3$ . The supply and use tables are released in December of year  $t+2$ .

Table 4. An example of the completion times of the different versions of the Annual National Accounts for 2012:

Version	Month of completion
1.	February 2013
2.	July 2013
3.	January 2014
4.	January 2015

Also in future, the final figures will be 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 are changed. For example, the production and income formation accounts for all sectors are compiled for the first time in July of year  $t+1$  (version 2). After this, the production and income formation accounts of a particular sector can change the next time, for example, in January of year  $t+2$ , when nearly final data are available.

Mainly three things affect the compilation timetable of the National Accounts: users' needs, compilation of source statistics and the ESA 2010 transmission programme.

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 description of the completion of source statistics mainly explains the completion of statistics concerning 2011 and 2012.

When compiling the first version (in February 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. These types of statistics include, for example, periodic tax return data on value added taxation and employer contributions.

When compiling the second version (in June to July 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, statistics on foreign trade and periodic tax return data on value added taxation and 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.

When compiling the third version (in January of year  $t+2$ ) new available data are, for example, taxation data and insurance company statistics. The index of wage and salary earnings, bank statistics and economic statistics on municipalities and joint municipal authorities, as well as the Register of Enterprises and Establishments, structural statistics of various industries, industrial product statistics, the Household Budget Survey (every five to six years), 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.

When compiling the fourth version (in November to December of year  $t+2$ ) no new source data are available unless the publication of a 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 Major revisions due to the transition from ESA 1995 to ESA 2010*

In 2014, the European Union started using the new system of the National Accounts, ESA 2010. This led to several changes that affect the GNI compared to the old ESA 95 time series. The table below describes the magnitude of change for each transition item concerning the year 2012.

Table 5. Revisions from ESA 95 to ESA 2010 in Finnish data, year 2012



		Transition item					
		1a	1b	2	4	6	8
<b>Output approach</b>							
P1	Output of goods and services	4401	1948	36	458	-47	
P2	Intermediate consumption	-257					
B1g	Gross value added		1948	36	458	-47	
D21	Taxes on products						
D31	Subsidies on products						
<b>Expenditure approach</b>							
P3 (S14)	Consumption expenditure of households						
P3 (S15)	Consumption expenditure of non-profit institutions						
P3 (S13)	Public consumption expenditure		1948		458	-47	
P5	Gross capital formation	4658		36			
P51g	Gross fixed capital formation	4658		36			
P52	Changes in inventories						
P53	Net acquisitions of valuables						
P61	Export of goods						
P62	Export of services						
P71	Import of goods						
P72	Import of services						
<b>Income approach</b>							
D1	Compensation of employees						
B2g/B3g	Operating surplus + mixed income, gross	4658	1948	36	458	-47	
D2	Taxes on production and imports						
D3	Subsidies						
B1g	Gross domestic product	4658	1948	36	458	-47	
D1	Compensation of employees from abroad						
D1	Compensation of employees to abroad						
D2	Taxes on production and imports to EU-institutions						-277
D3	Subsidies from EU-institutions						
D4	Property income from abroad						
D4	Property income to abroad						
B5g	Gross national income (GNI)	4658	1948	36	458	-47	277

Description of each transition item:

**Item 1a: Research and development expenditure (R&D) treated as investments, share of market producers**

In ESA 2010, R&D expenditure is treated as investments and not as operating costs as in ESA 95. In terms of market producers, the change increases the GNI firstly because R&D produced for own final use raises output for own final use, value added, operating surplus and investments. Secondly, R&D assets bought from outside are removed from intermediate consumption and are transferred to investments, increasing value added and operating surplus. In 2012, the effects totalled EUR 4,658 million.

The calculation of R&D investments is based on the Research and development statistics from where the expenditure components needed for the calculation of R&D output are collected. The most important correction item made on top of these source data are adding a computational profit component into the value of the output calculated at cost basis, and

eliminating the overlap in software investments (software investments were included in investments already in ESA 95).

**Item 1b: Research and development expenditure (R&D) treated as investments, share of non-market producers**

In ESA 2010, R&D expenditure is treated as investments not as operating costs as in ESA 95. In terms of non-market producers, the change increases the GNI because the consumption of fixed capital related to R&D expenditure increases value added and consumption expenditure. In 2012, this effect was EUR 1,948 million. This effect is included in the table above. For the sake of clarity, the direct effects directed at the year of investment have been excluded from the table, that is the growth in output for own final use and in gross capital formation, as well as the changes caused by these in other items because these do not affect the GNI in the case of non-market producers.

The main source for calculating R&D expenditure is the Research and development statistics. The expenditure items related to R&D activities of non-market producers (mainly universities and research institutions) are examined in the statistics. The sum of these is an estimate of annual R&D investments produced for own final use. The consumption of fixed capital related to the accumulated capital is calculated using the perpetual inventory method.

**Item 2: Valuation of output produced by market producers for own final use**

According to ESA 2010, output of market producers for own final use should include an estimate of the profit component included in the output in order to get closer to the output at market price. In 2012, this effect was EUR 36 million. The effect has been calculated by adding an eight per cent profit component of software produced for own final use to the estimate. The component is based on the average operating surplus of enterprises in computer and related activities relative to the output in 1975 to 2012.

**Item 3: Non-life insurance – output, claims related to catastrophes, reinsurance**

According to ESA 2010, insurance claims adjusted over time are utilised in the calculation of the output of non-life insurance and the claims paid out in the year in question are not used directly. One option to carry out the change is to revise the paid claims by the change in the equalization reserve. In Finland, non-life insurance claims have been calculated in accordance with the above-mentioned method already in ESA 95, so the change did not affect the time series.

In accordance with ESA 2010, non-life insurance claims caused by catastrophes are ignored in the calculation formula for the output. This does not affect Finland's time series because no such catastrophes have occurred.

In the calculation of reinsurance, ESA 2010 brought some small potential changes related to the exports and imports of reinsurance services. The changes are small and data on exports and imports of reinsurance are not comprehensively available so no changes were made to the time series.

#### **Item 4: Treating general government's weapon systems as investments**

In ESA 2010, acquisition costs of weapon systems are treated as investments, not as operating costs as in ESA 95. This raises the amount of assets of general government and thus the annual consumption of fixed capital and value added. In 2012, this effect was EUR 458 million. This effect is included in the table above. For the sake of clarity, the direct effects directed at the year of acquiring the equipment have been excluded from the table, that is the growth in gross fixed capital formation and the decrease in intermediate consumption, as well as the changes caused by these in other items because these do not affect the GNI.

Weapon systems treated as investment goods are calculated based on central government's bookkeeping data and the defence administration's separate reports, and the consumption of fixed capital related to these investments are calculated in the capital stock model of the National Accounts. So-called single-use defence goods, like ammunition and mines, are still treated as current costs.

#### **Item 5: Decommissioning costs of large investment goods**

ESA 2010 specifies the methodology related to the treatment of decommissioning costs of large investment goods, like nuclear power plants. In terms of general government's investment goods, the change can have a potential effect on the accrual of the consumption of fixed capital and thus on GNI. The change has no effect for Finland as there has been no need to separately assess decommissioning expenditure or their accrual related to general government's assets.

#### **Item 6: Borderline between general government and corporations sector**

According to ESA 2010, certain enterprises or units owned by general government that according to ESA 95 belonged to units in the corporations sector are included in the general government sector. This applies particularly well to units that are constantly unprofitable and units that are considered non-independent, ancillary units of general government. The change may result in small GNI changes because the calculation formula of the value added of units is different for market producers in the corporations sector and for non-market producers in the general government sector. The estimated effect for Finland in 2012 is EUR -47 million. The estimate is based on information of the operating surplus of units moved from one sector to another, and a negative sign of the estimate means, in practice, that the transferred units have, on average, been profitable.

### **Item 7: Small tools**

ESA 2010 changed the borderline between current costs and investment assets so that the euro-denominated threshold was left out of the guidance. For Finland, no changes were caused in the time series because the old indicative line was not applied during ESA 95 due to source data limitations.

### **Item 8: VAT-based third EU own resource**

The VAT-based third EU own resource, i.e. the payment made by member states to the EU budget based on the VAT base is treated in ESA 2010 as current transfer paid to the EU by the state. Previously, it was classified as tax collected by the EU. The change increases GNI by the size of the payment. In 2012, the effect was EUR 277 million. The effect is calculated directly from central government's bookkeeping and financial statement material that includes breakdowns of EU payments.

### **Item 9: Index-linked debt instruments**

The return on certain debt instruments depends on the development of an index that involves a motive of holding gains (an example of such an index is the price of gold). In such cases, only the share of the index change that represents the market estimate on the development of the index during the term of the instrument should according to ESA 2010 be recorded as interest. In case of cross-boundary interest flows, the change has in theory an effect on GNI. In practice, due to shortcomings in the data basis, it is impossible to implement the change exhaustively and its importance would be very low. Therefore, no changes have been made in the time series.

### **Item 10: Allocation of the output of the central bank**

According to ESA 2010, the output of the central bank is allocated to various sectors so that the services charged directly from the customer's of the central bank are shown as use in the sectors that acquired the services. In ESA 95, the entire output of the central bank was allocated to intermediate consumption of all other financial intermediaries except the central bank. In principle, the change has a potentially raising effect on GNI. In Finland, the output of the central bank has in recent years been around EUR 100 million of which the possible share charged directly from other sectors than financial institutions is very small. Therefore, no changes have been made in the time series.

### **Item 11: Recognising land improvements as a separate asset**

ESA 2010 brought with it a precision related to classifying land improvements: they are now their own category under non-financial assets.

If the value of land improvements were not included in the assets reported in statistics in accordance with ESA 95, this change raises general government's consumption of fixed capital and thus GNI. In Finland, land improvements were already included in ESA 95 accordant series of data on buildings and structures, so the change did not cause any changes in the time series.

### *New data sources and methods required by the ESA 2010 transition*

#### **Capitalisation of R&D expenditure:**

With the ESA 2010 revision, the Research and development statistics was included as source data for the National Accounts. In terms of R&D investments, the time series was changed starting from 1975, which requires the use of the back-casting methods. There has, however, not been need to rely on external indicators at aggregate level because R&D expenditure data have been collected since 1971. Back-casting methods concerned dividing aggregate level data into more detailed level industries for 1975 to 2004 and this was done by utilising the industry-level distribution data of other items in the National Accounts.

Related to the calculation of consumption of fixed capital, the accrued net stock of R&D investment assets for 1975 was estimated based on the investment level and the consumption age of R&D asset type (on average 10 years) of the year in question.

#### **Treating general government's weapon systems as investment goods:**

Weapon system acquisitions treated as investment goods are analysed based on central government's bookkeeping data and the defence administration's separate reports. These reports are available at full level of detail starting from 2000. From 1975 to 1999, data on total acquisitions of defence equipment from old time series were utilised, and the share to be treated as investments was calculated by applying a ratio calculated from actual data from more recent years to these data (share of weapon system acquisitions of all defence equipment acquisition).

For weapon systems, the 1975 net capital stock was estimated based on the capital stock model. In order to achieve this, the time series for weapon system investments for 1950 to 1974 were calculated with the back-casting method. This was done by utilising data on the total defence expenditure during the period and by creating an indicator from these data with which the 1975 investment data was chain-linked backwards.



## 2.3.2 Other level revisions

### 2.3.2.1 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 nearly 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 non-observed economy on the basis of a separate study. The non-observed economy comprises both the informal underground 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.

### *2.3.2.2 Level revisions made when transferring to the ESA 2010 system*

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

#### *2.3.2.2.1 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.

#### *2.3.2.2.2 Compensation of employees*

In financial corporations, wages and salaries were revised particularly in activities auxiliary to financing and insurance. 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.

### ***2.3.2.2.3 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.

### ***2.3.2.2.4 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.

#### ***2.3.2.2.5 Non-profit institutions serving households***

New data were obtained for the calculations of non-profit institutions serving households using the Tax Administration's 6C form from 2010 onwards. The data contain information given by around 20,000 associations in income tax returns. They were supplemented by information on around 10,000 units from the Business Register. The data were used when calculating the output and intermediate consumption of the sector's different industries. The 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 (polytechnics, etc.) by over EUR 200 million. As a consequence of these changes, consumption expenditure grew by around EUR 600 million in 2010.

#### ***2.3.2.2.6 Housing***

In letting of dwellings, output was revised (rents paid) 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.

#### ***2.3.2.2.7 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, tobacco, clothing and footwear, decoration and home maintenance, health, education, restaurant services, social protection, 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.

#### ***2.3.2.2.8 Consumption of fixed capital***

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

#### ***2.3.2.2.9 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 changes in inventories.

#### ***2.3.2.2.10 Underground 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.

#### ***2.3.2.2.11 Investments***

In investments, data on the product type 'exploration of minerals' were revised from 1995 onwards based on the data from the Finnish Safety and Chemicals Agency.

#### ***2.3.2.2.12 Effect on the gross national income***

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

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

## 2.4 Planned actions for improvements

According to the current plan, the next level revision of the National Accounts will be made in 2018 or 2019. At this point, the data from the Household Budget Survey of the statistical reference year 2016 are available. Prior to this, smaller revisions may be made to the time series mainly to correct detected errors.

The precise content of the possible level revision in 2018 is naturally not yet known but at least in the following areas the quality of the National Accounts will be improved by then if possible.

### **Underground economy and illegal economy**

Analyse comprehensively the underground economy in various industries included in output and wages and salaries in particular. The illegal economy will also be analysed. This may lead to time series revisions.

### **Entertainment, literary and art originals (AN.1123)**

Revise the calculation method. This may lead to time series revisions.

### **Taxes paid to and received from abroad (D.5)**

Taxes paid to abroad for dividends, interests, wages and salaries, and pensions paid from abroad to Finland have thus far not been recorded in the National Accounts. Taxes on dividends, interests, wages and salaries, and pensions paid to abroad from Finland have, in turn, been recorded as paid by Finnish households even though the paying sector is the rest of the world. Now, new data files are available on these. This leads to time series revisions. The revisions do not change the gross national income.

### **Entrepreneurial income from enterprises to households (D.422)**

The calculation method is reassessed and the calculations on the underground economy are also taken into consideration better than before. This may lead to time series revisions. The revisions do not change the gross national income.

### **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. Assess the possibility to consolidate completely general government's intra-group items. This may lead to time series revisions. The revisions do not change the gross national income.

### **Development projects of the information system**

The information system has several development needs beginning with changing the cubic browser.

### **Improvements of source statistics**

Calculation of factoryless goods production and merchanting requires extensive detailed analysis. The aim is that the items in question will be charted in detail already when producing source statistics. This requires development of large enterprise work.

The concepts, definitions and classifications of the statistics on international trade in services have been improved and they will also be improved in future. The sample size will also be increased.

Finnish Customs have made a new estimate of the CIF-FOB revision of goods imports for 2014. Cooperation with Finnish Customs will be tightened.

Higher quality data will be produced on renovation building as a result of data collections.

Statistics on the finances of municipalities will be renewed in 2016. The planned regional administration reform (2019) will, in turn, apply in particular to human health and social work activities.

The volume indices of industry and services will be developed and the aim is to harmonise them with the National Accounts data.

## ***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 2012.

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 8. The level and distribution by industry of Finland's GDP in 2012

	Value added, gross at basic prices, EUR million	% of value added
Industries, total	172,417	100
A Agriculture, Forestry and Fishery	4,713	3
B Mining and quarrying	804	0
C Manufacturing	29,067	17
D Energy supply	3,828	2
E Water supply and waste management	1,587	1
F Construction	11,336	7
G Trade	17,436	10
H Transport	8,947	5
I Accommodation and food services activities	2,967	2
J Information and communication	8,961	5
K Financial and insurance activities	4,635	3
L Real estate activities	20,079	12
M Professional, scientific and technical activities	8,745	5
N Administrative and support service activities	5,778	3
O Public administration and social security	10,923	6
P Education	10,105	6
Q Human health and social work activities	17,114	10
R Arts, entertainment and recreation	2,258	1
S Other service activities	2,959	2
T Domestic services	175	0

Table 9. Output, intermediate consumption and gross value added by industry, 2012

	P1 Output at basic prices	P2 Intermediate consumption at purchasers' price	B1GPH Value added, gross at basic prices
Industries, total	386,115	213,698	172,417
ALKUT Primary production	9,533	4,820	4,713
A Agriculture, Forestry and Fishery	9,533	4,820	4,713
01 Agriculture and hunting	5,085	3,426	1,659
011_016 Agriculture	5,017	3,421	1,596
017 Hunting	68	5	63
02 Forestry	4,277	1,336	2,941
021 Silviculture and other forestry activities	2,344	644	1,700
022 Logging	985	437	548
023 Gathering of wild growing products (excl. fuel wood)	88		88
024 Forest industry support activities	307	255	52
025 Net growth of forests	553		553
03 Fishery	171	58	113
JALOST Secondary production	161,117	114,495	46,622
B-E Total industry	130,814	95,528	35,286
B Mining and quarrying	2,164	1,360	804
05_06 Mining of coal and lignite, extraction of crude petroleum and natural gas.			
07 Mining of metal ores	850	464	386
08 Other mining and quarrying	1,245	834	411
09 Mining support service activities	69	62	7
C Manufacturing	116,633	87,566	29,067
10_12 Food industry etc.	11,728	9,045	2,683
10 Manufacture of food products	10,497	8,196	2,301
11 Manufacture of beverages	1,231	849	382
12 Manufacture of tobacco products			
13_15 Manufacture of textiles, wearing apparel and leather	1,265	816	449
13 Manufacture of textiles	518	313	205
14 Manufacture of wearing apparel	526	375	151
15 Manufacture of leather and related products	221	128	93
16_17 Forest industry	18,932	15,043	3,889
16 Wood industry	5,510	4,434	1,076
17 Paper industry	13,422	10,609	2,813
18 Printing	1,487	883	604
19_22 Chemical industry	23,376	18,669	4,707
19 Petroleum refining	11,309	10,524	785
20 Manufacture of chemicals and chemical products	7,019	5,397	1,622
21 Pharmaceutical industry	1,746	515	1,231
22 Manufacture of rubber and plastic products n.e.c	3,302	2,233	1,069

23 Building materials industry	3,025	1,918	1,107
24_30+33 Metal industry	54,978	40,019	14,959
24_25+28_30+33 Metal industry excl. manufacture of electrical and electronic products	37,136	26,573	10,563
24 Manufacture of basic metals	8,543	7,428	1,115
25 Manufacture of fabricated metal products	7,135	4,506	2,629
28 Manufacture of machinery and equipment n.e.c.	15,486	10,909	4,577
29 Manufacture of motor vehicles, etc.	1,399	985	414
30 Manufacture of other transport equipment	1,546	1,089	457
33 Repair and installation of machinery and equipment	3,027	1,656	1,371
26_27 Electrical and electronics industry	17,842	13,446	4,396
26 Electronics industry	13,302	10,669	2,633
27 Manufacture of electrical equipment	4,540	2,777	1,763
31_32 Other manufacture incl. furniture	1,842	1,173	669
31 Manufacture of furniture	1,104	724	380
32 Other manufacturing	738	449	289
D_E Energy supply, water supply and waste management	12,017	6,602	5,415
D Energy supply	8,577	4,749	3,828
35 Energy supply	8,577	4,749	3,828
E Water supply and waste management	3,440	1,853	1,587
36 Water collection, treatment and supply	645	261	384
37_39 Sewerage and waste management	2,795	1,592	1,203
37 Sewerage	646	235	411
38 Waste management and recycling	2,056	1,306	750
39 Other waste management services	93	51	42
F Construction	30,303	18,967	11,336
41+432_439 Building construction, etc.	22,519	13,926	8,593
411 Building development	307	205	102
412+432_439 Building construction, etc. excl. building development.	22,212	13,721	8,491
42+431 Civil engineering, etc.	7,784	5,041	2,743
PALV Services	215,465	94,383	121,082
G_I	62,741	33,391	29,350
G Trade	32,005	14,569	17,436
45 Wholesale and retail trade and repair of motor vehicles and motorcycles	5,244	2,372	2,872
46 Wholesale trade (excl. motor vehicles, etc.)	15,260	7,140	8,120
47 Retail trade (excl. motor vehicles, etc.)	11,501	5,057	6,444
H Transport	23,572	14,625	8,947
49 Land transport	10,086	5,441	4,645
50 Water transport	2,556	1,907	649
51 Air transport	2,810	2,154	656
52 Warehousing and support activities for transportation	6,540	4,411	2,129
53 Post and courier activities	1,580	712	868
I Accommodation and food services activities	7,164	4,197	2,967
55 Accommodation	1,730	1,094	636



56 Food and beverage service activities	5,434	3,103	2,331
J Information and communication	17,221	8,260	8,961
58 Publishing activities	3,404	1,888	1,516
59_60 Audiovisual activities	1,707	849	858
61 Telecommunications	4,254	2,095	2,159
62_63 Computer programming, consultancy and related activities	7,856	3,428	4,428
K Financial and insurance activities	9,490	4,855	4,635
64 Financial intermediation	5,418	2,773	2,645
65 Insurance activities, etc.	2,454	1,054	1,400
66 Activities auxiliary to financial services and insurance activities	1,618	1,028	590
L Real estate activities	29,744	9,665	20,079
681+68209+683 Other real estate activities	6,240	2,607	3,633
68201_68202 Letting and operation of dwellings	23,504	7,058	16,446
68201 Letting of dwellings	5,856	2,210	3,646
68202 Operation of dwellings	17,648	4,848	12,800
M_N	25,393	10,870	14,523
M Professional, scientific and technical activities	15,229	6,484	8,745
69_70 Management services	5,115	2,236	2,879
69 Legal and accounting activities	2,173	675	1,498
70 Activities of head offices; management consultancy activities	2,942	1,561	1,381
71 Technical services	5,305	2,281	3,024
72 Scientific research and development	2,247	626	1,621
73 Advertising and market research	1,193	560	633
74_75 Other business services veterinary services	1,369	781	588
74 Other professional, scientific and technical activities	1,140	668	472
75 Veterinary activities	229	113	116
N Administrative and support service activities	10,164	4,386	5,778
77 Rental and leasing activities	1,677	932	745
78 Employment activities	2,078	455	1,623
79 Travel agents, etc.	772	551	221
80_82 Other support services	5,637	2,448	3,189
80 Security and investigation activities	607	213	394
81 Services to buildings and landscape activities	3,174	1,231	1,943
82 Office administrative, office support and other business support activities	1,856	1,004	852
O_Q	60,302	22,160	38,142
O Public administration and social security	19,588	8,665	10,923
841_842 Public administration	14,947	7,002	7,945
843 Compulsory social security	1,342	672	670
844 Defence equipment and conscripts	721	152	569
845 Maintenance of rail network	604	286	318
846 Maintenance of road network	1,974	553	1,421
P Education	13,929	3,824	10,105
85 Education	13,929	3,824	10,105
Q Human health and social work activities	26,785	9,671	17,114

86 Human health activities	16,389	6,787	9,602
87_88 Social services	10,396	2,884	7,512
R_T	10,574	5,182	5,392
R Arts, entertainment and recreation	4,691	2,433	2,258
90_92 Cultural activities and games of chance	2,330	1,143	1,187
90_91 Cultural activities	1,606	645	961
92 Gambling and betting activities	724	498	226
93 Sports activities and amusement and recreation activities	2,361	1,290	1,071
S Other service activities	5,708	2,749	2,959
94 Activities of membership organisations	3,702	1,888	1,814
95 Repair of household goods	409	208	201
96 Other personal service activities	1,597	653	944
T Domestic services	175		175
97_98 Domestic services	175		175

Table 10. Output, intermediate consumption and gross value added by sector, 2012

	P1 Output at basic prices	P2 Intermediate consumption at purchasers' price	B1GPH Value added, gross at basic prices
S1 Total economy (resident sectors total)	386,115	213,698	172,417
S11 Non-financial corporations	272,345	168,398	103,947
S12 Financial corporations	9,731	5,049	4,682
S121-7 Financial corporations and financial auxiliaries	7,036	3,801	3,235
S121 Central bank	96	34	62
S122 Other monetary financial institutions	5,019	2,588	2,431
S1221 Deposit banks	4,309	2,214	2,095
S1222 Other credit institutions	710	374	336
S123 Money market funds (MMF)			
S124 Collective investment schemes, excl. money market funds			
S125 Other financial intermediaries	194	79	115
S126 Financial auxiliaries	1,618	1,028	590
S127 Captive financial institutions and money lenders	109	72	37
S128+S129 Insurance corporations and voluntary pension funds	2,695	1,248	1,447
S128 Insurance corporations	2,651	1,238	1,413
S129 Voluntary pension funds	44	10	34
S13 General government (consolidated)	58,313	22,483	35,830
S1311 Central government	16,206	5,671	10,535
S1313 Local government	39,852	15,593	24,259
S1314 Social security funds	2,255	1,219	1,036

S13141 Employee pension schemes	1,700	999	701
S13149 Other social security funds	555	220	335
S14 Households	37,211	13,893	23,318
S15 Non-profit institutions serving households	8,515	3,875	4,640

### 3.1 The reference framework

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

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 179 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 776 products. The classification is based on the CPA2008 classification. The product classification is explained in Section 6 and the actual classification can be found in Appendix 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.

## **3.2 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.

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 also compiled at fixed prices, currently at the prices of the year preceding the statistical year and at reference year 2010 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:

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, 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. Any training and recreation costs possibly included in social security costs are transferred to intermediate consumption by comparing different data sources with one another.

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

### ***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 and 2012.

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

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, however not farms. 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 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 non-observed economy is added to the 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.

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

### 3.7.1 Primary production (A)

Table 11. A industry items by sub-industry, EUR million

	A total	Agriculture (011_016)	Forestry (02)	Hunting and fishing (017+03)
P1 Output at basic prices	9,533	5,017	4,277	239
P2 Intermediate consumption at purchaser's prices	4,820	3,421	1,336	63

B1GPH Value added, gross at basic prices	4,713	1,596	2,941	176
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Table 12. Share of the entire industry A, per cent

	A total	Agriculture (011_016)	Forestry (02)	Hunting and fishing (017+03)
P1 Output at basic prices	100	53	45	3
P2 Intermediate consumption at purchaser's prices	100	71	28	1
B1GPH Value added, gross at basic prices	100	34	62	4

### 3.7.1.1 Agriculture and related services (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 from the producer units mainly based on sample surveys while data concerning the area under cultivation are received as total data from administrative registers (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 is primarily responsible for collecting data on output from the beginning of 2015. Prior to this, the Information Centre of the Ministry of Agriculture and Forestry, TIKE was responsible for collecting these data. 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 Safety Authority (Evira) 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 producer, 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 2012, there were nearly 57,000 farms that belong to the framework. Of these, some 8,500 were selected to Statistics Finland's sample.

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 Kasvistiето Oy, volume and price data on fur production from auction house Saga Furs Oyj, data on reindeer farming from Paliskuntain yhdistys, 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 Elintarviketiето – Food Facts Oy in terms of market output, data on final use by the producer are based on the Household Budget Survey. Elintarviketiето – Food Facts Oy is a private market research institute. In terms of agricultural services, the National Accounts are based on Statistics Finland's business structural 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 and product group usually with the formula  $\text{value} = \text{volume} \times \text{price}$ . The output is valued at basic price, which means that the value includes product subsidies but not taxes on products.

Animal production:

*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 (in Finnish):

[http://stat.luke.fi/laatuseloste-lihantuotanto\\_fi-1](http://stat.luke.fi/laatuseloste-lihantuotanto_fi-1). 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 Safety Authority (Evira) 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 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.

Paliskuntain Yhdistys (Reindeer Herder's 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 Herder's 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. Output for own use of livestock that have not been classified as capital animals, takes into account changes in the number of such animals during the statistical reference year as change in inventory. Data on the numbers of livestock are collected by Luke in a sample survey in December, except for bovine animals, whose data derive 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.

### *Animal products:*

#### Milk

The data sources for milk production are primarily dairy statistics compiled by Luke. 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.

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 Evira.

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.

#### Eggs

Production data on eggs are based on the statistics on the production of eggs compiled by Luke. 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.

#### 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 Herder's Association in connection with all other data concerning reindeer farming.

#### 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.

#### Crop production:

##### *Cereal crops*

The output of cereal crops depicts the volume of harvested crops. The cultivated area of yield calculations are based on the Integrated Administration and Control System (IACS) and data on yield per hectare are based on Luke's sample survey. 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. 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 beginning inventory for the statistical reference year 2012 t 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 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.

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.

Crop yields are calculated based on the cultivated areas of farms belonging to the farm register.

#### *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.

#### *Oil plants*

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

#### *Protein plants*

The production volume derives from Luke's crop production statistics. The average purchasing prices of industry are used as price data.

#### *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 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.

### *Garden plants*

Data on the output of garden plants (berries, fruits and vegetables) derive from Luke's horticultural enterprise register. Output for own final use is estimated based on Statistics Finland's Household Budget Survey. Prices collected by Kasvistieto Oy are used as price data. The beginning and closing stock are determined 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 harvest in Luke's statistics.

### *Forage plants*

The production volume of forage plants is based on yield calculations by Luke and price data collected by Pro Agria.

### *Ornamentals and seedlings*

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.

### *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 structural 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.

### *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 13. Output of agriculture in 2012, EUR million

	Output at producer prices	Subsidies on products	Output at basic prices
Animal output	750.9	120.7	871.6

Animal products	1,517.6	172.7	1,690.3
Animal husbandry total	2,268.5	293.4	2,561.9
Crop production, garden plants	1,831.9	10.9	1842.8
Total goods production in agriculture	4,100.4	304.3	4,404.7
Agricultural services	99.0	0	99
Agricultural production	4,199.4	304.3	4,503.7
Inseparable activities	551.5	0.0	551.5
Output of agriculture	4,750.9	304.3	5,055.2

### 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 structural 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.

#### Seeds and seedlings

Evira collects data on certified seed production. Price data are, in turn, collected from seed stores. The cost of seeds and seedlings in garden production is based on data from the FADN system.

## 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.

## 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.

## Plant protectants

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

## 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.

## 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.



### 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.

### Agricultural services

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

### 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 Herder's 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 (TOL 017)**

In Finland, hunting covers households' hunting for own use. In addition, some market output is also estimated for the industry. The data are based on the statistics on hunting produced annually by the Natural Resources Institute Finland (LUKE).

#### **3.7.1.3 Forestry and logging (TOL 02)**

##### **3.7.1.3.1 Forestry in Finland**

The forestry and logging industry (TOL2008 02) is formed as the sum of four computational sub-industries. Silviculture and other forestry activities (TOL2008 02100) include activities related to growing of forests and forestry, such as forest cultivation, prevention of forest damages, and income from felling. Logging (TOL2008 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 (TOL2008 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 (TOL2008 02500) includes the difference between the gross growth of forests and felling. All forestry and logging establishments have been categorised as market producers.

The output 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 Finnish Forest Research Institute 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 road side. 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 Finnish Forest Research Institute 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*

#### Forestry

##### Statistics Finland

- Labour Force Survey
- The service database of business structural statistics
- Register of Enterprises and Establishments
- Statistics on finances and activities of municipalities and joint municipal authorities
- Corporation tax data
- Data on personal taxation

##### Finnish Forest Research Institute (METLA)

- Statistical Yearbook of Forestry
- Statistical database on felling on industrial wood by region
- Statistical database on logging outturn and growing stock removals
- Statistical database on forestry and forest improvement work

- Statistical database on trade of industrial wood
- Statistical database on trade of energy wood
- Statistical database on stumpage income

Finnish Forest and Park Service

- Operating report

Logging

Statistics Finland

- Labour Force Survey
- The service database of business structural statistics
- Register of Enterprises and Establishments
- Corporation tax data

Finnish Forest and Park Service

- Operating report

Metsäteho Oy

- Review on logging and long-distance hauling

Forest industry support activities

Statistics Finland

- Labour Force Survey
- The service database of business structural statistics
- Register of Enterprises and Establishments
- Corporation tax data

Net growth of forests

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

### 3.7.1.3.3 *Calculation process*

#### Forestry

##### **Output**

Forest growing activities include activities related to growing of forests and forestry, such as forest cultivation, prevention of forest damages, and income from fellings. The output is received by adding up the turnover of forestry establishments from the Business Register, and the sales revenue from personal taxation data and the statistics on finances and activities of municipalities and joint municipal authorities. Timber sales revenue in forestry from standing sale (the basic price is the price at stump) is calculated by multiplying the stumpage prices by types of timber of private forests by the corresponding volumes. The volumes include market felling of private forests (incl. municipalities and parishes), and by the Ministry of Defence and the Finnish Forest Research Institute. The same prices are also used to multiply the felling volume from forest industry enterprises' own forests. The price used for firewood is 90 per cent of the price of deciduous pulpwood. There are no separate prices for other special wood, so their prices are assumed to be depicted in stumpage prices of types of timber and volumes in the felling volume. The price statistics of felled timber that are published bi-annually cover around 90 per cent of the entire timber sales of Finland's private forests. The volume statistics of felled timber that are published bi-annually are collected separately from each Forestry Centre as a sample. The enterprises included in the sample purchase around 95 per cent of all market timber felled in Finland.

The total value of timber sales revenue in forestry from sale at delivered price (the basic price is the price when delivered to roadside) is calculated by multiplying the volume of purchase for delivery and own use felling by type of timber with the acquisition price by type of timber. The price used for firewood is 90 per cent of the stumpage price of deciduous pulpwood.

The output of the Finnish Forest and Park Service's forestry activities has been taken from the profit and loss account of the Finnish Forest and Park Service (basic price is the price when delivered to factory). 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).

##### **Intermediate consumption**

The intermediate consumption of forestry includes intermediate consumption of procurement work (METLA's estimate), maintenance of forest roads (METLA's database on forestry and forest improvement work). The intermediate consumption of forestry and forest improvement work is generated by using the share of intermediate consumption from output selected from Statistics Finland's structural statistics.

## Logging

### **Output**

Logging services and short-distance hauling belong to the production account of logging. The output of logging services is the sum of the turnover of logging enterprises in the Business Register.

### **Intermediate consumption**

Intermediate consumption of logging services is derived from the query database of Statistics Finland's business structural statistics.

## Forest industry support activities

### **Output**

The output of forest industry support activities includes the income of forestry societies and forestry centres. Establishment data are generated with the help of the query database of the business structural statistics and the Register of Enterprises and Establishments.

### **Intermediate consumption**

Establishment data derive from the query database of the business structural statistics and the Register of Enterprises and Establishments.

## Net growth of forests

### **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 METLA's special analysis and stumpage price data from METLA's database.

Table 14. Forestry and logging, production and income formation account

	SECTORS	NON-FINANCIAL CORPORATIONS	HOUSEHOLDS	NON-PROFIT INSTITUTIONS	LOCAL GOVERNMENT
	TOTAL	SECTOR	SECTOR	SECTOR	SECTOR
<b>Forestry</b>					
Output at basic prices	2,344	628	1,615	27	74
Market output	2,044	568	1,380	27	69
Output for own final use	300	60	235		5
Intermediate consumption at purchasers' price	644	222	385	8	29
Value added, gross at basic prices	1,700	406	1,230	19	45
Consumption of fixed capital	324	79	236	3	6
Value added, net at basic prices	1,376	327	994	16	39
Wages and salaries	104	85	10	2	7
Employers' social contributions	24	20	2		2
Operating surplus + mixed income, net	1,262	229	989	14	30
<b>Logging</b>					
Output at basic prices	985	876	109		
Market output	980	871	109		
Output for own final use	5	5			

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Intermediate consumption at purchasers' price	437	374	63
Value added, gross at basic prices	548	502	46
Consumption of fixed capital	139	113	26
Value added, net at basic prices	409	389	20
Wages and salaries	212	202	10
Employers' social contributions	48	46	2
Operating surplus + mixed income, net	151	143	8
<b>Forest industry support activities</b>			
Output at basic prices	307	292	15
Market output	307	292	15
Output for own final use			
Intermediate consumption at purchasers' price	255	248	7
Value added, gross at basic prices	52	44	8
Consumption of fixed capital	5	5	
Value added, net at basic prices	47	39	8



Wages and salaries	138	136	2		
Employers' social contributions	31	31			
Operating surplus + mixed income, net	-118	-124	6		
<hr/>					
Net growth of forests					
<hr/>					
Output at basic prices	553	95	439	6	13
Market output	553	95	439	6	13
Output for own final use					
Intermediate consumption at purchasers' price					
Value added, gross at basic prices	553	95	439	6	13
Consumption of fixed capital					
Value added, net at basic prices	553	95	439	6	13
<hr/>					
Wages and salaries					
Employers' social contributions					
Operating surplus + mixed income, net	553	95	439	6	13
<hr/>					
Forestry and timber harvesting					
<hr/>					
Output at basic prices	4,277	1,891	2,266	33	27

Market output	3,922	1,826	1,981	33	82
Output for own final use	355	65	285		5
Intermediate consumption at purchasers' price	1,336	844	455	8	29
Value added, gross at basic prices	2,941	1,047	1,811	25	58
Consumption of fixed capital	468	197	262	3	6
Value added, net at basic prices	2,473	850	1,549	22	52
Wages and salaries	454	423	22	2	7
Employers' social contributions	103	97	4		2
Operating surplus + mixed income, net	1,936	343	1,530	20	43

#### 3.7.1.4 Gathering of wild growing products (TOL 023)

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 an annual survey conducted by the Agency for Rural Affairs (Mavi) on the volume of berries and mushrooms that arrive at stores (MARS) and Statistical Yearbook of Forestry 2012 published by Metla.

#### 3.7.1.5 Fishing (TOL 03)

Fishing includes professional marine and freshwater fishing, aquaculture, as well as part-time and leisure fishing (TOL2008 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.

### *Data sources*

Statistics of the Natural Resources Institute Finland

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

Statistics Finland

- The service database of business structural statistics
- Register of Enterprises and Establishments
- Labour Force Survey

### *Calculation process*

#### Output

The output for the statistical reference year 2006 of professional fishers and fish farmers operating in the non-financial corporations (S11) and households (S14) sectors acting as market producers has been calculated from the turnover based on the business structural statistics. The value of the entire turnover is classified as market output.

From 2006 onwards, the output of the non-financial corporations sector has been calculated by multiplying the output of the previous year with the data produced by the Natural Resources Institute Finland on the change in the value of farming edible fish from the statistics on aquaculture. The output for the statistical reference year 2012 has also been calculated utilising the data of the Natural Resources Institute Finland's statistics on aquaculture.

From 2006 onwards, the output of the fishing industry for market producers belonging to the households sector has been calculated by multiplying the output of the previous year with the data produced by the Natural Resources Institute Finland on the change in the value of the catch from the statistics on professional marine fishing and professional freshwater fishing.

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 (TOL2008 03).

### Intermediate consumption

The intermediate consumption for 2006 of market producers in the non-profit corporations and households sectors has been calculated based on data from the business structural statistics. The relative share of intermediate consumption in output is derived from the structural statistics. This share is then used to multiply the output of market producers in the non-financial corporations and household sectors, which results in intermediate consumption. In 2012, the same share of the output has been calculated as intermediate consumption as in 2006.

Table 15. Hunting, Gathering of wild growing products and Fishing in 2012

	S11	S14
<b>TOL2008 017 Hunting</b>		
P1 output at basic prices	10	58
P2 intermediate consumption at purchasers' price	5	0
B1GPH Gross value added	5	58
<b>TOL2008 023 Gathering of wild growing products</b>		
P1 output at basic prices	-	88
P2 intermediate consumption at purchasers' price	-	0
B1GPH Gross value added	-	88
<b>TOL2008 03 Fishing</b>		
P1 output at basic prices	86	85
P2 intermediate consumption at purchasers' price	45	13
B1GPH Gross value added	41	72

## 3.7.2 Secondary production and services (B\_S)

### 3.7.2.1 Data sources

The most used data sources for the industry-specific calculations of the non-financial corporations and households sectors in the output approach are the annual statistics of the Register of Enterprises and Establishments and the annual structural business statistics. The annual statistics of the

Register of Enterprises and Establishments cover nearly all activities in the non-financial corporations and households sectors in Finland but for the National Accounts, the data content is limited, including only turnover, wage and salary and employment data. The statistical data are used mainly as the classification frame for industry-specific calculations in the accounts. The structural business statistics, which in terms of data content and concepts better correspond with the needs of the National Accounts, are the main data source for the National Accounts calculations of the non-financial corporations and households sector.

### **Register of Enterprises and Establishments**

Enterprises (legal units) and establishments engaged in business activities are included in the annual statistics on the Register of Enterprises and Establishments. The statistics cover all industries, geographical regions, legal forms and types of owner. Enterprises and establishments that have operated for more than six months in the reference year and employed more than one-half of a person or had a turnover in excess of the statistical limit (e.g. EUR 10,595 in 2012) are included in the statistics. In 2012, the statistics covered 322,183 enterprises (legal units) and 353,650 establishments.

The Register of Enterprises and Establishments has its own annual data collection that collects data from all multi-establishment enterprises and single-establishment enterprises that employ at least 20 persons. The basic framework of the National Accounts is the annual statistics on the Register of Enterprises and Establishment. The main classifying variables are: the institutional sector, producer types, the enterprise's main industry and the establishment's industry. In addition to the classifying variables, the material includes data on the number of entrepreneurs and wage and salary earners as full-time equivalent and actual number of persons, as well as turnover by enterprise and establishment. The basic frame is complemented by adding the units left outside the annual statistics on the Register of Enterprises and Establishment from the production database of the Business Register. The activity of the enterprises that have been left outside the annual statistics has concluded in the first half of the year or the activity has been very small during the year.

The basic frame of the National Accounts does not include non-domestic corporations. Of international branches, those with personnel are included in the framework. In the end, the frame is developed for the needs of the National Accounts by making the necessary revisions in the sector/industry combinations.

### **Structural business statistics**

The structural business statistics are combined data from Statistics Finland's financial statement statistics and regional and industrial statistics. Data on personnel, production, production inputs and investments of the structural business statistics are used in the calculation of the National Accounts. The statistical units of the structural business statistics are enterprise (legal unit) and establishment. The basic frame of structural business statistics is formed by Statistics Finland's Business Register. The

main classification variables, such as industry, region and number of personnel are derived from the Business Register.

The structural business statistics are total data. The data are partially collected with a sample-based data collection and the rest of the data derived from administrative sources. Direct data collections included in the structural business statistics are the Register of Enterprises and Establishment's inquiry, the statistics on financial statements' enterprise inquiry and the inquiry for industrial establishments. For enterprises outside the inquiry, data are mainly produced from the Tax Administration's business taxation file. The structural business statistics are exhaustive data, where erroneous data can be reliably corrected and missing data efficiently estimated by combining various data sources.

### 3.7.2.2 *Borderline cases*

The non-profit corporations that serve the business world are considered to belong to the non-financial corporations sector (S11). The main data source for non-profit corporations is the business taxation data of associations and foundations 6C. The figures of the production account output and intermediate consumption for sector S15 (Non-profit institutions serving households) are calculated from this data. The data of units belonging to the non-financial corporations sector are transferred from the 6C data in the source data process stage. In addition, the units of sector S15 whose sector/industry combination is not possible for the S15 sector in the National Accounts framework are transferred to the non-financial corporations sector. More detailed information on the calculation of sector S15 can be found in Section 3.10.

Municipal energy supply, water supply and waste management, public transport and port enterprises belong to the non-financial corporations sector (S11). These enterprises cover their expenses with sales revenues and are considered market producers. The source data of municipal companies is the statistics on the finances of municipalities and joint municipal authorities, which are the main data for local government (S1313). In connection with the calculation of local government, output and intermediate consumption data for municipal companies are produced, which are transferred to the calculation of the non-financial corporations sector in the source data process.

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 financial statements data on bus and coach transport on assignment of the Ministry of Transport and Communications and the Bus and Coach Association. The target population of the inquiry is enterprises currently engaged in passenger transport that have a valid public transport licence. Statistics Finland processes the responses to the financial statement inquiry by comparing them to the enterprise's official financial statements and the statistical data from the previous year. The final data are added to Statistics Finland's financial statements statistics. The financial statement inquiry of bus and coach transport is described in Section 10.1.5.

### 3.7.2.3 *Statistical unit*

In the National Accounts, the establishment is the main unit and enterprise-specific data are used only if no establishment-specific data are available. An establishment refers to an economic unit, which under one ownership or control produces goods and services of mainly one particular type usually at one location. An establishment may as such form 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.

The establishment does not necessarily have to include only activities classified as manufacturing but can also include so-called auxiliary activities. Auxiliary-type units are, for example, head office, central warehouse, sales office and repair shop. If the auxiliary activity is closely linked to the actual establishment and mainly serves the establishment in question, these activities are not always separated but the activity is combined with production activities. If the auxiliary unit is located separate from the actual establishment or if the auxiliary unit serves several establishments of the same enterprise it has, in most cases, been formed into a separate unit.

### 3.7.2.4 *Industry classification accuracy*

The National Accounts calculations of the non-financial corporation and household sectors are mainly done with the help of the structural statistics. The structural business 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, and energy and water supply (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 corporation and household sectors except for primary production (TOL 01, 02), construction (TOL 412+432\_439) and letting of dwellings (TOL 68201).

### 3.7.2.5 *Output*

The output of the non-financial corporation and household sectors consists of market output and output for own final use. Market output includes change in inventories of finished products and work in progress. The calculation components of the market output of the National Accounts' production account are the structural statistics' variables: turnover from the sales of merchandise (sales margin), industrial turnover, turnover from construction activities, other turnover, and other operating income.

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

**Turnover from trade comprises**, in addition to turnover from wholesale and retail trade, also income from the sales of merchandise from other industries. Merchandise are goods acquired for the purpose of reselling

without further processing. So the output includes only the sales margin that is derived by deducting the purchases of merchandise from their sales and adding the change in inventories. Resale of purchased electricity, heat and gas (agency activity) is also handled as selling of merchandise.

If the turnover of the enterprise includes sales of goods obtained in exchange it is shown in the turnover from trade. Acquisitions of goods obtained in exchange are reported as acquisition of merchandise.

**Turnover of industrial activities** comes from the structural business statistics divided as follows:

- Deliveries of products produced or commissioned by the establishment (in Finland)
- Deliveries of electricity produced: electricity sales of the establishment
- Deliveries of heat produced: heat sales of the establishment
- Network activities: turnover from the transmission and distribution of electricity, and distribution of natural gas
- Value of deliveries from industrial repair, installation and maintenance services: turnover from industrial services performed by the enterprise to external parties is (incl. supplies included in the invoice)
- Paid labour: turnover from paid work performed for another economic unit. The materials and supplies used are mostly in the possession of the contractor of the work. Turnover from other industrial service activities, such as sewerage, waste collection and treatment is also included in paid labour.

In the structural business 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).

**Other turnover** comes from the structural business statistics divided as follows:

- Commission trade: Turnover consists of the commissions a commission trade enterprise received from agency activity between buyers and sellers
- Restaurant activities: Turnover from sales of meals, other food portions and beverages as well as catering services
- Accommodation activities
- Advertising activities: Turnover received from selling of advertising space. This includes the media (newspapers, magazines



and printed catalogues) electronic advertising (TV, radio, etc.) and outdoor and traffic advertising

- Other unspecified turnover: Includes turnover from other service activities.

The value of production is derived from the value of turnover by taking into account **changes in current asset inventories** (finished products and unfinished work) during the calendar year. The structural business 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 and other income. Transfer losses from fixed assets, merger gains, and received subsidies and grants 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 computational and produced from the centralised calculations of the National Accounts (Sections 5.10.3.8 and 5.10.3.10). Data on how much the enterprise has other production for own use derives from the structural statistics. In accounting, the item production for own use is used to revise the items that contain expenses connected to commodities taken into own use by the enterprise.

### ***3.7.2.5.1 Borderline cases in output***

Output also includes **internal deliveries** between establishments of the same enterprise. They are valued in the same way as external deliveries. If internal deliveries within the enterprise cannot be valued based on their real market prices, they are valued at production costs. In structural statistics, part of the internal deliveries comes directly as a result of an inquiry (inquiry for industrial establishments), part is calculated with statistical methods, for example, for ancillary establishments of service enterprises.

In accordance with the investment calculations of entertainment, literary and art originals, output is added to the industries 59\_60 (Motion picture, video and television programme production) and 90\_91 (Cultural activities). The calculation of original investments is described in Section 5.10.3.11.

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

In industry 79, the output of the activities of travel agencies (TOL79110) is measured as the value of the agencies' service fees (fees and commissions). The output of tour operator activities (TOL79120) is measured according to the full expenses paid by travellers to the tour operator.

With the implementation of ESA2010, the international production and trade phenomena brought recording changes to the National Accounts. Manufacturing services abroad, manufacturing services in Finland, merchanting and factoryless production are classified as global activities. According to ESA2010, international phenomena are recoded based on ownership regardless of which country the product is located in. Classification of enterprises into the group international activity is based on analyses of enterprise data compiled from various sources. In the National Accounts, analysing of international enterprises has started from the statistical reference year 2012, when the 15 most significant enterprises were analysed. In the statistical reference year 2013, the number had grown to 50 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, wage and salaries paid abroad and purchased inputs are subtracted from the turnover of project suppliers generated abroad. The remaining international turnover (margin) is considered as production of machine and process planning and thus as 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.

Sales of securities are subtracted from turnover and their purchases from acquisitions, in addition, changes in security inventories are subtracted from current assets. Data on securities trading is based on the note of the enterprise's financial statements. Always when the data are available from the notes, revisions are made in the enterprise's figures. (Starting from the statistical reference year 2014, the item "Turnover from security trading" was added to the turnover breakdown of the financial statements inquiry for enterprises and correspondingly the item "Acquisition of securities" to the expenditure breakdown).

Market output of the underground economy is added to the industries of the non-financial corporations and households sectors. Percentage shares of the underground economy have been estimated for the industries based on various studies from the output that remains outside the source data. The underground economy is described in detail in Section 7.1.

### *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 acquired for operating activities, and other operating expenses.

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

Production inputs are valued at purchaser's price, i.e. purchase value delivered to the establishment exclusive of value added tax. Purchase adjustment items must be taken into consideration in valuing acquisitions. Examples of these items are freight, forwarding, packaging, and other such 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 it corresponds with the production input data of the structural statistics. In the structural statistics, the expense division includes profit and loss account items: purchases during the accounting period, outside services and other operating expenses,

The inquiry of the structural business statistics asks about the value of production inputs acquired by the establishment during the calendar year based on a rough classification. 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 are deemed to include 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 include also ancillary materials (lubricants, water, etc.) but not office or other similar supplies.
- Acquisition of packaging materials: Includes materials and supplies used in the packaging of goods produced by the enterprise or goods for which the enterprise is acting as agent.
- Acquisition of fuels: Fuels include substances acquired as an energy source for an enterprise's production activity or its vehicles.
- Contracted repair, maintenance and installation work: Includes repair, maintenance and installation of own production machinery and buildings contracted from an external party, inclusive of the value of invoiced materials. The expense also includes the value of invoiced materials.
- Subcontracting: Compensation paid to a sub-contractor for the production of products or sales of services.
- Labour rental: Comprises payments made by an establishment 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 so-called non-industrial services acquired from the outside during the calendar year. In the National Accounts, **other operating expenses** include the structural statistics' cost items:

- Acquisition of electricity for own use: Acquisition of electricity includes, in addition to the electricity used in production processes, also the electricity used for the lighting, ventilation, heating, etc., in the establishment's premises.
- Acquisition of heat for own use: Acquisition of heat includes, in addition to the heat used in production processes, also the heat used to heat the establishment's premises.
- Research and development expenses: Research and development expenses refer to research and development services acquired from external enterprises.
- Transport and storage expenses: This item includes transport and storage services purchased from outside the enterprise, as well as terminal and cargo handling services.
- Advertising, sale and marketing expenses: This includes expenses from advertising, sale and marketing acquired from outside the enterprise, such as services provided by advertising agencies, costs arising from arraigning trade fairs and similar product demonstrations.
- Computer, design and programming expenses: This item includes expenses from computer services acquired from external providers and paid by the customer. Repair and maintenance of computers are 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 financing direct leasing.
- Other rents: The item includes rent expenses paid for residential buildings and dwellings, as well as commercial, factory, office, warehouse, and other such buildings.
- Entertainment expenses
- Other expenses not mentioned above: This item includes other operating expenses of the profit and loss account that have not been directed at the above-mentioned items. Other expenses include, for example, provisions paid, post and distribution costs, banking, legal, bookkeeping, insurance, organisational, and other service and travel expenses.

The value of the above-mentioned acquired production inputs lead to the value of used intermediate inputs by taking into consideration **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 Borderline cases in intermediate consumption*

Production inputs acquired from other establishments of the same enterprise are valued like external purchases. If internal purchases within the enterprise cannot be valued based on their real market prices, they are valued at production costs. In structural statistics, part of the internal purchases comes directly as a result of an inquiry (inquiry for industrial establishments), part is estimated with statistical methods, for example, purchases of enterprises not included in the inquiry from ancillary establishments.

In the National Accounts, only direct leasing rents are included in intermediate consumption. The leasing rent expenses of the structural business statistics include direct and financial lease expenses. Therefore, the financial leasing rents paid by the non-financial corporations sector must be subtracted from the rent expenses of the structural statistics, which only leaves direct leasing. The data on financial leasing contracts' rents of the non-financial corporations sector derive from Statistics Finland's financial leasing statistics. Data on paid financial leasing rents are available only by main industry (industries B to S). Division into the National Accounts' calculation industries is made with the industry-division of leasing rents in the structural statistics. A description of the financial leasing statistics can be found in Section 10.

In the structural statistics, R&D expenses are included in the expenses in the enterprise's profit and loss account. Enterprises also have the possibility to 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 ESA2010, these expenses are increases in fixed assets that must be transferred to R&D investments. Therefore, in the calculation of intermediate consumption R&D expenditure is subtracted and the corresponding sum is transferred to investments by industry. The exceptions are cases where the R&D services acquired by the enterprise are inputs by the enterprise's own research unit, in which case they are considered an expense and are 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 is 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). This includes purchased software and also

software produced for own use, when their production costs are considerable. Part of the acquisition costs is included in the structural statistics' cost item IT, designing and programming expenses. Part of the acquisition costs has been capitalised directly in the balance sheet. The inquiry of the structural business statistics inquires for investments in software as a note to profit and loss accounts. The total level of IT investments of the non-financial corporations and households sectors have been compared with the result of the structural business statistics inquiry, as a result of which 30 per cent is subtracted from the IT, designing and programming expense item by industry.

The structural business statistics provide data on items included in other expenses in the profit and loss account that are not considered linked to the production process and, thus, are not included in intermediate consumption of the National Accounts. These items include losses from 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 the 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 National Accounts through which the value can be subtracted from other costs.

### *3.7.2.7 Examination of the calculation*

In the calculation round of the National Accounts, 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 ready-made **industry-specific analysing views**. This examination is restrictive in the sense that it does not allow a more detailed examination of enterprise or establishment level data. Thus, a software has been developed to help calculation that creates standard-format excel tables for the industries. The establishments belonging to the industry and the data needed for their calculation (output and intermediate consumption breakdown) are printed in the tables. In addition, any new establishments in the industry and removed establishments are printed in a separate table.

Often, one must shift to **enterprise-specific examination** from the industry-specific examination. An enterprise-specific (legal unit) excel table package is produced for enterprise-specific examination that contains the data from the business structural business statistics divided by industry and establishment. In addition, the table package contains data from main sources for checking and revising the data. These data are 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), enterprise's service exports and imports (international trade in services), enterprise's goods exports and imports (customs data), and periodic tax return data. The enterprise-specific examination views total activities from the viewpoint of supply and demand. What the enterprise buys (raw materials, domestic/imports), how the enterprise manufactures (own production, subcontracting, production abroad), what the enterprise manufactures (goods, services), and where the production goes (domestic demand, exports, inventories, enterprise's own use). Various source data are compared with one another in order to see whether they are congruent, i.e. provide a uniform picture (consistency analysis) of the enterprise's activities. 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 revisions are made to the data and to which revision column they are allocated.

In the final stages of the calculations, every industry in the non-financial corporations and households sectors is discussed in a summary meeting. In the first round of meetings, the 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 are reviewed. If something unclear is detected in the industry's figures the aim is to find out its cause and make revisions, if necessary. 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. When the industries have been accepted, the calculation round has ended for the industries of the non-financial corporation and households sectors.

Statistics Finland has renewed the production of business statistics starting from the statistical reference year 2013. In the renewal, the production of business statistics was unified and a new business production system was adopted. The renewal improved the uniformity of business statistics. The main changes related to the Standard Industrial Classification, harmonisation of business data (e.g. turnover and personnel data) and enterprise reorganisations, as well as deduction rules, with which the enterprise of establishment group included in the statistics is formed. As

source data for the National Accounts, the unification of business statistics did not have much effect on the figures of the National Accounts.

### 3.7.3 Building construction (412+432\_439)

Building construction includes the following TOL2008 industries:

- 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.

### 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, and statistics on finances of municipalities.

**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 and 2014, renovation building of public service buildings for 2013, and renovation building of office and commercial buildings for 2014. 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.

### *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 and renovation building.

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.

### *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 16. Output of building construction in 2012, EUR million at current prices

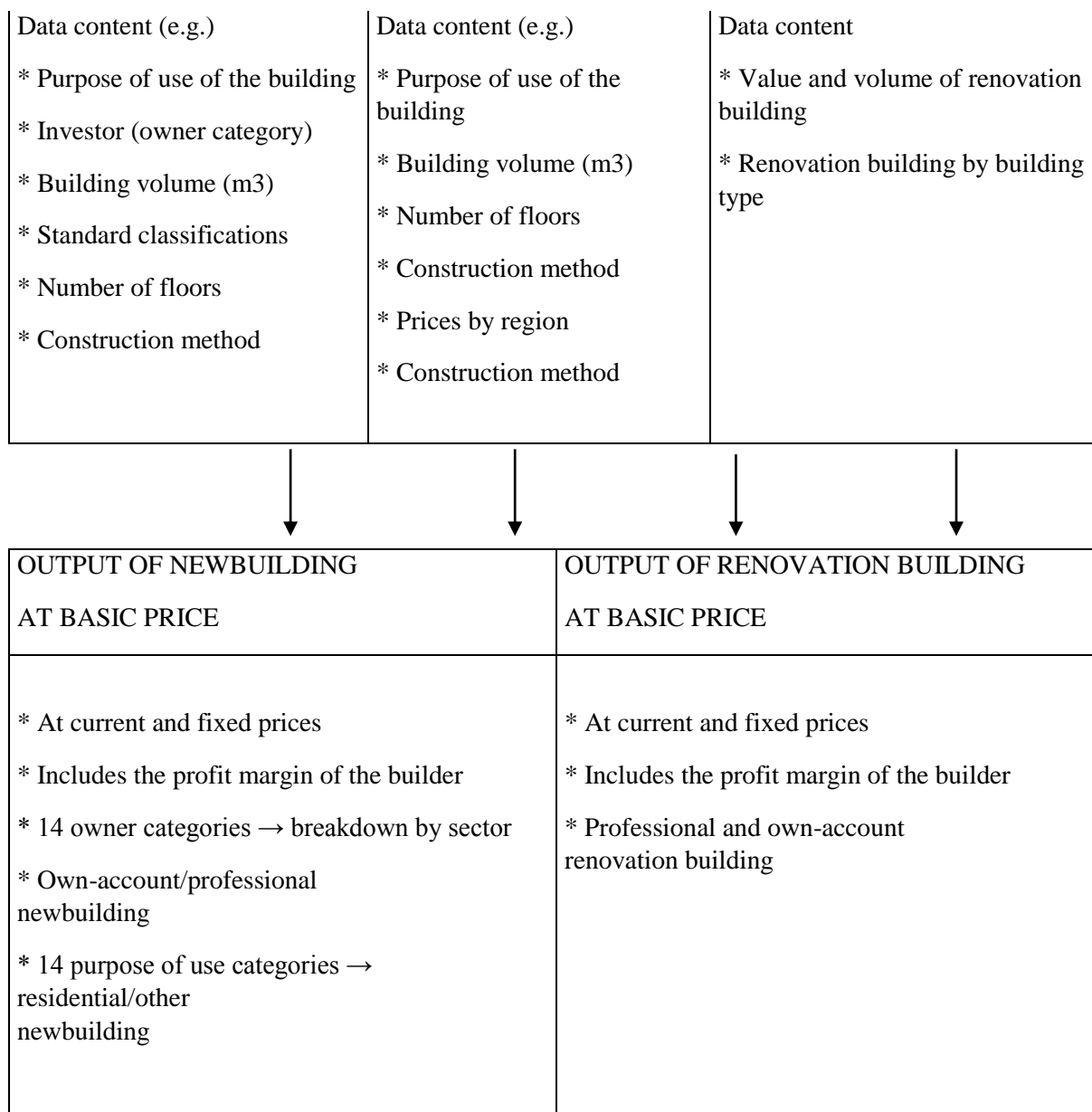
	Residential construction	Other building construction	All building construction
Newbuilding	6,366	5,918	12,284
Renovation building	6,469	3,478	9,946
Annual repairs	2,452	1,641	4,093
Renovations	4,016	1,837	5,853
Total	12,835	9,395	22,230

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 17. Determining the output of building construction

VOLUME OF NEWBUILDING	PRICE DATA	VOLUME OF RENOVATION BUILDING
Municipal building supervisors	Database for Construction Cost Estimation (Haahtela Kehitys Oy)	Statistics Finland
* Newbuilding	* Prices of newbuilding	* Renovation building surveys * Building permit applications * Turnover of renovation building * Working hours from the Labour Force Survey



**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 and 2015, 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 concerning commercial and office buildings in 2015.

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.

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

### *S11 Non-financial corporations*

Non-financial corporations' **market output (P11)** is determined as the difference between the total level of building construction services (newbuilding + renovation building) 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.

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.

### *S14-T10 Households*

Market producers of the households sector 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)** is calculated in a centralised manner.

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.

Entrepreneurs' **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 entrepreneurs' **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.

### S14-T20 Households

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.

Table 18. Output of building construction, intermediate consumption and value added by sector in 2012, EUR million at current prices

	P1	P11	P12	P2	B1GPH
S11	17,858	17,823	35	11,300	6,558
S14	4,251	3,141	1,110	2,373	1,878
S14-T10	1,815	1,815		767	1,048
S14-T20	2,436	1,326	1,110	1,606	830
S1313	103	103		48	55
Total	22,212	21,067	1,145	13,721	8,491

### ***S1313 Local government***

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.

### ***3.7.4 Housing***

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" and "S1313 Local government", 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".

## Sources

The sources for calculation are the dwelling stock, 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.

**Rent statistics** describe the rent level of the entire rental dwelling stock and the change in the rent level from the previous year. 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 are 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 survey is a sample survey, for which data were collected in 2012 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 and 2012.

### *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.

### *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.

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

1. Building type: detached house, terraced or linked house and block of flats (also includes building type "others").
2. Tenure status: owner-occupied dwelling, non-subsidised rented dwelling, government-subsidised rented dwelling (also includes other tenure statuses, which include, for example,

dwellings provided by employers and right of occupancy dwellings).

### 3. Number of rooms, by building type

- \* detached houses and terraced or linked houses
  - \* 3+
- \* 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.

The rents used for detached houses are "cold rents". Heating costs and water charges have been removed from "cold rents". The size of the removal is based on expert estimates.

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. No rent data are available for detached houses. Therefore, the market rents of large dwellings in blocks of flats are applied to detached houses. 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:

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

The results of the housing output is compared with the results of the Household Budget Survey. Based on the results of the 2012 Household Budget Survey, the result produced by dwelling stratification for 2007 to 2012 was revised downwards. For the statistical reference year 2012, the housing output was lowered by around EUR 400 million. The time series revision of housing output is also considered in the results of future years.

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.

### *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 19. Dwelling output by building type in 2012, EUR million at current prices

Tenure status	type of building	number*	million m2	P1_total	P1_dwellings	P1_rents**	P2	P22	FISIM	B1GPH
Total	total	3,094	233.5	23,504	23,287	217	7,058	6,152	906	16,446
Total	detached house	1,035	115.7	10,640	10,640	0		2,065		
Total	terraced house	357	25.8	2,931	2,931	0		968		
Total	block of flats	1,192	67.7	9,123	8,906	217		2,670		
Total	free-time residence	510	24.3	810	810	0		448		
rented	total	893	47.4	5,856	5,752	104	2,210	1,977	233	3,646

rented	detached house	36	2.9	259	259	0		50		
rented	terraced house	123	7.2	741	741	0		304		
rented	block of flats	703	35.9	4,668	4,564	104		1,533		
rented	free-time residence	31	1.4	189	189	0		90		
owner-occupied	total	2,201	186.1	17,648	17,535	113	4,848	4,175	673	12,800
owner-occupied	detached house	999	112.9	10,381	10,381	0		2,015		
owner-occupied	terraced house	234	18.6	2,190	2,190	0		665		
owner-occupied	block of flats	489	31.8	4,455	4,342	113		1,137		
owner-occupied	free-time residence	478	22.8	621	621	0		358		

\* Building types expressed in thousands

\*\* Other rental income of housing companies

### *Output: Output of free-time residences*

The output of free-time residences is calculated with the help of data from the Household Budget Survey. 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. A majority of the output of owner-occupied free-time residences derives as the sum of the items repair costs, water and waste water, fire insurance (share of service fee), waste charges, chimney sweeping, etc. energy, interest rates, plot rent from the Household Budget Survey. The other part of the output of owner-occupied free-time residences is estimated as a share of consumption of housing industries. The consumption 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 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.

In 2012, the output of owner-occupied free-time residences was EUR 621 million. Of this, EUR 358 million was based on the intermediate product costs of the Household Budget Survey and EUR 263 million on consumption of fixed capital.

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.

### *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 water supply and sewerage, 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 include 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.

### *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.

### *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.

### *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.

### *3.7.5 Domestic services (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.

The number of employees in industry 97\_98 derives from the Labour Force Survey and, to limited degree, from the household survey. In addition, accident insurance data contain information on data reported by insurance

companies on the insurance premiums and wages and salaries paid by industry 95.

The estimated wagebill has been calculated by multiplying the hours worked from the Labour Force Survey with the average wages and salaries. The average estimated pay was EUR 11.80 in 2011. The hourly wages have been taken from accident insurance data cleared of certain occupations.

The occupations of industry 95 in the Labour Force Survey are mainly connected with child care. In the Labour Force Survey, the occupations that were cleared from the accident insurance data (renovators, etc.) have been correctly coded in the industries in question. Using the Labour Force Survey is also uniform with sources used by other industries and sectors.

In order to estimate the services of employees of private households we used the survey report on the use of the tax deduction right of household work (Niilola K., Valtakari M ja Kuosa I. (2005) .Kysyntälähtöinen työllistäminen ja kotitalousvähennys. Ministry of Labor, Helsinki.). The household work deduction is a tax deduction that requires a payment made to the private sector on services like cleaning, home repair or caring for old people or children in the home. The service provider must be a private enterprise or a household. The tax deduction system was introduced in 2000 and it has again been expanded.

The number of persons or households that have recorded household work deductions derive annually from the tax register or statistics on income. Based on their study, Niilola et. al. estimated that 20 per cent of those who utilised the deduction had acquired serviced from another household and 80 per cent from private enterprises. The employees of the enterprise should be included in the employed of the corresponding industry (that is, construction activities, cleaning services, etc.). Of those, who used services of other households, 70 per cent have bought building repair services. Even though these services are offered by private households and not enterprises they are included in the figures of construction activities. When assuming that six per cent ( $0.20 \times 0.30$ ) of households have made the deduction after hiring a worker for cleaning, gardening, nursing, or childcare, we get the figure 7,243 households.

Simply by multiplying the number of households (7,200 households) that used the household work deduction with the average hourly wages and hours worked used in other calculations, the estimate is nearly EUR 100 million.

### *Grey employment*

The estimate of unregistered household work is based on the study by Niilola et. al. on the use of the household work deduction. The study proved that hidden employment declined clearly after the household work deduction was implemented.

By summing up grey employment with legal employment in statistics the entire number of employees, hours worked and the amount of wages and

salaries are achieved. The amount of paid employers' social contributions is calculated as percentages of wages and salaries (excl. hidden wages) and summed together with wages and salaries. Compensation of employees is the same as the output and value added because the intermediate products are part of the private consumption expenditure of households using domestic services.

The examination has not been made at such a detailed level every year but the level of the previous year has been taken forward with change percentages based on estimate by the National Accounts experts.

The calculation method of the industry has been renewed starting from 2013. The calculation is now based on the Tax Administration's annual tax return data.

## 3.8 *Financial and insurance corporations (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 data collection also contains separate forms that ask for breakdowns needed by the National Accounts. 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, S125 and S126.



- 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:

$$P1/R = P2/U + K1/U + D1/U$$

Output for own final use (P12/R) is based on expert estimates and mainly consist of software investments.

The following financial statement items are included in intermediate consumption (P2/U): 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 (K1) 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 market output (P11/R) is moved to the intermediate consumption (P22/U) 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 data collection that covers all monetary financial institutions (MFI).

#### Output

The output of monetary financial institutions consists of the following items: Commission income (financial services offered against immediate payment), FISIM, financial services related to acquisition and conveyance of financial assets and liabilities on the financial markets, and dividend and rent income from investment properties.

- a) Financial services offered against immediate payment (ESA 2010 3.69) derive from the item commission income in the financial statements.
- b) FISIM derives from the centralised calculation (3.8.1.7)
- c) 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

- d) Dividend and rent income from investment properties. The item comes directly from the VIRATI data collection.

Output for own use (P12/R) derives from the centralised R&D calculation. (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 20. S122 Distribution of output in 2012, EUR million

Output P1R	5,019
Of which commission income (a)	2,054
Of which FISIM (b)	2,614
Of which indirect income (c)	205
Of which dividend and rent income from investment properties (d)	55
Of which output for own final use	91

### 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 2012 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 (P119/R) 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 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 data of the calculations are not expanded to the whole population due to the problems related to the data of structural statistics mentioned in the list of sources.

The third, but clearly smaller group, is insurance brokers, whose data are taken from the Financial Supervision Authority's insurance brokers statistics.

Table 21. S126 Distribution of output in 2012, EUR million

Output	1,618
Market output	1,595
Biggest enterprises from the structural statistics	712
Investment service companies	306
Mutual funds	545
Insurance brokers	32

Output for own final use	23
--------------------------	----

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. (5.10.3.8).

### 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 2012, the value added of the sector was EUR 37 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. 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. 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 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 central bank does not produce financial services indirectly measured so its output is calculated through expenses.

Table 22. Main items of the production account of financial intermediation in 2012.

Output total	5,019
- Market output	2,314
- Output for own final use	91
- Financial services indirectly measured	2,614

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.

Example 1: Supply and use of FISIM in 2012 at current prices, EUR million

SUPPLY OF FISIM:

Domestic output	
S12 Financial corporations	2,614
Imports	
S2 Rest of the world	222
Supply total	2,836

USE OF FISIM:

Intermediate consumption	
S11 Non-financial corporations	925
S12 Financial corporations	39
S13 General government	199
S14 Households	916
S15 Non-profit institutions serving households	39
Final consumption	
S14 Households (private consumption)	637
Exports	
S2 Rest of the world	81
Use total	2,836

GDP effect: Final consumption + exports - imports  
(0.25% of GDP) +496

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 (S.122), 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 23. Effect of 2012 FISIM allocation on GDP and GNI

Effect on GDP	496
+ Compensation of employees received from abroad	0
- Compensation of employees paid to abroad	0
+ Property income from abroad	111
- Property expenses to abroad	30
GNI effect	637

### *FISIM sources by sector*

#### **Sector S122**

System for credit institutions' reporting to the authorities VIRATI

- Profit and loss account - interest flows
- Balance sheet data - loan and deposit stocks
- FT10 Loans and other receivables total
- FT12 Deposits and other liabilities total

The internal and external reference interest rates are calculated based on the profit and loss account and balance sheet calculations. The FT10 table contains the counterpart sector distribution of credit institutions' loans and, correspondingly, F12 the counterpart sector distribution of deposits.

#### Central bank's MFI interest rate data collection

- Distribution of loans and deposits based on the interest rate by counterpart sector,
- Households' loan stock divided by: entrepreneur households (ic), households with housing loans (ic) and consumer households (fc).

#### Balance of payment statistics

- Interest rate data and deposit and loan stocks (FISIM imports) FISIM exports derive from the VIRATI data collection.

#### The business statistics system's statistics on financial statements

- Loan and deposit stocks of non-financial corporations S111 and entrepreneur households S14 by industry

### *3.8.2 Insurance corporations and voluntary pension funds (S128–S129)*

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, some smaller insurance units (the Finnish Motor Insurers' Centre, Potilasvakuutusyhdistys and the Finnish Mutual Insurance Company for Pharmaceutical Injury Indemnities), and the Deposit Guarantee Fund since 1999. The voluntary pension funds sector (S.129) covers only the A departments and payment based 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 (Fiva'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 from the Federation of Finnish Financial Services and from the Deposit Guarantee Fund.

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 24) 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 24. The production account items of insurance corporations (S.128) and voluntary pension funds (S.129) in 2012. The value added is formed by the production account items.

S.128+S129	Industries 65+68209	EUR million
P.11	Market output	2,598
P.12	Output for own final use	97
P.119	Financial intermediation services indirectly measured (FISIM)	12
P.22	Other intermediate consumption	1,236
B.1GPH	Value added, gross at basic prices	1,447
P.51C	Consumption of fixed capital	174
B.1NPH	Value added, net at basic prices	1,273
D.1	Compensation of employees	598

#### 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).
- 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, 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. Thus, reinsurance is included in the same size both in output and in intermediate consumption and does not affect value added.

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 Financial Supervision Authority' source 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.

#### **3.8.2.2.4 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 (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.

### **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.

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 maintained by general government belong to general government. Polytechnics maintained 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.

### 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 2012:

- Government offices and agencies
- Funds outside the government budget (excl. the State Pension Fund)
- 16 universities
- 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

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 2012, there were two state-owned enterprises, Senate Properties and Metsähallitus. Senate Properties is classified in the central government sector and Metsähallitus as a market producer in the non-financial corporations sector.

In 2012, the production of central government was divided into 13 accounting categories. All industries in central government are other non-market producers. Central government has no market producer industries.

Table 25. Central government data by industry in 2012, EUR million

	P1R	P2K	B1G

<b>Industries, total</b>	<b>16,206</b>	<b>5,671</b>	<b>10,535</b>
I Accommodation and food services activities	58	40	18
56 Food and beverage service activities	58	40	18
L Real estate activities	425	261	164
681+68209 Buying and selling of own real estate, letting of other real estate	425	261	164
M Professional, scientific and technical activities	1,792	482	1,310
71 Technical services	298	111	187
72 Scientific research and development	1,494	371	1,123
N Administrative and support service activities	368	198	170
78 Employment activities	184	56	128
81 Services to buildings and landscape activities	184	142	42
O Public administration and social security	9,690	3,772	5,918
841_842 Public administration	7,035	2,894	4,141
844 Defence equipment and conscripts	721	152	569
845 Maintenance of rail network	599	286	313
846 Maintenance of road network	1,335	440	895
P Education	3,703	853	2,850
85 Education	3,703	853	2,850
Q Human health and social work activities	86	20	66
86 Human health activities	64	13	51
87_88 Social services	22	7	15
R Arts, entertainment and recreation	84	45	39
90_91 Cultural activities	84	45	39

### 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. Other main data sources are:

Universities' financial statement material (from the Ministry of Education and Culture)

Business structural statistics

Data collection from Solidium Oy

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.

#### *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 or various charges for consumption. 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.

#### *Intermediate consumption*

The main items calculated as intermediate consumption are materials, supplies and goods, rents, purchases of various services, various payments, and paid value added tax added to these. The amount of software investments purchased separately by each industry is subtracted from intermediate consumption as it is included in investments.

#### *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 insurance payments" that is divided into accident and group life insurance payments. In addition, payments from the account "change in the social security cost liability of holiday pay" are divided relative to other social security payments to various social security payment types.

Consumption of fixed capital for central government derives from the perpetual inventory method.

### ***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: healthcare, food 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 and Leijona Catering come from their own data collections. The source for the wages and salaries of other central government units is the business structural statistics.

### ***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.

### ***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.

### 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 (including the Pension Fund of the Regional Government of Åland), 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 26. Local government data by industry

	P1REC	P2PAY	B1G	P51C	D1PAY	D29PAY	E1
Sector S1313 total	39,852	15,593	24,259	2,855	21,383	4	4,804
A Agriculture, Forestry and Fishery	87	29	58	6	9		4
021 Silviculture and other forestry activities	74	29	45	6	9		4
025 Net growth of forests	13		13				
382 Waste treatment and disposal activities	50	47	3	6	5	3	2
F Construction	1,221	1,030	191	9	182		45
411 Building development	110	95	15	1	14		3
412+432_439 Building construction, etc. excl. building development.	103	48	55		55		10

42+431 Civil engineering, etc.	1,008	887	121	8	113		32
H Transport	20	11	9		9		1
50 Water transport	20	11	9		9		1
I Accommodation and food services activities	77	38	39	1	38		11
56 Food and beverage service activities	77	38	39	1	38		11
J Information and communication	118	79	39	4	35		7
62_63 Computer programming, consultancy and related activities	118	79	39	4	35		7
L Real estate activities	37	26	11	9	2		1
681+68209 Buying and selling of own real estate, letting of other real estate	37	26	11	9	2		1
M Professional, scientific and technical activities	72	31	41		41		9
69 Legal and accounting activities	34	13	21		21		5
75 Veterinary activities	38	18	20		20		4
N Administrative and support service activities	790	359	431	13	433		131
78 Employment activities	83	6	77		77		36
81 Services to buildings and landscape activities	50	11	39		39		14
82 Office administrative, office support and other business support activities	657	342	315	13	317		81
O Public administration and social security	8,433	4,109	4,324	1,108	3,215	1	690
841_842 Public administration	7,912	4,108	3,804	588	3,215	1	690
845 Maintenance of rail network	5		5	5			
846 Maintenance of road network	516	1	515	515			
P Education	8,052	2,093	5,959	774	5,185		1,059
85 Education	8,052	2,093	5,959	774	5,185		1,059
Q Human health and social work activities	19,456	7,176	12,280	676	11,604		2,676
86 Human health activities	12,465	5,342	7,123	462	6,661		1,435
87_88 Social services	6,991	1,834	5,157	214	4,943		1,241
R Arts, entertainment and recreation	1,367	529	838	246	592		156
90_91 Cultural activities	629	213	416	61	355		95
93 Sports activities and amusement and recreation activities	738	316	422	185	237		61
S Other service activities	72	36	36	3	33		12
9601 Washing and (dry-)cleaning of textile and fur products	72	36	36	3	33		12

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 14 per cent.

Table 27. The share of local government in the value added of the entire economy by industry

	Share of the industry's value added
Industries, total	14.1%
A Agriculture, Forestry and Fishery	1.2%
021 Silviculture and other forestry activities	2.6%
025 Net growth of forests	2.4%
382 Waste treatment and disposal activities	0.8%
F Construction	1.7%
411 Building development	14.7%
412+432_439 Building construction, etc. excl. building development.	0.6%
42+431 Civil engineering, etc.	4.4%
H Transport	0.1%
50 Water transport	1.4%
I Accommodation and food services activities	1.3%
56 Food and beverage service activities	1.7%
J Information and communication	0.4%
62_63 Computer programming, consultancy and related activities	0.9%
L Real estate activities	0.1 %
681+68209 Buying and selling of own real estate, letting of other real estate	0.4%
M Professional, scientific and technical activities	0.5%
69 Legal and accounting activities	1.4%
75 Veterinary activities	17.2%
N Administrative and support service activities	7.5%
78 Employment activities	4.7%
81 Services to buildings and landscape activities	2.0%
82 Office administrative, office support and other business support activities	37.0%
O Public administration and social security	39.6%

841_842 Public administration	47.9%
845 Maintenance of rail network	1.6%
846 Maintenance of road network	36.2%
P Education	59.0%
85 Education	59.0%
Q Human health and social work activities	71.8%
86 Human health activities	74.2%
87_88 Social services	68.7%
R Arts, entertainment and recreation	37.1%
90_91 Cultural activities	43.3%
93 Sports activities and amusement and recreation activities	39.4%
S Other service activities	1.2%
9601 Washing and (dry-)cleaning of textile and fur products	19.8%

### 3.9.2.2 Source data

The source data for the local government sector are the following:

1. Data at current prices:
  - a. Statistics on the finances of municipalities and joint municipal authorities
  - b. Accounts and financial statements of the Regional Government of Åland (calculation by ÅSUB)
  - c. Financial statements of the Pension Fund of the Regional Government of Åland
  - d. Financial statements of the Association of Finnish Local and Regional Authorities
  - e. Financial statements of the Municipal Guarantee Board
  - f. Financial statements of enterprises classified as belonging to the local government sector from the enterprise database and financial statements
  - g. Statistics on financial leasing
  - h. R&D statistics
2. Employment data:
  - a. Statistics on salaries in the municipal sector
  - b. Labour Force Survey

The main data in the calculation are the statistics on the finances of municipalities and joint municipal authorities (1a) 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 (1f).

### 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 recorded 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, 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, 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 table 01 of the statistics on finances (see part II of the questionnaire). 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 statistics on local government finances (questionnaire, part II, table 01, row "0370 pension contributions" and "0380 other social security payments"). 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 finances of municipalities/joint municipal authorities (part II, table 01) 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 (Table 11). 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 table 01, item 2965 "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 economic statistics on finances of municipalities and joint municipal authorities (table 01, function 660). 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 finances of municipalities and joint municipal authorities (table 11) 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 finances of municipalities and joint municipal authorities. 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 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 economic statistics on municipalities and joint municipal authorities, 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 Table 01 and Table 11 of the statistics on 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) consist of employment pension schemes (S1.3141) and other social security funds (S.13149). The employment pension schemes sector (S.13141) includes units specialised in statutory employment pension insurance, i.e. 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 Church 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, statutory employment pension accrues from all work performed by persons aged 18 to 67 as an employee or entrepreneur according to pension acts. Part of the accrued pensions are funded. The remaining share is financed with the pay-as-you-go principle. Even though there are several pension acts, the determination of pension benefits are mainly uniform: Employees Pensions Act (TyEL), supplementary pension provision under the Employees' Pensions Act (TEL-L), Self-Employed Persons' Pensions Act (YEL), Seafarer's Pensions Act (MEL), Farmers' Pensions Act (MYEL), Act on Farmers' Early Retirement Aid (LUTUL) and the Change of Generations Pension Act (SpVL), Local Government Pensions Act (KuEL), State Employees' Pension Act (VaEL), Evangelical-Lutheran Church Pensions Act (KiEL), and the Act on Compensation for Pension Accrual from State Funds for Periods of Childcare and Periods of Study (VEKL). In addition, employees and officials of the Bank of Finland, the Finnish Orthodox Church, the Social Insurance Institution, and the regional government of Åland, as well as the President of Finland and the Members of Parliament have their own pension rules or legislations.

##### 3.9.3.1.1 Data sources

In the first release of the annual preliminary National Accounts in March, the data from the preliminary annual inquiry of employment pension schemes are used. The 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, the Finnish Centre for Pensions, and the Finnish Pension Alliance TELA are excluded from the inquiry. The data for the Social Insurance Institution's pension liability fund come from the monthly data of the Social Insurance Institution.

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 collected by the Financial Supervisory Authority. For example, the data concerning 2012 were available for the 2013 July 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, the Finnish Centre for Pensions and the Finnish Pension Alliance TELA. For of these units, the financial statements are used as 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 28. The production account items of employment pension schemes (S.13141) in 2012

S.13141	Industries 843+68209	EUR million
P.11	Market output	913
P.12	Output for own final use	15
P.132	Other non-market output	772
P.119	Financial intermediation services indirectly measured (FISIM)	37
P.22	Other intermediate consumption	962
B.1GPH	Value added, gross at basic prices	701
P.51C	Consumption of fixed capital	106
B.1NPH	Value added, net at basic prices	595
D.1	Compensation of employees	229

### 3.9.3.1.2 Production (P.1) and intermediate consumption (P.2)

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).

The output in the industry of buying and selling of own real estate, letting of other real estate 68209 is recorded as market output (P.11). It includes other income than dividend and interest income from real estate investment activities of the employment pension schemes sector (S.13141).

The output of employment pension schemes in the 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, the non-market output 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 the industry 834 (compulsory social security). Output for own final use (P.12) consist of R&D investments, which are calculated as a separate calculation entity for the entire national economy. The description of R&D calculations can be found in [Section 5.10.3.8. In addition to R&D investments](#), the 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.

The item financial intermediation services indirectly measured (FISIM) is 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 the industry 834 (compulsory social security) is calculated based on 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 the industry 68209 (buying and selling of own real estate, letting of other real estate).

#### **3.9.3.1.3 Compensation of employees (D.1)**

The 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 based on wages and salaries and social contribution percentages. A description of the centralised calculation can be found in Section 4.7.2 Employer's social insurance contributions.

#### **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 derive from TELA's and the Financial Supervision Authority's [investment data](#). Other investments (computer equipment, software, etc.) derive from the annual preliminary inquiry of the employment pension schemes.

### **3.9.3.1.5 Employment pension insurance contributions**

The financial statement data collected by the Financial Supervisory Authority are the main data source used in the calculation of employment pension schemes and employment pension insurance contributions. The Financial Supervision Authority's data cover a majority of employment pension schemes. The data 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, the Finnish Centre for Pensions and the Finnish Pension Alliance TELA. For these units the financial statements are used as data source.

### **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:

- The Social Insurance Institution of Finland (Kela)
- Unemployment funds
- The Unemployment Insurance Fund
- The Education Fund
- Sickness funds and sickness funds that only grant additional benefits (so-called supplementary funds) that grant compensations in accordance with Sickness Insurance Act
- Funeral and redundancy relief 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 these funds 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.

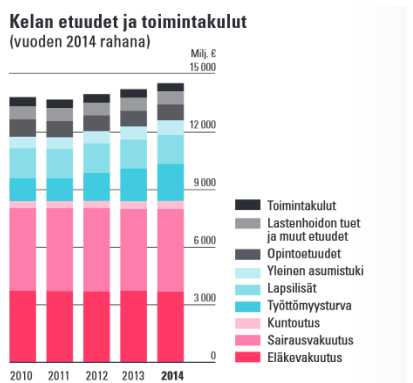
There is usually no direct connection between the payments made by an individual person and the risk he or she is subjected to.

The Social Insurance Institution of Finland (Kela) looks after basic security for all persons resident in Finland through the different stages of their lives.

Table 29. Some activity data of the Social Insurance Institution of Finland

	2012	2013	2014
Total expenses, EUR billion	13.5	14.0	14.5
Operating expenses/total expenses, %	3.2	3.2	3.0
Benefit expenses / resident, EUR/year	2,416	2,486	2,561
Personnel	6,135	6,108	6,008



**Kelan etuudet ja toimintakulut**  
(vuoden 2014 rahana)

Milj. €  
15 000

12 000  
9 000  
6 000  
3 000  
0

- Toimintakulut
- Lastenhoidon tuet ja muut etuudet
- Opintoetuudet
- Yleinen asumistuki
- Lapsilisät
- Työttömyysturva
- Kuntoutus
- Sairausvakuutus
- Eläkevakuutus

2010 2011 2012 2013 2014

Source: operating report of the Social Insurance Institution of Finland 2014

**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 or training allowance to their members who become unemployed. In addition, unemployment funds can pay other support. Unemployment funds are entitled to state grants. The state grant is directed at the earnings-related unemployment allowance and other unemployment benefits paid by the fund and at administrative expenses. The central fund of unemployment funds that operated under the Ministry of Social Affairs and Health until 1998, when the Unemployment Insurance Fund was founded, supported the unemployment funds. At the end of 2012, there were 32 unemployment funds in Finland.

**The Unemployment Insurance Fund** is an independent institution financed by employers and employees and supervised by the Ministry of Social Affairs and Health and the Financial Supervision Authority, whose task it is to finance unemployment security benefits. The finances of the fund are collected as statutory unemployment insurance contributions both from employers and employees. The Unemployment Insurance Fund is responsible for financing earnings-related unemployment security to the extent that central government or individual unemployment funds are not responsible for it. The fund is also responsible for certain other expenses.

Until 2002, the **Education Fund (previously Education and redundancy fund)** paid a redundancy relief to an employee when employment ended and supported independent vocational adult education. From 2002 onwards, the fund has only supported the latter, which is indicated by the name change as well. The fund's activities are financed with payments collected from employers as a share of wages and salaries paid included in the unemployment insurance contribution. The employer contribution is confirmed by the Ministry of Social Affairs and Health. The Unemployment Insurance Fund is in part responsible for covering the costs of the fund.

**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 2012, there were 137 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** relief funds are insurance funds whose members are persons employed by a particular employer or belonging to a particular occupational group. In 2012, there were two such funds.

Table 30. Benefits paid by the Social Insurance Institution of Finland, EUR million (Source: operating report of the Social Insurance Institution of Finland 2013 and 2014)

	2012	2013	2014
Other benefits	56	58	61
General housing allowance	606	670	742
Housing allowance for pensioners	442	468	498
Student benefits	812	807	829
Benefits for families with children	2,071	2,091	2,100
Unemployment benefits	1,421	1,683	1,934
Rehabilitation	357	380	410
Sickness insurance benefits	4,198	4,187	4,269
Benefits for handicapped people	555	593	613
Pension benefits	2,596	2,615	2,559
Total benefit expenses	13,113	13,552	14,016



The financial statements data of social security funds and specifying separate inquiries are used as source data. The Social Insurance Institution of Finland's share in the output of the other compulsory social security industry was around 79 per cent in 2012, the share of unemployment funds and the Unemployment Insurance Fund was around 16 per cent, and that of the remaining funds was some five per cent.

The Social Insurance Institution of Finland: monthly accounting data, financial statements, operating report and separate inquiries, R&D statistics and the statistical yearbook of the Social Insurance Institution of Finland.

Unemployment funds: financial statements and other summaries of the bookkeeping of unemployment funds.

The Unemployment Insurance Fund: financial statements, operating report and separate inquiries.

The Education Fund: financial statements and operating report.

Funeral and redundancy relief funds: financial statements.

Sickness funds: financial statements.

### **3.9.3.2.3 Calculation process**

#### **3.9.3.2.3.1 Output**

The output of the sector other social security funds 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 sector's R&D investments that derive from the joint R&D calculations are added to the item output for own final use. When dividing the output into sub-items, estimation is used because no exact source data are available. 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 5.9.3.1 of the methodological description. Compensation of employees is described in more detail in Section 4.7.1.

#### **3.9.3.2.3.2 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.

#### **3.9.3.2.3.3 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 perpetual inventory method, so depreciations of the profit and loss accounts are not used in the calculation. The perpetual inventory method of the National Accounts is described in Section 4.12.

**Wages and salaries** (D11K) are accordant with unit-specific profit and loss accounts. Change in the annual holiday pay liabilities and meals benefits are included in wages and salaries.

Data on **employers' social contributions** (D12K) 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 2012, EUR 51 million of the sector's employers' social contributions came from the source data of the Social Insurance Institution of Finland and EUR nine 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 Social Insurance Institution payments, statutory accident insurance payments and unemployment insurance contributions.

#### 3.9.3.2.3.4 Compensation of employees (D.1)

##### *Wages and salaries*

Wages and salaries and salaries of 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 wagebill.

##### *Employers' social contributions*

Data on employers' social contributions (D12K) of 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 2012, EUR 51 million of the employers' social contributions came from the source data of the Social Insurance Institution of Finland and EUR nine 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 Social Insurance Institution payments, statutory accident insurance payments and unemployment insurance contributions.

#### 3.9.3.2.3.5 Gross fixed capital formation

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 2012, investments totalled EUR 15 million. R&D investments are calculated centrally and this calculation process is described in more detail in Section 5.10.3.8.

### *3.10 Non-profit institutions serving households (S15)*

This Section presents the methodological description of the calculation of the output and intermediate consumption 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 classes 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 main source data of the sector are the business taxation data of associations and foundations 6C that is administrative data. 6C data have around 20,000 legal units that are mostly classified into sector S15. Classification data for the units of 6C data are retrieved from the copy of the Business Register of the National Accounts. Because all units of 6C data are not found in the Business Register, the classification data for some units (around 10,000 units) are formed based on the Tax Administration's customer data.

If the unit is not in the Business Register, the classification data (sector, industry, producer type) are formed as follows: The Tax Administration sends the 6C tax form to legal forms belonging to the target group. Based on the Tax Administration's legal form, sectors are formed for the units in 6C data. The industry category is included in the Tax Administration's customer data. Of the sector-industry-producer type combinations in use in the National Accounts, the producer type is found based on the sector-industry combination of each unit.

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 class R, the producer type of which is market producer.

Variables income from primary activities and rent income of 6C data are calculated as the market output of non-profit institutions. The original value found in 6C data is divided by two when the value of these variables are derived into the value of transaction P11. This multiplication is not done if the producer type of the S15 unit is market producer. The method is justified by the fact that associations report a lot of income under income from ordinary activities that in the National Accounts are not calculated as market output but as income transfers, such as government subsidies and grants. The method also tries to prevent the other non-market output P132 of non-profit institutions being negative.

Sales on non-market products are derived from three variables in 6C data: Fund raising income in accordance with Section 23 Paragraph 3 of the Income Tax Act (income from tax-free fund raising), income from sales of goods and services and secondary sales income.

Associations' other expenses from ordinary activities, costs arising from fund raising (costs arising from tax-free fund raising, costs arising from the sales of goods and services, costs arising from collecting membership fees, and costs from other fund raising) and rent expenses are calculated as intermediate consumption.

Output P1 is calculated as the sum of other intermediate consumption, FISIM, compensation of employees and consumption of fixed capital. Other non-market output is calculated as the residual value of output P1, when market output, sales of non-market products and output for own final use 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. Gross value added is calculated as the sum of compensation of employees and consumption of fixed capital. Net value added is equal to compensation of employees.

The second source data for the calculation of the output and intermediate consumption of sector S15 is the Business Register. Data on legal units by establishment are available from the copy of 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 are around 10,000 such establishments in S15 calculations.

Evangelical Lutheran and Orthodox congregations are not, however, taken from the copy of the Business Register and they are not in 6C data because of their legal form. Their output and intermediate consumption are calculated from the joint financial statement data of congregations. This calculation is presented later in this Section.

Classification data and the wagebill of the establishment exist for S15 establishments taken from the copy of 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 wagebill of the units in the industry and intermediate consumption. The wagebill is formed from the wagebill 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 copy of the Business Register. Sales of non-market products are also formed for the establishments. Their value is calculated based on the P131 wagebill ratio calculated for establishments from 6C data. If the establishments' producer type is market producer, the calculation based on statistical methods is not carried out, the industry account is calculated in a separate process. This only applies to industry NACE 92.

The third source data for the calculation of the output and intermediate consumption of sector S15 is periodic tax return data. The legal units classified to sector S15 that are neither in the 6C data nor in the Business Register (around 300) are taken from this source. Classification data are formed for these units in a similar manner as for 6C data units whose data were formed from the Tax Administration's customer data. For units deriving from the periodic tax return data, the value of intermediate consumption is formed based on the industry-specific wage and salary and intermediate consumption ratios of 6C data.

In the process table, the market output, sales of non-market products, other intermediate consumption and other non-market output from 6C data, the Business Register and the periodic tax return data are recoded in the column Administrative records for industries M to S.

For the maintenance of road network industry (NACE 846) under 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 communities (NACE 9491), other than Evangelical Lutheran and Orthodox congregations are calculated from 6C data and the Business Register. The financial statements data of Evangelical Lutheran congregations are delivered in full from the church administration to Statistics Finland, so the data are aggregated. For Evangelical Lutheran congregations, 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. The deviating pension payment percentage of state churches is considered when calculating their social security contributions. The output and intermediate consumption of state churches is presented in the column Other of industry S in the process table.

Output for output for own final use (P12) generated in research and development activities is recorded in the column Other as follows: Professional, scientific and technical activities (industry M) EUR 27 million, education (industry P) EUR two million, human health and social work activities (industry Q) EUR 12 million, and other service activities (industry S) EUR five million. The centralised calculation of research and development activities is explained in more detail in Section 5.10.3.8.

Expense allowances, like kilometre allowances, paid by associations, are included in intermediate consumption if the association has reported them under expense variables in form 6C, which are calculated as intermediate consumption. The share of indirect costs in the 6C personnel expenses variable is estimated as 20 per cent, so the derived wage and salary variable is achieved by multiplying personnel expenses with 0.8. Based on analyses, it is known that personnel expenses do not include considerable amounts of kilometre allowances.

The inventory accounts of sector S15 includes 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.

Table 31. The output, market output, sales of non-market products, other non-market output, other intermediate consumption and gross value added of sector S15 industries (excl. A and L), EUR million.

	P1 / R Output at basic prices	P11 / R Market output	P131 / R Sales of non-market products	P132 / R Other non- market output	P22 / K Other intermediate consumption	B1GPH / T Value added, gross at basic prices

M Professional, scientific and technical activities	151	16	14	94	45	106
O Public administration and social security	123		69	54	112	11
P Education	1,381	307	45	1,027	504	871
Q Human health and social work activities	2,153	858	132	1,151	778	1,365
R Arts, entertainment and recreation	1,068	235	183	650	638	424
S Other service activities	3,226	416	411	2,394	1,613	1,598

## 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.

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.

Central government's income from charged activities consists of actions defined as chargeable in the Act on Criteria for Charges Payable to the State (21.2.1992/150). According to the Act on Criteria for Charges Payable to the State, products and services produced by state authorities that have been completed on order or other assignment are chargeable. Decisions made upon application, temporary handover of access rights and other rights, and other activities that are produced as a result of the recipient's actions are also deemed chargeable.

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. The Act on Criteria for Charges Payable to the State applies to official acts performed by state authorities, goods, services and other activities produced by the state, and outputs subject to public law, whose demand is based on law or regulations and whose production is the sole right of the authority.

The goods and services referred to are not specified in more detail in the Act on Criteria for Charges Payable to the State.

For example, driving licence decisions made by and passports granted by the police authority 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.

Table 32. Central government's largest sales items in 2012, EUR million

Item	Industry	P11	P131
Sales income of universities	85_72	263	
ICT Agency HALTIK's income from other agencies	841_842	84	
Fairway due	841_842	81	
Execution fees	841_842		47
Payments received by the National Land Survey			31
Total		1,774	112

Table 33. Largest individual income items of the local government sector, EUR million in 2012

Task	Item	Industry	P11	P131
260 Specialized medical treatment	Turnover of municipal enterprises	86	1,129	
545 Internal services	Internal sales income	841_842	745	
545 Internal services	Turnover of municipal enterprises	841_842	562	
240 Care services for the elderly and disabled	Payments	87_88		303
204 Childcare in day care centres	Payments	87_88		266
290 Specialized medical treatment	Payments	86		239
Biggest			2,436	808



Total			7,978	2,006
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In addition to the actual duties, **import duties** also include import payments on agricultural products. Data on these derive from Finnish Customs. Import duties have been settled to the EU since 1995.

**Other taxes on products** that exist in most recent years (2010-2014) are sugar levy, excise duty on alcoholic beverages, excise duty on liquid fuels, excise duty on motor cars, excise duties on sweets, ice cream and soft drinks, excise duty on tobacco, excise 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, central governments share of Oy Veikkaus Ab's and money-lotteries' profit, revenue from RAY (The Finnish Slot Machine Association) and other tax revenues.

All of these have their own subsections in the financial statements of the state apart from the vehicle registration fee, the data on which come from Trafi. All 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), state's share in the profits of Veikkaus and from other money lotteries (12.29.88), and repaid taxes due to exemption from tax (28.10.63), 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. The timing adjustment that moves the tax revenue of January to the previous year is carried out for tobacco tax, alcohol tax, energy tax, asset transfer tax and lottery tax. 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.

Table 34. Income from various taxes on products, EUR million

Sector	ESA code	Name	2010	2011	2012	2013	2014
S.1311	D211	Value added / turnover tax	15,533	17,315	17,987	18,888	18,948
S.212	D2121	Import taxes settled to the EU	151	189	184	166	170

S.1311	D2121	Other tax revenues	0	0	0	1	0
S.212	D214A	Sugar levy	1	1	1	1	1
S.1311	D214A	Excise duty on alcoholic beverages	1,279	1,291	1,374	1,355	1,381
S.1311	D214A	Excise duty on liquid fuels	3,167	3,875	3,956	3,925	3,846
S.1311	D214A	Excise duty on motor cars	941	1,068	1,006	931	916
S.1311	D214A	Excise duties on sweets, ice cream and soft drinks	37	134	197	204	257
S.1311	D214A	Excise duty on tobacco	655	718	749	852	788
S.1311	D214A	Excise duty on certain beverage packages	13	15	15	15	14
S.1311	D214A	Oil damage levy	20	24	24	27	25
S.1311	D214A	Oil waste levy	4	4	4	4	3
S.1311	D214A	Penalties for late payment of taxes	3	3	2	2	2
S.1311	D214A	Pharmacy levy	121	143	144	152	157
S.1313	D214A	Pharmacy levy	1	1	1	1	1
S.1311	D214A	Repayments	-1	0	0	0	0
S.1311	D214A	Stock-building levies on liquid fuels	48	46	44	45	43
S.1311	D214C	Transfer tax	531	544	582	590	708
S.1311	D214D	Registration fee of vehicles	40	41	40	37	36
S.1311	D214F	Tax on lottery prizes	144	172	210	217	218
S.1311	D214G	Tax on fire insurance	9	9	10	10	11
S.1311	D214G	Tax on insurance premiums	584	626	660	712	750
S.1311	D214H	Rail tax	18	18	16	19	18
S.1311	D214J	Central governments share of Oy Veikkaus Ab's and money-lotteries' profit	493	516	520	535	541
S.1311	D214J	Revenue from RAY (The Finnish Slot Machine Association)	381	367	381	413	422
S.1311	D214L	Other taxes	3	2	4	2	3

### 3.11.2 Value added tax

Accumulated value added tax is reached by adding up the accrued value added tax (11.04.01) from the state's financial statements and the value added tax of the rebate system paid by municipalities, which the state returns

to the municipalities and that is not included in the above-mentioned VAT subsection of the state's financial statements.

The data source for value added tax paid by municipalities is the amount of VAT returns paid by the state that comes from the Tax Administration. Prior to 2002, the state recovered the VAT return from municipalities so the VAT paid by municipalities was true income for the state. 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 is shown from the state to the municipalities.

Finally, a timing adjustment is made in the state'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.

### 3.12 Subsidies on products

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 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 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 support in these subsections is classified as other subsidies on production (D.39). The division into various support groups is carried out based on a separate study from the Agency for Rural Affairs. Acquisition and development of public transport services and price subsidies for piloting 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.

Product subsidies paid by municipalities are mainly tariff support for tickets in municipal public transport. The item also includes transport subsidies paid by the Regional Government of Åland to enterprises.

Table 35. Product subsidies paid in 2012, EUR million

Name	Subsection	EUR million
National support for agriculture and horticulture	302040	255
Acquisition and development of public transport services	316063	60
Price subsidies for piloting	313251	4
Others		2
Recording differences (cash - accrual basis):		
National support for agriculture and horticulture	302040	0
Other national subsidies (from different subsections)		0
Recording differences total		0
<b>CENTRAL GOVERNMENT: PRODUCT SUBSIDIES TOTAL</b>		<b>321</b>
<b>MUNICIPALITIES: SUPPORT FOR PUBLIC TRANSPORT</b>		<b>365</b>
<b>REST OF THE WORLD: CAP subsidies (excl. following)</b>		<b>49</b>
<b>PRODUCT SUBSIDIES TOTAL</b>		<b>735</b>

## CHAPTER 4 THE INCOME APPROACH

### 4.0 GDP according to the income approach

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 36. GDP through income in 2012

	EUR million	%
1 Wages and salaries	81,283	40.7
2 Employers' social contributions	19,005	9.5
3 Operating surplus / mixed income	36,432	18.2
4 Taxes on production and imports	28,320	14.2
5 Subsidies	3,513	1.8
6 Consumption of fixed capital	38,266	19.2
<b>7 Gross domestic product at market price (1+2+3+4-5+6)</b>	<b>199,793</b>	<b>100</b>

#### 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

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 must be 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, the 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).

Table 37. Benefits in kind (only in sector S11)

	2012
TOTAL	762
A	1
B	2
C	161
D	5
E	3
F	12
G	216
H	44
I	14
J	85
L	26
M	103
N	33
P	4
Q	38
R	7
S	7

### 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 recorded when the option is redeemed because that is when it becomes visible in the Tax Administration's data, which here act as the source.

#### ***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, structural statistics, the Register of Enterprises and Establishments, economic statistics on municipalities and joint municipal authorities, central government's bookkeeping and financial statement material, bank statistics (Virati), 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.

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

##### ***4.6.1 Wages and salaries***

The challenge in ensuring the coverage of wages and salaries is primarily hidden wages. Their estimation is described Section 7.3.1.

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 are 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.

In the calculation of the National Accounts, employment and work input figures are always proportioned to changes in wages and salaries when possible, and the data of the Labour Force Survey are used as the comparison data source (described in more detail in Section 7.3.1).

#### 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).

### 4.7. Compensation of employees

#### 4.7.1. Wages and salaries

The sources for wages and salaries vary in the National Accounts by sector and industry. For a majority of industries and sectors, the Business Register can be used as the source, but for some of sectors S12 and S13 there seems to be other more reliable sources. In the calculation of sectors 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 (TOL A, 412+432\_439, 68201, 68202). 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.

Table 38. D112 sources by sector

	S11	S121	S1221	S1222	S1223	S123	S124	S125	S126	S127	S128	S129	S1311	S1313	S13141	S13149	S14	S15
<b>Structural statistics</b>														x				
<b>Economic statistics on municipalities and joint municipal authorities</b>														x				





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, company car benefit, other benefits in kind, 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.

If no valid wagebill is found for an enterprise active during the statistical year in the annual tax return data, the wagebill from the periodic tax return data can be used in the calculation. The Tax Administration's reporting system for taxpayers reporting and paying on their own initiative (so-called tax account) provides Statistics Finland with data on enterprises' economic situation for certain sector/industry combinations. The data are on monthly level but the data for smaller enterprises are only updated four times per year (approximately 53 days after the end of the quarter).

If neither of the above-mentioned data sources provide the wagebill it can be taken from advance tax data.

As a last resort, the so-called wage from the profit and loss account can be used as the wagebill. It derives as such for legal units and enterprises from the item Wages and salaries and fees (total amount of wages, salaries and fees from accounting) in tax forms 5, 6A and 6B in the business taxation file. For the units that no tax data are available, the data are either imputed based on the data from the previous year or by utilising the data of some other unit. The figure differs from the wagebill from advance tax data only in terms of imputation.

The Tax Administration's wage and salary data are enterprise level data. Their division into establishments in the Business Register is done based on the staff-years of the establishments.

Table 39. Wages, salaries and fees (incl. incentive stock options and stock bonuses, as well as benefits in kind) by industry and sector in 2012

	S1	S11	S12	S121	S122	S125	S126	S127	S128	S13	S1311	S1313	S1314	S14	S15
<b>Total</b>	81,283	52,279	2,321	42	1,295	91	374	25	494	22,420	5,445	16,530	445	1,039	3,224
<b>A</b>	939	492								7		7		438	2
<b>B</b>	248	247												1	
<b>C</b>	14,361	14,345												16	
<b>D</b>	692	692													
<b>E</b>	426	422								4		4			
<b>F</b>	6,425	6,173								137		137		115	
<b>G</b>	8,771	8,711												60	
<b>H</b>	4,664	4,518								8		8		138	
<b>I</b>	1,743	1,657								46	15	31		40	

<b>J</b>	4,232	4,201								28		28		3	
<b>K</b>	2,321		2,321	42	1,295	91	374	25	494						
<b>L</b>	776	754								19	17	2		3	
<b>M</b>	4,942	4,217								642	609	33		22	61
<b>N</b>	3,501	3,006								478	139	339		17	
<b>O</b>	6,095									6,095	3,229	2,421	445		
<b>P</b>	6,382	231								5,469	1,364	4,105		3	679
<b>Q</b>	11,810	1,763								8,983	48	8,935		20	1,044
<b>R</b>	1,177	375								477	24	453		6	319
<b>S</b>	1,637	475								27		27		16	1,119
<b>T</b>	141													141	

Incentive stock options are also included in the wagebill of the National Accounts and just like other wage and salary variables they derive 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 40. Incentive stock options and stock bonuses by sector and industry in 2012

	S1	S11	S12	S122	S126	S128
Industries, total	99	91	8	6	1	1
B Mining and quarrying	2	2				
C Manufacturing	45	45				
D Energy supply	3	3				
F Construction	2	2				
G Trade	16	16				
H Transport	1	1				
I Accommodation and food services activities	1	1				
J Information and communication	12	12				
K Financial and insurance activities	8		8	6	1	1
L Real estate activities	1	1				
M Professional, scientific and technical activities	7	7				
N Administrative and support service activities	1	1				

The wage and salaries of municipal companies are calculated for sector S11 from the economic statistics on municipalities. Therefore, the data for companies are not picked from the Business Register to avoid double calculation. For sector S11, data derive from municipalities, joint municipal authorities, municipal companies, joint local authority companies and joint municipal authorities of company form.

In addition, the wages and salaries and employment group reviews the development of the wagebill relative to the employment and working hour development and relative to other wage and salary and employment statistics. 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 relatively reliable, it is more likely that employment data are revised if they are contradictory to the wage and salary development.

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 justifiably push the change in average pay into negative (or clearly into positive). A change in the sector or industry of an individual large enterprise can also result in large justified annual changes at sector or industry level.

#### *4.7.2. Employer's social contributions*

First, sector and industry-specific payment percentages are formed to calculate the sub-items of employer's actual social contributions. The payment percentages refer to how many percentages the payment in question is of the wage or salary. 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. These are also balanced with the accumulations from sector accounts, i.e. the total sums paid to social security funds.

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 was used for missing industries.

D12121 employer's Social Insurance Institution payments were calculated for S11 using industry-specific percentages calculated from the periodic tax return data. The data provide the enterprises wagebill and the amount of paid Social Insurance Institution payments. The standardised social security percentage that can be found, for example, on the pages of the Ministry of Social Affairs and Health is used for other sectors.

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 percentage was 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 2012, the limit was EUR 1,936,500 and the percentages 0.8 (when the wagebill paid by the

enterprise is below the mentioned limit) and 3.2 (when the wagebill paid by the enterprise exceeds the limit).

D12124 group life insurance contributions were calculated based on the average percentage (in 2012, 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 4. The calculation of the accumulation is explained in a separate Section. The rounding difference is taken to the wholesale industry (biggest industry in terms of the wagebill).

D12112 employer's voluntary pension contributions and D12125 other voluntary social security contributions were calculated as the difference between sector accounts and production accounts. The difference was distributed to sector accounts based on the size category of their wages and salaries. The rounding difference was taken to the wholesale industry.

Table 41. D12 Employer's social security contributions by source

Sector	In percentages	Other sources	Balancing to accumulations	Conceptual changes	End result
S11	9,858	1,120	364		11,342
S12	198	300	11		509
S13	36	6,009	2	94	6,141
S14	98	130	8		236
S15	552	196	29		777
TOTAL	10,742	7,755	414	94	19,005

Table 42. Employer's social insurance contributions by sector and industry in 2012

D12112 EMPLOYER'S ACTUAL STATUTORY PENSION CONTRIBUTIONS															
	S1	S11	S12	S121	S122	S125	S126	S127	S128	S13	S1311	S1313	S1314	S14	S15
<b>INDUSTRIES, TOTAL</b>	14,282	8,160	372	8	203	14	62	4	81	4,972	1,022	3,873	77	180	598
<b>A</b>	169	84								2		2		83	
<b>B</b>	42	42													
<b>C</b>	2,286	2,285													1
<b>D</b>	110	110													
<b>E</b>	71	70								1		1			
<b>F</b>	943	886								37		37		20	
<b>G</b>	1,316	1,306												10	
<b>H</b>	749	725								1		1		23	
<b>I</b>	261	248								7	2	5		6	
<b>J</b>	669	664								5		5			
<b>K</b>	372		372	8	203	14	62	4	81						
<b>L</b>	119	116								3	3				









K	25	25	23	1	1	
L						
M	8	8				
N	6	6				
O	1			1	1	
P	2			1	1	1
Q	10	4		4	4	2
S	1					1

## 4.8. Taxes on production and imports

### 4.8.1 Taxes on products

#### 4.8.1.1 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.

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 type of tax, while various sales proceeds are recorded into income accounts of charge activities based on the account scheme.

Central government's income from charged activities consists of actions defined as chargeable in the Act on Criteria for Charges Payable to the State (21.2.1992/150). According to the Act on Criteria for Charges Payable to the State, products and services produced by state authorities that have been completed on order or other assignment are chargeable. Decisions made upon application, temporary handover of access rights and other rights, and other activities that are produced as a result of the recipient's actions are also deemed chargeable.

Outcomes, whose production cannot be directly deemed as directed at an individual person, enterprise or other clearly defined group are considered free of charge. Outcomes, 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. The Act on Criteria for Charges Payable to the State applies to official acts performed by state authorities, goods, services and other activities produced by the state, and outputs subject to public law, whose demand is based on law or regulations and whose production is the sole right of the authority. The goods and services referred to are not specified in more detail in the Act on Criteria for Charges Payable to the State.

For example, driving licence decisions made by and passports granted by the police authority 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.

Table 43. Central government's largest sales items in 2012, EUR million

Item	Industry	P11	P131
Sales income of universities	85_72	263	
ICT Agency HALTIK's income from other agencies	841_842	84	
Fairway due	841_842	81	
Execution fees	841_842		47
Payments received by the National Land Survey			31
<b>Total</b>		<b>1,774</b>	<b>112</b>

Table 44. Largest individual income items of the local government sector, EUR million in 2012

Task	Item	Industry	P11	P131
260 Specialized medical treatment	Turnover of municipal utilities	86	1,129	
545 Internal services	Internal sales income	841_842	745	
545 Internal services	Turnover of municipal utilities	841_842	562	
240 Care services for the elderly and disabled	Payments	87_88		303
204 Childcare in day care centres	Payments	87_88		266
290 Specialized medical treatment	Payments	86		239
Biggest			2,436	808
Total			7,978	2,006

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

**Other taxes on products** that exist in most recent years (2010-2014) are sugar levy, excise duty on alcoholic beverages, excise duty on liquid fuels, excise duty on motor cars, excise duties on sweets, ice cream and soft drinks, excise duty on tobacco, excise 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, central governments share of Oy Veikkaus Ab's and money-lotteries' profit, revenue from RAY (The Finnish Slot Machine Association) and other tax revenues.

All of these have their own subsections in the financial statements of the state apart from the vehicle registration fee, the data on which come from the Finnish Transport Safety Agency, Trafi. All 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), the state's share in the profits of Veikkaus and from other money lotteries (12.29.88), and repaid taxes due to exemption from tax (28.10.63), 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. The timing adjustment that moves the tax revenue of January to the previous year is carried out for tobacco tax, alcohol tax, energy tax, asset transfer tax and lottery tax. 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.

Table 45. Income from various taxes on products, EUR million

Sector	ESA code	Name	2010	2011	2012	2013	2014
S.1311	D211	Value added tax	15,533	17,315	17,987	18,888	18,948
S.212	D2121	Import taxes settled to the EU	151	189	184	166	170
S.1311	D2121	Other tax revenues	0	0	0	1	0
S.212	D214A	Sugar levy	1	1	1	1	1
S.1311	D214A	Excise duty on alcoholic beverages	1,279	1,291	1,374	1,355	1,381
S.1311	D214A	Excise duty on liquid fuels	3,167	3,875	3,956	3,925	3,846
S.1311	D214A	Excise duty on motor cars	941	1,068	1,006	931	916
S.1311	D214A	Excise duties on sweets, ice cream and soft drinks	37	134	197	204	257
S.1311	D214A	Excise duty on tobacco	655	718	749	852	788
S.1311	D214A	Excise duty on certain beverage packages	13	15	15	15	14
S.1311	D214A	Oil damage levy	20	24	24	27	25

S.1311	D214A	Oil waste levy	4	4	4	4	3
S.1311	D214A	Penalties for late payment of taxes	3	3	2	2	2
S.1311	D214A	Pharmacy levy	121	143	144	152	157
S.1313	D214A	Pharmacy levy	1	1	1	1	1
S.1311	D214A	Repayments	-1	0	0	0	0
S.1311	D214A	Stock-building levies on liquid fuels	48	46	44	45	43
S.1311	D214C	Transfer tax	531	544	582	590	708
S.1311	D214D	Registration fee of vehicles	40	41	40	37	36
S.1311	D214F	Tax on lottery prizes	144	172	210	217	218
S.1311	D214G	Tax on fire insurance	9	9	10	10	11
S.1311	D214G	Tax on insurance premiums	584	626	660	712	750
S.1311	D214H	Rail tax	18	18	16	19	18
S.1311	D214J	Central governments share of Oy Veikkaus Ab's and money-lotteries' profit	493	516	520	535	541
S.1311	D214J	Revenue from RAY (The Finnish Slot Machine Association)	381	367	381	413	422
S.1311	D214L	Other taxes	3	2	4	2	3

#### 4.8.1.2 Value added tax

Accumulated value added tax is reached by adding up the accrued value added tax (11.04.01) from the state's financial statements and the value added tax of the rebate system paid by municipalities, which the state returns to the municipalities and that is not included in the above-mentioned VAT subsection of the state's financial statements.

The data source for value added tax paid by municipalities is the amount of VAT returns paid by the state that comes from the Tax Administration. Prior to 2002, the state recovered the VAT return from municipalities, so the VAT paid by municipalities was true income for the state. 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 is shown from the state to the municipalities.

Finally, a timing adjustment is made in the state'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.

#### 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 waste tax and the vehicle tax paid on vehicles used in production (see Table). In addition, in 2013 and 2014, bank tax was collected from deposit banks, the magnitude of which was around EUR 135 million. Taxes on imports have not existed since 1994.

Table 46. Accumulation of other taxes on production in 2012, EUR million

Tax	Accumulation
Vehicle tax	143
Waste tax	56
Nuclear power research fee	7
Last fee	1
Late payment penalties on the vehicle tax	2
<b>Total</b>	<b>209</b>

All 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. 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) and last fees by water transport (industry 50).

In terms of the vehicle tax, a total sum is derived from the state's financial statements, which was EUR 758 million in 2012. The tax is collected annually both on vehicles used in production and on vehicles used in households' consumption. In calculations, these are separated, and the tax collected on vehicles used in production is divided by the payer industry and sector. The vehicle tax collected from households belongs to other direct taxes (D59).

The vehicle tax paid of vehicles used in production is derived by combining the data on the vehicle owners from the vehicle register with the data of the Business Register, which means that the vehicle taxes paid by households and various industries can be separated. Originally, the combination was made for the compilation of industry-specific data of the statistics on environmental taxes. The combined data have been calculated for the years 2004 to 2014. Based on the new data, the share in the vehicle

tax of vehicles used in production decreased from the previously estimated share of around 60 per cent to some 20 per cent.

## 4.9 Subsidies

### 4.9.1 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 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 support in these subsections is classified as other subsidies on production (D.39). The division into various support groups is carried out based on a separate study from the Agency for Rural Affairs. Acquisition and development of public transport services and price subsidies for piloting 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.

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 2012, EUR million

Name	Subsection	EUR million
National support for agriculture and horticulture	302040	255
Acquisition and development of public transport services	316063	60
Price subsidies for piloting	313251	4

Others		2
<b>Recording differences (cash - accrual basis):</b>		
National support for agriculture and horticulture	302040	0
Other national subsidies (from different subsections)		0
Recording differences total		0
<b>CENTRAL GOVERNMENT: PRODUCT SUBSIDIES TOTAL</b>		<b>321</b>
<b>MUNICIPALITIES: SUPPORT FOR PUBLIC TRANSPORT</b>		<b>365</b>
<b>REST OF THE WORLD: CAP subsidies (excl. following)</b>		<b>49</b>
<b>PRODUCT SUBSIDIES TOTAL</b>		<b>735</b>

#### 4.9.2 Other subsidies on production

The sum of D39 other subsidies on production for the non-financial corporations and households sectors is determined based on how much subsidies the state, municipalities 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 Central Government's bookkeeping provides data on subsidies on production by subsection, but there are no data on which enterprises have received subsidies, so they cannot be directly allocated to industries. There may be a corresponding industry for some subsections, in which case the subsidy sum can be allocated directly to that industry.

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.

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 – the Ministry of Employment and the Economy, the Finnish Funding Agency for Technology and Innovation, Finnvera, and the Ministry of Agriculture and Forestry.

An industry distribution is formed based on the statistics on business subsidies that is utilised when dividing the sum of subsidies to industries. Investment grants must be removed from the data, as they do not belong to transaction D39 according to ESA 2010.

Table 48. D39 Subsidies on production by industry in 2012, all sectors

TOTAL	2,777
A	1,773
B	3
C	355
D	16
E	6
F	35
G	59
H	102
I	25
J	70
K	1
L	57
M	106
N	33
O	
P	38
Q	35
R	35
S	29
T	

#### 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.

### *Agriculture (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.

### *Forestry (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.

### *Fishing (03)*

Mixed income from fishing equals the value added of the fishing industry that depicts the value of recreational fishing.

### *Other 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.

### *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).

### *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.

### *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 49. Households' mixed income in 2012, EUR million

	2012
Industries, total	8,155
01 Agriculture and hunting	899
02 Forestry	1,530
03 Fishery	72
B Mining and quarrying	11
C Manufacturing	194
D Energy supply	0
E Water supply and waste management	9
F Construction	1,889
G Trade	423
H Transport	388
I Accommodation and food services activities	92
J Information and communication	58
L Real estate activities	801
M Professional, scientific and technical activities	366
N Administrative and support service activities	138
P Education	39
Q Human health and social work activities	580
R Arts, entertainment and recreation	153
S Other service activities	513
T Domestic services	0

## 4.12 Consumption of fixed capital

### 4.12.1 Overview

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 capital, in the national economy. The data of the capital stock calculations are used in the National Accounts, for example, as estimates for consumption of fixed capital and in productivity calculations. The stock of fixed capital is a central base for determining national wealth.

In Finland, the consumption of fixed capital is calculated with the help of the Perpetual Inventory Method (PIM). Consumption is calculated separately for all sectors, calculation industries of investments, producer types and asset types.

Table 50. The gross stock, net stock and consumption of fixed capital by sector in 2012, EUR million, at current prices

	Gross stock	Net stock	Consumption of fixed capital
S1 Total economy	1,153,969	641,672	38,266
S11 Non-financial corporations	495,740	260,864	22,447
S12 Financial corporations	4,895	1,608	443
S13 General government	215,708	113,923	6,883
S1311 Central government	96,937	46,819	3,903
S1313 Local government	114,996	65,421	2,855
S1314 Social security funds	3,775	1,683	125
S13141 Employee pension schemes	3,500	1,579	106
S13149 Other social security funds	275	104	19
S14 Households	413,838	252,201	7,941
S15 Non-profit institutions serving households	23,788	13,076	552

Table 51. Consumption of fixed capital by producer type in 2012, EUR million, at current prices

T10 Market producers	25,835
T20 Producers for own final use	5,335
T30 Non-market producers	7,096
Total	38,266

#### 4.12.2 Consumption of fixed capital

Consumption of fixed capital refers to a value decrease in fixed capital that is the result of physical weakening, expected out-datedness, usual damage and ageing during the financial period. Consumption of fixed capital represents the decrease in value of capital used in production and it is presented as a production cost in the income formation account and as capital financing in the capital account of the National Accounts.

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.

Consumption corresponds with the difference between gross and net value added. Consumption of fixed capital is calculated as the difference between the change in investments and the net capital stock:

$$CFC_t = GFCF_t - (NCS_t - NCS_{t-1}),$$

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.

In the industries of market producers, consumption does not affect gross value added because gross value added is the difference between output and intermediate consumption. By contrast, in the industries of non-market production, consumption of fixed capital affects gross value added because gross value added is the sum of compensation of employees and consumption of fixed capital.

For construction investments, consumption is assumed to be linear, i.e. a standard share is removed from the original value of the capital good throughout the lifetime of the asset. A geometric consumption model, where a standard share is removed from the remaining value of the capital good throughout its lifetime, is applied to machinery, equipment, fixtures and transport equipment, as well as to intellectual property products (intangible fixed assets: R&D investments, mineral exploration and evaluation, software, and entertainment, literary and art originals).

#### 4.12.3 Retirement of fixed capital

Retirement of fixed capital refers to removal of capital goods from the capital stock at the end of their lifetime. The removal is calculated as the difference between the change in investments and the gross capital stock:

$$RET_t = GFCF_t - (GCS_t - GCS_{t-1}),$$

where RET is the removal of fixed capital at constant prices, GFCF is the gross fixed capital formation at constant prices and GSC is the gross stock of fixed capital at constant prices.

### 4.12.3 Fixed capital - reserves

Long investment series, price indices and assumptions on the form of the survival and mortality function of capital goods and their average lifetime are used in the Perpetual Inventory Method to calculate capital stocks. The Perpetual Inventory Method is complemented with inquiries and administrative data. There are two capital stock concepts in the National Accounts: net stock of fixed capital and gross stock of fixed capital.

In capital stock calculations, investments and their prices (deflators for investments) come from the investment subsystem of the National Accounts. The calculation of gross fixed capital formation is described in Section 5.10. Table 52 shows the product type classification of fixed assets.

**Table 52.** Product type classification of fixed assets

<b>AN1</b>	<b>Fixed assets</b>
<b>AN11</b>	<b>Tangible fixed assets</b>
AN111	Residential buildings
AN112	Other buildings and structures
AN1121	Other buildings
AN1122	Civil engineering and other structures
AN1123	Land improvements
AN113	Machinery, equipment and transport equipment
AN1131	Transport equipment
AN11321	Computers and peripheral equipment
AN11322	Other communications technology equipment
AN1139	Other machinery and equipment
AN114	Weapon systems
AN115	Cultivated biological assets
AN1151	Animal resources
AN1152	Tree, crop and plant resources
<b>AN117</b>	<b>Intellectual property products</b>
AN1171	Research and development
AN1172	Mineral exploration and evaluation
AN1173	Software and databases
AN1174	Entertainment, literary and art originals
AN1179	Other intellectual property products

In Finland, fixed tangible assets do not include animal resources (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 (ESA2010, Section I 3.140). AN116 ownership transfer costs of non-produced assets are included in category AN1123 land improvements.

#### 4.12.4 Net stock of fixed capital, geometric case

Net stock of fixed capital consists of the cumulated value of past investments minus cumulated consumption of fixed capital. Net capital stock is a stock concept in the ESA2010 and it is used in balance sheets, supply and use tables, and input-output tables. The net stock (NCS) is calculated using geometric straight-line depreciation so that the constant-price net stock for a homogeneous capital asset at the end of year  $t$  is:

$$NCS_t = NCS_{t-1}(1-d) + I_t(1-d/2),$$

where consumption rate  $d = R/E$  (declining balance rate), however, so that the value of the remaining capital asset is set to zero at the time when lifetime is attained 1.5 times.  $R$  is 1.65 for machinery, equipment and transport equipment. For research and development assets, mineral exploration and evaluation, software and databases, and entertainment, literary and art originals the consumption rate  $R$  is 2.  $E$  is average service life.

#### 4.12.4 Net stock of fixed capital, linear case

The 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:

$$NCS_t = \sum_{T \geq t-J_i+1} w_{t-T} I_T d_{t-T},$$

where  $d_{t-T} = 0$ , when  $T \leq t-E+0.5$ ,

and  $d_{t-T} = 1-(1/E)(t-T+0.5)$  otherwise.

#### 4.12.6 Gross stock of fixed capital

The gross stock is the values of assets in the possession of the producers and assets still in use at prices corresponding with the value of a new asset regardless of their age or actual condition. So the calculation of the efficiency of capital goods in the gross stock is not considered. The gross stock consists of the cumulated value of past investment less the cumulated removal. In Finland, the removal is 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:

$$w_{t-T} = \exp \left\{ - \left[ \frac{\Gamma(1+(1/\alpha))}{E} \tau \right]^\alpha \right\},$$

where  $\tau = t-T+0.5$ ,  $E$  is the average lifetime and  $\alpha$  is a form parameter.

The gross stock at the end of the year is:

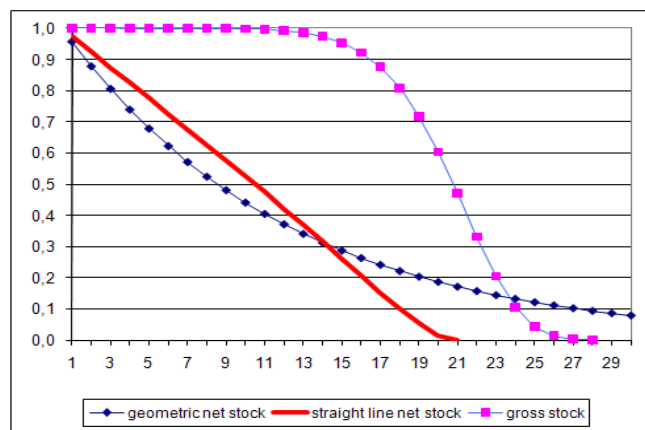
$$GCS_t = \sum_{T \geq t-J_i+1} w_{t-T} I_T,$$

where  $T \geq t - J_t + 1$  and  $I_T$  is the gross fixed capital formation of year  $t$ .  $J_t = \max\{1.50t, 100\}$ , so the maximum lifetime is expected to be 1.5 times the average lifetime, however at most 100 years.

#### 4.12.7 Example of survival

The survival of an investment at fixed prices based on different capital stock concepts is shown in Figure 5. In the example case, it is assumed that the average lifetime of the capital asset in question is 20 years. We also assume that  $R$  is 1.65. Thus, in the geometric case, the depreciation factor is 0.0825 (i.e.  $1.65/20$ ), except in the first year, when half of 0.0825 is removed, i.e. 0.04125. The depreciation factor 0.0825 is thus used for the remaining stock. When lifetime times 1.5 has passed, in this case 30 years, the net stock is set to zero. In the case of linear consumption, 0.05 is removed (i.e.  $1/20$ ) per year, except in the first (and last) year, when one-half of 0.05 is removed, i.e. 0.025. This depreciation rate is used for the original investment.

**Figure 5. Survival in different capital stocks for a capital assets with a service life of 20 years**



#### 4.12.8 Valuation

According to ESA2010 "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.

#### 4.12.9 Service lives

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. The calculation of the public sector's consumption of infrastructure is described in more detail in Section "Consumption of fixed capital in the public sector".

The lifetime estimate for residential buildings was revised to 60 years instead of 50 in 2014. The revision has been taken backwards in the time series of the capital stock. The lifetime of mineral exploration is ten years, that of software is five years and basic land improvements is 30 to 70 years depending on the industry. An average lifetime of ten years is used for entertainment, literary and art originals.

The consumption ages of the product type "research and development assets" are assessed by industry and sector, based on international recommendations and average validity of patents. The consumption age for R&D assets is, on average, ten years in most industries. 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.

The average lifetime of weapon systems is 25 years. The data are based on an estimate compiled by Statistics Finland from the information provided by the Finnish Defence Forces.

The consumption ages 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 fixtures and transport equipment. The results of the inquiry for 2002 are also applied to the definition of service lives of industrial building construction and civil engineering. In all, the Perpetual Inventory Method

uses three pole years for the lifetimes of product types, that is, 1960, 1990 and 2002. In addition, variable lifetimes were 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.

Table 53 shows the average lifetime of other capital goods than buildings in enterprises, households and financial and insurance corporations starting from 2002. Table 54 contains the average lifetimes of other capital goods in general government and non-profit institutions.

Table 53. Average lifetimes of certain capital goods in enterprises, households and financial and insurance corporations in 2012

Industry	Other building construction	Land and water construction	Transport equipment	Other machinery
A	35 to 40	30 to 50	9 to 15	5 to 12
B	30 to 38	25 to 33	10	15 to 22
C	29 to 52	25 to 52	6 to 12	8 to 24
10_12	39 to 40	25 to 33	7	17 to 19
13_15	35 to 50	40	7	14
16_17	35 to 47	25 to 39	10	16 to 24
18	40 to 50	35	6	15
19_22	40 to 45	35 to 52	7 to 10	18 to 22
23	40	40	10	18
24_30+33	29 to 52	29 to 45	8 to 12	14 to 24
26_27	35 to 40	30 to 39	7 to 10	8 to 16
31_32	35	35	8	14
D	35 to 52	45	10	37
E	40	35 to 40	8	10 to 23
F	40	30	10	10
G	40 to 50	30	10	5 to 25
H	20 to 50	35 to 70	7 to 20	15
I	40	30	10	10 to 15
J	40 to 50	30 to 40	6 to 10	10 to 15
K	40		10	10
L	40	40	8	10
M	40 to 50		8 to 10	10
N	40 to 50	40	8 to 10	10 to 15
P	50	40	10	10
Q	40 to 50		8	10 to 15
R	50	40	8	10
S	40 to 50	30	8 to 10	10 to 15

Table 54. Average lifetimes of certain capital goods in general government and non-profit institutions in 2012

Industry	Other building construction	Land and water construction	Transport equipment	Other machinery and equipment
C	50		10	15
D	50	50	10	15
E	50	70	10	15
F	40	30 to 40	8 to 10	10
G	50		10	15
H	50	35	10	15
I	40	30	10 to 25	15
J	40	40	8	10
L	40 to 50	30 to 70	8 to 10	10 to 15
M	50	70	10	15
N		30 to 70	10	10 to 15
O	40 to 50	40 to 70	10	15
845 <sup>1)</sup>	50	40	10	15
846 <sup>1)</sup>	50	52	10	15
P	40 to 50	40 to 70	10	15
Q	40 to 50	40 to 70	8 to 10	10
R	50	70	10	15
S	50	40	10	10

1) industry 845 maintenance of rail network,  
846 maintenance of road network

#### 4.12.10 Capital stock calculations

Long industry-specific and product type-specific investment series at fixed prices, price indices for investments, product type-specific lifetimes for capital goods, and parameter data that direct the operation of the model are used in the Perpetual Inventory Method. Parameter data that direct the capital stock calculation are presented in Table 55, where the average lifetime in years and the consumption profile has been defined for each sector x product type x industry x product type combination. An example of a control table for sector transfers (Table 56) can be found below. The actual capital stock calculation has been built with the SAS Enterprise Guide software.

#### 4.12.11 Link table

A linear (W Weibull) or geometric (G) consumption model, lifetime (lt) in 1960, 1990 and 2002 has been defined for each sector x producer type x industry x product type combination in the capital stock calculations. The linear consumption model is used for buildings and other long-term

investments, and geometric consumption is applied to machinery, etc. and intellectual property products. A consumption rate has been defined for the geometric consumption profile in the column dbr, declining balance rate. Dbr is also shown for investment goods to which the linear consumption model is applied in case one wants to make optional calculations. Some manufacturing industries have changing lifetimes (tm1960, tm1990) that come from working capital inquiries.

Table 55. An example of a link table that directs calculations

sector	producer type	TOL	product type	method	lt1960	tm1960	lt1990	tm1990	lt2002	tm2002	dbr
S11	T10	011_016	N1121	W	35	0	35	0	35	0	0.91
S11	T10	011_016	N1122	W	50	0	50	0	50	0	0.91
S11	T10	089	N1139	G	24	-1	18	-0.4	17	0	1.65
S1311	T30	59_60	N1174	G	10	0	10	0	10	0	2

#### 4.12.12 Sector transfers

Sector transfers refer to transfer of fixed assets from one sector to another, for example from the central government to the enterprise sector as a result of privatisation. 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 some times 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 56. Example of data used for the calculation of certain sector transfers

source sector	source producer type	source TOL	source product type	target sector	target producer type	target TOL	target product type	start year	end year	share
---------------	----------------------	------------	---------------------	---------------	----------------------	------------	---------------------	------------	----------	-------

S11	T10	491_492	N1122	S1311	T30	845	N1122	1990	9999	1
S1311	T30	86	N1121	S1313	T30	86	N1121	1981	9999	0.47
S11	T10	59_60	N1174	S1311	T30	59_60	N1174	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 practice, balance sheet data and other data sources are used.

#### 4.12.13 Consumption of fixed capital in the public sector

In gross fixed capital formation, capital goods are, in addition to sector and industry, categorised also by producer type. Thus, investments are separated into market producers, producers for own use and non-market producers. In the capital stock, consumption is calculated for the capital goods of various producer types in all sectors, in other words, the consumption of market producers and non-market producers are separated. In the capital stock, the time series of investments extend to 1960 (for some industries the volume series of investments continue until 1920).

In the National Accounts, the construction investments of central and local government are divided into building construction, other construction and civil engineering. Maintenance of rail and road networks have been separated into individual industries from public administration. The civil engineering investments of roads and railways are found in industries 845 maintenance of rail network and 846 maintenance of road network. Bridges, tunnels, etc. are included in civil engineering.

The average lifetime 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 57).

Table 57. Average lifetime of roads

Structures	Lifetime	Share, %
substructures	50	71.2%
surfaces	10	9.3%
bridges	85	18.5%
other structures	10	1.0%
<b>Average lifetime</b>		52.4

In 1998 to 2009, the average lifetime of roads varies annually between 52 and 54 years. In 2001, the average lifetime of railways was estimated as 40 years.

The straight-line consumption model is applied for civil engineering. The retirement is assumed to follow skewed Weibull distribution. The simultaneous exit assumption is not used.

## 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 58. GDP according to the expenditure approach in 2012

	EUR million	%
1 Consumption expenditure	157,790	79.0
Private consumption expenditure	109,108	54.6
Public consumption expenditure	48,682	24.4
- individual consumption expenditure	32,872	16.5
- collective consumption expenditure	15,810	7.9
2 Gross fixed capital formation	44,489	22.3
Private gross fixed capital formation	36,537	18.3
Public gross fixed capital formation	7,952	4.0
3 Change in inventories, acquisition of valuable goods	397	0.2

4 Net exports of goods and services (5 to 6)	-2,883	-1.4
5 Exports of goods and services	78,881	39.5
6 Imports of goods and services	81,764	40.9
7 Statistical discrepancy	0	0.0
<b>8 Gross domestic product at market prices</b>	199,793	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 recorded 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.

In terms of construction of buildings, the division into renovation and annual repairs is discussed in connection with building construction in Section 3.12.2. In terms of other types of assets, a similar division is based on responses to various inquiries.

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.

For general government: If there are considerable terminal costs, they are examined case-specifically to ensure correct recording of the costs.

In terms of construction of buildings, the division into renovation and annual repairs is discussed in connection with building construction in Section 3.12.2. In terms of other types of assets, a similar division is based on responses to various inquiries.

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.



## ***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.

## ***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.

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.

## ***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.

## 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 (ESA2010) 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 ESA2010. Based on it, 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 182 goods and service headings. Each 5-digit heading is defined as belonging to one durability category and the durability category is in letter format at the end of the 5-digit level code (D = durable goods, SD = semi-durable goods, ND = non-durable goods and S = services).

The classification used including the codes, the current priced data of each category in million euros for 2012, 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 59. Summary

Households' consumption expenditure (EUR million)	Summary level	2012	Calculation file	Method
<b>C01 FOOD AND NON-ALCOHOLIC BEVERAGES</b>	x	12,832		
<b>C011 Food</b>	x	11,618		
C0111 Bread and other grain products	x	1,990		
C01111ND Rice		49	Food	B
C01112ND Flour and groats		182	Food	B
C01113ND Potato flour		9	Food	B
C01114ND Bread		777	Food	B
C01115ND Cakes and pastries		675	Food	B
C01116ND Other grain products		298	Food	B
<b>C0112 Meat and meat products</b>	x	2,524		
C01121ND Beef		372	Food	B
C01122ND Pork		252	Food	B
C01123ND Poultry		263	Food	B

C01124ND Mutton, reindeer meat, etc.		58	Food	B
C01123ND Game		78	Food	B
C01126ND Sausages		630	Food	B
C01127ND Tinned meat, processed or precooked meat		680	Food	B
C01128ND Other meat products		191	Food	B
<b><i>C0113 Fish and fish products</i></b>	x	567		
C01131ND Fresh fish		169	Food	B
C01132ND Fish preserves and precooked fish products		398	Food	B
<b><i>C0114 Milk, cheese and eggs</i></b>	x	2,312		
C01141ND Milk sold directly to consumers and consumption for own use		4	Food	B
C01142ND Milk and milk powder		604	Food	B
C01143ND Sour milk products		512	Food	B
C01144ND Cream		156	Food	B
C01145ND Cheeses		899	Food	B
C01146ND Eggs		137	Food	B
<b><i>C0115 Oils and fats</i></b>	x	290		
C01151ND Butter and butter-vegetable oil mixtures		144	Food	B
C01152ND Margarine		115	Food	B
C01153ND Other fats and oils		31	Food	B
<b><i>C0116 Fruit</i></b>	x	1,123		
C01161ND Fruit and garden berries for own use		74	Food	B
C01162ND Fresh fruit and garden berries		742	Food	B
C01163ND Forest berries		96	Food	B
C01164ND Dried fruit, nuts, etc.		120	Food	B
C01165ND Fruit and berry preserves and preparations		91	Food	B
<b><i>C0117 Vegetables</i></b>	x	1,264		
C01171ND Mushrooms		28	Food	B
C01172ND Vegetables and root crops for own use		18	Food	B
C01173ND Fresh vegetables and root crops		671	Food	B

C01174ND Vegetable and root crop preparations		274	Food	B
C01175ND Potatoes for own use		6	Food	B
C01176ND Potatoes		99	Food	B
C01177ND Potato preparations		168	Food	B
<b>C0118 Sugar, jams, honey, syrups, chocolate and confectionery</b>	x	1,250		
C01181ND Sugar		79	Food	B
C01182ND Honey		29	Food	B
C01183ND Jams, syrup, etc.		79	Food	B
C01184ND Confectionery and chocolate		781	Food	B
C01185ND Ice cream		282	Food	B
<b>C0119 Food n.e.c.</b>	x	298		
C01190ND Spices, nutrient preparations, unspecified expenditure		298	Trade sales	A
<b>C012 Non-alcoholic beverages</b>	x	1,214		
<b>C0121 Coffee, tea and cocoa</b>	x	400		
C01211ND Coffee		310	Food	B
C01212ND Tea		50	Food	B
C01213ND Cocoa		40	Food	B
<b>C0122 Mineral waters, soft drinks and juices</b>	x	814		
C01221ND Mineral waters and soft drinks		511	Food	B
C01222ND Juices		303	Food	B
<b>C02 ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS</b>	x	4,902		
<b>C021 Alcoholic beverages</b>	x	3,414		
<b>C0211 Spirits</b>	x	825		
C02110ND Spirits		825	Calculation framework (National Institute for Health and Welfare)	B
<b>C0212 Wine, cider, long drinks</b>	x	1,145		
C02120ND Wine, cider, long drinks		1,145	Calculation framework (National Institute for Health and Welfare)	B
<b>C0213 Beer</b>	x	1,444		B
C02130ND Beer		1,444	Calculation framework (National Institute for Health and Welfare)	B

<b>C022 Tobacco</b>	x	1,340		
<b><i>C0220 Tobacco</i></b>	x	1,340		
C02200ND Tobacco		1,340	Calculation framework (National Institute for Health and Welfare)	B
<b>C023 Narcotics</b>	x	148		
<b><i>C0230 Narcotics</i></b>	x	148		
C02300ND Narcotics		148		
<b>C03 CLOTHING AND FOOTWEAR</b>	x	4,767		
<b>C031 Clothing</b>	x	4,061		
<b><i>C0311 Fabrics</i></b>	x	97		
C03110SD Fabrics		97	Trade sales	A
<b><i>C0312 Garments</i></b>	x	3,586		
C03121SD Outdoor clothing		2,782	Trade sales	A
C03122SD Underwear		804	Trade sales	A
<b><i>C0313 Accessories and articles of clothing</i></b>	x	307		
C03131SD Yarn, etc.		79	Trade sales	A
C03132SD Hats, ties, scarves, gloves, etc.		228	Trade sales	A
<b><i>C0314 Garment repair and hire</i></b>	x	71		
C03140S Garment repair and hire		71	Trade sales/Production side	A + B
<b>C032 Footwear</b>	x	706		
<b><i>C0321 Footwear and footwear supplies</i></b>	x	686		
C03210SD Footwear and footwear supplies		686	Trade sales	A
<b><i>C0322 Footwear repair and hire</i></b>	x	20		
C03220S Footwear repair and hire		20	Trade sales	A
<b>C04 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS</b>	x	27,357		
<b>C041 Actual rents for housing</b>	x	5,996		
<b><i>C0410 Actual rents for housing</i></b>	x	5,996		
C04100S Actual rents for housing		5,996	Housing	B
<b>C042 Imputed rents for housing</b>	x	17,535		
<b><i>C0420 Imputed rents for housing</i></b>	x	17,535		

C04200S Imputed rents for housing		17,535	Housing	B
<b>C043 Maintenance and repair of dwelling</b>	x	30		
<i>C0431 Materials for the maintenance and repair of dwelling</i>	x	30		
C04310ND Materials for the maintenance and repair of dwelling		30	Housing	B
<i>C0432 Services for the maintenance and repair of dwelling</i>	x			
C04320S Services for the maintenance and repair of dwelling			Housing	B
<b>C044 Other services relating to housing</b>	x	506		
<i>C0441 Water supply</i>		344		
C04410ND Water supply		344	Housing	B
<i>C0442 Waste collection</i>	x	137		
C04420S Waste collection		137	Housing	B
<i>C0443 Sewage services</i>	x			
C04430S Sewage services			Housing	B
<i>C0440 Other services relating to housing n.e.c.</i>	x	25		
C04440S Other services relating to housing n.e.c.		25	Housing	B
<b>C045 Electricity, gas and other fuels</b>	x	3,290		
<i>C0451 Electricity</i>	x	2,339		
C04510ND Electricity		2,339	Housing	B
<i>C0452 Gas</i>	x			
C04520ND Gas			Housing	B
<i>C0453 Liquid fuels</i>	x	470		
CC04530ND Liquid fuels		470	Housing	B
<i>C0454 Solid fuels</i>	x	333		
C04540ND Solid fuels		333	Housing	B
<i>C0455 Hot water, steam and ice</i>	x	148		
C04550ND Hot water, steam and ice		148	Housing	B
<b>C05 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE</b>	x	5,361		
<b>C051 Furniture and furnishings, carpets and other floor coverings</b>	x	1,833		

<b><i>C0511 Furniture and furnishings</i></b>	x	1,518		
C05111D Furniture		1,042	Trade sales	A
C05112D Garden and other outdoor furniture		99	Trade sales	A
C05113D Lamps and shades		100	Trade sales	A
C05114D Art objects		157	Trade sales	A
C05115D Decorations, mirrors		120	Trade sales	A
<b><i>C0512 Carpets and other floor coverings</i></b>	x	141		
CC05120D Carpets and other floor coverings		141	Trade sales	A
<b><i>C0513 Repair of furniture, etc.</i></b>	x	174		
C05130S Repair of furniture, etc.		174	Trade sales	A
<b>C052 Household textiles</b>	x	540		
<b><i>C0521 Household textiles</i></b>	x	540		
C05211SD Textiles		443	Trade sales	A
C05212SD Mattresses		66	Trade sales	A
C05213S Repair of textiles		31	Trade sales	A
<b>C053 Household appliances</b>	x	914		
<b><i>C0531 Major household appliances</i></b>	x	727		
C05311D Ovens, stoves, sauna stoves		30	Trade sales	A
C05312D Refrigerators and freezers		197	Calculation framework (KOTEK)	A
C05313D Washing machines, dishwashers, tumble dryers		248	Calculation framework (KOTEK)	A
C05314D Sewing machines		32	Calculation framework (KOTEK)	A
C05315D Electric cookers, microwave ovens, vacuum cleaners		220	Calculation framework (KOTEK)	A
<b><i>C0532 Small electric household appliances</i></b>	x	125		
C05320SD Small electric household appliances		125	Calculation framework (KOTEK)	A
<b><i>C0533 Repair of household appliances</i></b>	x	62		
C05330S Repair of household appliances		62	Trade sales	A
<b>C054 Glassware, tableware and household utensils</b>	x	454		
<b><i>C0541 Glassware, tableware and household utensils</i></b>	x	454		

C05411SD Dishes, cooking dishes, etc.		239	Trade sales	A
C05412SD Table cutlery and cooking utensils		87	Trade sales	A
C05413SD Other household articles		103	Trade sales	A
C05414S Repair of household equipment		25	Trade sales	A
<b>C055 Tools and equipment for house and garden</b>	x	596		
<i>C0551 Garden appliances, other work appliances</i>	x	242		
C05510D Garden appliances, other work appliances		242	Trade sales	A
<i>C0552 Tools and miscellaneous accessories</i>	x	354		
C05521SD Household utensils and tools		181	Trade sales	A
C05522SD Small electric accessories		173	Trade sales	A
<b>C056 Goods and services for routine household maintenance</b>	x	1,024		
<i>C0561 Non-durable household goods</i>	x	758		
C05611ND Cleaning and washing substances		241	Trade sales	A
C05612ND Insecticides and other pesticides		49	Trade sales	A
C05613ND Disposable paper and plastic goods		229	Trade sales	A
C05614ND Other non-durable goods		239	Trade sales	A
<i>C0562 Household services</i>	x	266		
C05620S Household services		266	Services	B
<b>C06 HEALTH</b>	x	4,426		
<b>C061 Medical products, appliances and equipment</b>	x	1,715		
<i>C0611 Medicines</i>	x	1,142		
C06110ND Medicines		1,142	Calculation framework (Finnish Medicines Agency Fimea, the Social Insurance Institution)	B
<i>C0612 Other pharmaceutical products</i>	x	77		
C06120ND Other pharmaceutical products		77	Trade sales	A
<i>C061 Therapeutic appliances and equipment</i>	x	496		
C06131D Glasses, contact lenses, prostheses, hearing aids		453	Trade sales	A



C06132D Other therapeutic appliances and equipment		43	Trade sales	A
<b>C062 Non-hospital medical and paramedical services</b>	x	1,954		
<i>C0621 Medical services</i>	x	694		
C06210S Medical services		694	Health	B
<i>C0622 Dental services</i>	x	788		
C06220S Dental services		788	Health	B
<i>C0623 Paramedical services</i>	x	472		
C0623 Paramedical services		472	Health	B
<b>C063 Hospital services</b>	x	757		
<i>C0630 Hospital services</i>	x	757		
C06300S Hospital services		757	Health	B
<b>C07 TRANSPORT</b>	x	13,244		
<b>C071 Purchase of vehicles</b>	x	3,294		
<i>C0711 Motor cars</i>	x	2,907		
C07110D Motor cars		2,907	Calculation framework (registrations)	B
<i>C0712 Motorcycles and snowmobiles</i>	x	182		
C07120D Motorcycles and snowmobiles		182	Trade sales	A
<i>C0713 Bicycles</i>	x	205		
C07130D Bicycles		205	Trade sales	A
<b>C072 Operation of personal transport equipment</b>	x	7,592		
<i>C0721 Spare parts and accessories for personal transport equipment</i>	x	922		
C07211SD Tyres		239	Trade sales	A
C07212SD Other spare parts and accessories		683	Trade sales	A
<i>C0722 Fuels and lubricants</i>	x	4,002		
C07220ND Fuels and lubricants		4,002	Calculation framework (sales volumes & CPI)	B
<i>C0723 Maintenance and repair of personal transport equipment</i>	x	1,889		
C07230S Maintenance and repair of personal transport equipment		1,889	Calculation framework (turnover from the Business Register)	B
<i>C0724 Other services for personal transport equipment</i>	x	779		

C07241S Car rental		101	Services	B
C07242S Parking place, parking and road maintenance charges		292	Services	B
C07243S Driving lessons		175	Services	B
C07244S Motor vehicle inspection, driving test and number plate charges		211	Services	B
<b>C073 Transport services</b>	x	2,358		
<b><i>C0731 Train, tram and underground train travel</i></b>	x	476		
C07310S Train, tram and underground train travel		476	Calculation framework (VR, HSL)	B
<b><i>C0732 Bus, motor-coach and taxi travel</i></b>	x	988		
C07320S Bus, motor-coach and taxi travel		988	Calculation framework (production side)	B
<b><i>C0733 Air travel</i></b>	x	490		
C07330S Air travel		490	Calculation framework (passenger volumes & CPI)	B
<b><i>C0734 Sea travel</i></b>	x	300		
C07340S Sea travel		300	Calculation framework (passenger volumes & CPI)	B
<b><i>C0735 Other transport services</i></b>	x	104		
C07350S Other transport services		104	Services (transport)	B
<b>C08 TELECOMMUNICATIONS</b>	x	2,461		
<b>C081 Telecommunications</b>	x	2,461		
<b><i>C0811 Postal services</i></b>	x	85		
C08110S Postal services		85	Calculation framework (production side)	B
<b><i>C0812 Telecommunication equipment</i></b>	x	401		
C08120D Telecommunication equipment		401	Calculation framework (KOTEK)	A
<b><i>C0813 Telecommunication services</i></b>	x	1,975		
C08130S Telecommunication services		1,975	Calculation framework (production side)	B
<b>C09 RECREATION AND CULTURE</b>	x	12,053		
<b><i>C091 Audio-visual, photographic and data processing equipment</i></b>	x	1,732		
<b><i>C0911 Equipment for the reception, recording and reproduction of sound and images</i></b>	x	636		

C09111D Radios, sound reproduction equipment, etc.		93	Calculation framework (KOTEK)	A
C09112D Televisions and video recorders		504	Calculation framework (KOTEK)	A
C09113SD Parts and accessories for entertainment electronics		39	Trade sales	A
<b><i>C0912 Photographic and cinematographic equipment and optical instruments</i></b>	x	145		
C09121D Cameras, binoculars, etc.		135	Calculation framework (KOTEK)	A
C09122D Videocameras		10	Calculation framework (KOTEK)	A
<b><i>C0913 Personal computers, calculators and typewriters</i></b>	x	685		
C09130D Personal computers, calculators and typewriters		685	Calculation framework (KOTEK)	A
C0914 Sound and picture recording equipment	x	197		
C09141SD Films and other photographic accessories		27	Trade sales	A
C09142SD Records, audio and video cassettes		170	Calculation framework (Film Foundation, SF,...)	B
<b><i>C0915 Repair of audio-visual, photographic and data processing equipment</i></b>	x	69		
C09150S Repair of audio-visual, photographic and data processing equipment		69	Trade sales	A
<b>C092 Other major consumer durables for recreation and culture</b>	x	832		
<b><i>C0921 Major consumer durables for outdoor recreation</i></b>	x	551		
C09210D Major consumer durables for outdoor recreation		551	Trade sales	A
<b><i>C0922 Major durables for indoor recreation</i></b>	x	159		
C09220D Major durables for indoor recreation		159	Trade sales	A
<b><i>C0923 Maintenance and repair of other major durables for recreation and culture</i></b>	x	122		
C09230S Maintenance and repair of other major durables for recreation and culture		122	Trade sales	A
<b>C093 Other recreational items and equipment, garden supplies and pets</b>	x	2,198		
<b><i>C0931 Games, toys and hobby equipment</i></b>	x	460		
C09310SD Games, toys and hobby equipment		460	Trade sales	A

<b>C0932 Sports and camping equipment</b>	x	601		
C09320SD Sports and camping equipment		601	Trade sales	A
<b>C0933 Flowers and garden supplies</b>	x	501		
C09330ND Flowers and garden supplies		501	Trade sales	A
<b>C0934 Pets and related products</b>	x	466		
C09341ND Pet food		296	Trade sales	A
C09342SD Pets and pet supplies		170	Trade sales	A
<b>C0935 Veterinary and other services for pets</b>	x	170		
C09350S Veterinary and other services for pets		170	Services	B
<b>C094 Recreational and cultural services</b>	x	4,416		
<b>C0941 Sports and recreational services</b>	x	1,080		
C09411S Sports and leisure-time equipment rentals		52	Trade sales	A
C09412S Other sports and recreational services		1,028	Services	B
<b>C0942 Cultural services</b>	x	1,415		
C09421S Rentals of television, video, etc		24	Calculation framework (Film Foundation, Business Register)	B
C09422S Television licences, cable television fees, etc.		735	Calculation framework (pay-TV data, CPI)	B
C09423S Photographer's services and film development services		89	Trade sales	A
C09424S Other cultural services		567	Services	B
<b>C0943 Football pools, lottery</b>	x	1,921		
C09430S Football pools, lottery		1,921	Calculation framework (Veikkaus, RAY, PAF, Hippos)	B
<b>C095 Newspapers, books and stationery</b>	x	1,540		
<b>C0951 Books</b>	x	349		
C09510SD Books		349	Trade sales	A
<b>C0952 Newspapers and periodicals</b>	x	1,017		
C09520ND Newspapers and periodicals		1,017	Calculation framework (statistics)	B
<b>C0953 Maps, calendars, cards and other printed matter, etc.</b>	x	104		

C09530ND Maps, calendars, cards and other printed matter, etc.		104	Trade sales	A
<b>C0954 Stationery</b>	x	70		
C09540ND Stationery		70	Trade sales	A
<b>C096 Package tours</b>	x	1,335		
<b>C0960 Package tours</b>	x	1,335		
C09600S Package tours		1,335	Calculation framework (production side)	B
<b>C10 EDUCATION</b>	x	420		
<b>C100 Educational services</b>	x	420		
<b>C1000 Educational services</b>	x	420		
C10000S Educational services		420	Services	B
<b>C11 HOTELS, CAFES AND RESTAURANTS</b>	x	6,588		
<b>C111 Catering services</b>	x	6,108		
<b>C1111 Restaurants and cafes</b>	x	5,098		
C11110S Restaurants and cafes		5,098	Restaurants & hotels: production account + restaurant sales in water transport	B
<b>C1112 Canteens</b>	x	1,010		
C11120S Canteens		1,010	Restaurants & hotels: production account	B
<b>C112 Accommodation services</b>	x	480		
<b>C1120 Accommodation services</b>	x	480		
C11200S Accommodation services		480	Restaurants & hotels: production account	B
<b>C12 MISCELLANEOUS GOODS AND SERVICES</b>	x	9,681		
<b>C121 Personal hygiene and beauty care</b>	x	2,235		
<b>C1211 Hairdresser, barber and other personal hygiene services</b>	x	999		
C12110S Hairdresser, barber and other personal hygiene services		999	Services	B
<b>C1212 Hairdryers, electric shavers and other electric appliances in kind</b>	x	69		
C12120SD Hairdryers, electric shavers and other electric appliances in kind		69	Calculation framework (KOTEK)	A

<b>C1213 Other appliances, articles and products for personal care</b>	x	1,167		
C12131ND Cosmetic and toilet articles		753	Trade sales	A
C12132ND Toilet paper, handkerchiefs, etc.		160	Trade sales	A
C12133ND Nappies, sanitary towels, cotton wool		138	Trade sales	A
C12134SD Combs, hairbrushes, shaving equipment, toothbrushes		116	Trade sales	A
<b>C122 Prostitution</b>	x	102		
<b>C1220 Prostitution</b>	x	102		
C12200S Prostitution		102		
<b>C123 Personal effects n.e.c.</b>	x	538		
<b>C1231 Jewellery, clocks and watches</b>	x	291		
C12311D Jewellery		216	Trade sales	A
C12312D Wrist and pocket watches, wall and other clocks		58	Trade sales	A
C12313S Repair of watches, clocks and jewellery		17	Trade sales	A
<b>C1232 Other personal effects</b>	x	247		
C12321SD Bags and wallets		128	Trade sales	A
C12322SD Prams, pushchairs and child safety seats		45	Trade sales	A
C12323SD Umbrellas, sunglasses, smoking articles		74	Trade sales	A
<b>C124 Social protection</b>	x	1,673		
<b>C1240 Children's day care, institution and other social service expenses</b>	x	1,673		
C12400S Children's day care, institution and other social service expenses fees		1,673	Services	B
<b>C125 Insurance</b>	x	1,904		
<b>C1250 Insurance</b>	x	1,904		
C12500S Insurance		1,904	Insurance calculator	
<b>C126 Financial services n.e.c.</b>	x	2,515		
<b>C1261 FISIM</b>	x	637		
C12611S FISIM on loans		217	Centralised calculation	
C12612S FISIM on deposits		420	Centralised calculation	

<b>C1262 Actual financial services</b>	x	1,878		
C12620S Actual financial services		1,878	Calculation framework (production side & asset transfer tax data)	B
<b>C127 Other services n.e.c.</b>	x	714		
<b>C1270 Other services n.e.c.</b>	x	714		
C12700S Other services n.e.c.		714	Services	B
<b>C0 P31 S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND</b>	x	104,092		
<b>CD DURABLE GOODS</b>	x	9,230		
<b>CSD SEMI-DURABLE GOODS</b>	x	9,263		
<b>CND NON-DURABLE GOODS</b>	x	30,416		
<b>CS SERVICES</b>	x	55,183		
<b>TUR S14 EXPENDITURE ON TOURISM</b>	x	-357		
<i>P33 S14 Consumption expenditure of resident households in the rest of the world</i>		2,664	<i>Tourism: sum of the quarters</i>	
<i>P34 S14 Consumption expenditure of non-resident households in Finland</i>		3,021	<i>Tourism: sum of the quarters</i>	
<b>P31 NC S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS</b>	x	103,735		
P31 S15 Consumption expenditure of non-profit institutions	x	5,373	Sector-specific production account	
<b>P31 DC S14+S15 PRIVATE CONSUMPTION EXPENDITURE IN FINLAND</b>	x	109,465		
<b>P31 NC S14+S15 PRIVATE CONSUMPTION EXPENDITURE</b>	x	109,108		

## 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 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 datafiles. 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.

The usability of turnover data from the Register of Enterprises and Establishments is based on the fact that retail trade functions is 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 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 by nature are 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.

The used sources are constantly assessed during calculation and new sources are sought when possible. On a larger scale, the assessment of current sources and seeking of new sources will lie ahead in coming years as the ECOICOP classification will also be adopted in the National Accounts (as applicable). According to the current plan, the ECOICOP transition will be carried out in 2018 when the data for the 2016 Household Budget Survey are available. The calculation accuracy will increase from the current 182 headings at least to the 220 headings required for 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.

### *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. In the table below, the first column contains the total sum from the Household Budget Survey calculated in accordance with the classification of the National Accounts (households total) and the second column contains the change in the item in question from the level of the 2006 Household Budget Survey to the level of the 2012 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 2006 to 2012) calculated from the National Accounts' data, and the fourth column has data on the National Accounts' figures comparable to the Household Budget Survey data. The fifth and six columns contain the conceptual

corrections included in the National Accounts' figures (persons living abroad and in institutions) compared to the Household Budget Survey data, and the seventh column shows other corrections made, for example, in connection with the calculation of supply and use tables. The eighth column depicts the final figure of the National Accounts (that is the sum from columns four, 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 2006 is in column nine and comparison for 2012 in column ten.

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.

Table 60. Comparison with the Household Budget Survey

	<i>HBS: Year 2012 (households total, EUR million)</i>	<i>HBS: Change 2012/2006</i>	<i>NA: Change 2012/2006</i>	<i>NA: Year 2012 (HBS comparable), EUR million</i>	<i>NA: persons living abroad</i>	<i>NA: persons living in institutions</i>	<i>NA: SUT correction</i>	<i>NA: 2012 (final), EUR million</i>	<i>Year 2006/ (NA/HBS) % -100</i>	<i>Year 2012/ (NA/HBS) % -100</i>	<i>Summary level (x)</i>
<b>C01 FOOD AND NON-ALCOHOLIC BEVERAGES</b>	11,950	28%	30%	12,293	516	10	13	12,832	1	3	x
<b>C011 Food</b>	10,985	27%	30%	11,102	498	4	13	11,618	-1	1	x
C0111 Bread and other grain products	1,806	20%	21%	1,857	131	2		1,990	2	3	x
C01111ND Rice	49	20%	20%	49		0		49	0	-1	
C01112ND Flour and groats	176	29%	33%	182		0		182	0	3	
C01113ND Potato flour	5	5%	13%	9		0		9	62	73	
C01114ND Bread	714	14%	15%	741	36	0		777	2	4	
C01115ND Cakes and pastries	566	22%	22%	578	95	2		675	3	2	
C01116ND Other grain products	296	29%	30%	298		0		298	0	1	
C0112 Meat and meat products	2,263	25%	27%	2,482	42	0		2,524	8	10	x
C01121ND Beef	352	28%	31%	372		0		372	3	6	
C01122ND Pork	242	33%	35%	252		0		252	3	4	

C01123ND Poultry	262	49%	49%	263		0		263	0	0	
C01124ND Mutton, reindeer meat, etc.	34	45%	45%	58		0		58	72	72	
C01123ND Game	60	6%	7%	78		0		78	29	31	
C01126ND Sausages	452	12%	17%	588	42	0		630	25	30	
C01127ND Tinned meat, processed or precooked meat	675	24%	25%	680		0		680	0	1	
C01128ND Other meat products	187	27%	29%	191		0		191	0	2	
C0113 Fish and fish products	573	40%	35%	567	0	0		567	3	-1	x
C01131ND Fresh fish	93	16%	16%	169		0		169	81	81	
C01132ND Fish preserves and precooked fish products	480	46%	45%	398		0		398	-17	-17	
C0114 Milk, cheese and eggs	2,203	36%	37%	2,286	26	0		2,312	3	4	x
C01141ND Milk sold directly to consumers and consumption for own use	8	-10%	0%	4		0		4	-54	-49	
C01142ND Milk and milk powder	571	21%	24%	604		0		604	3	6	
C01143ND Sour milk products	498	38%	37%	512		0		512	3	3	
C01144ND Cream	151	69%	70%	156		0		156	4	4	
C01145ND Cheeses	843	35%	36%	873	26	0		899	3	3	
C01146ND Eggs	132	99%	99%	137		0		137	4	4	
C0115 Oils and fats	283	34%	37%	290	0	0		290	1	3	x
C01151ND Butter and butter-vegetable oil mixtures	151	89%	80%	144		0		144	1	-4	
C01152ND Margarine	101	-8%	5%	115		0		115	0	14	
C01153ND Other fats and oils	31	43%	41%	31		0		31	1	0	
C0116 Fruit	893	34%	34%	966	136	0	21	1,123	8	8	x
C01161ND Fruit and garden berries for own use	35	25%	56%	53		0	21	74	20	50	
C01162ND Fresh fruit and garden berries	559	26%	26%	606	136	0		742	8	8	
C01163ND Forest berries	96	36%	35%	96		0		96	1	0	
C01164ND Dried fruit, nuts, etc.	122	117%	94%	120		0		120	11	-2	
C01165ND Fruit and berry preserves and preparations	80	20%	23%	91		0		91	11	13	
C0117 Vegetables	1,178	33%	31%	1,228	44	0	-8	1,264	5	4	x
C01171ND Mushrooms	16	24%	22%	28		0		28	84	80	
C01172ND Vegetables and root crops for own use	43	34%	-13%	13		0	5	18	-53	-70	
C01173ND Fresh vegetables and root crops	616	41%	40%	671		0		671	10	9	
C01174ND Vegetable and root crop preparations	278	30%	27%	274		0		274	1	-1	
C01175ND Potatoes for own use	15	16%	138%	19		0	-13	6	-39	25	
C01176ND Potatoes	86	16%	15%	99		0		99	15	15	
C01177ND Potato preparations	125	20%	18%	124	44	0		168	1	0	
C0118 Sugar, jams, honey, syrups, chocolate and confectionery	973	34%	36%	1,130	119	2		1,250	15	16	x
C01181ND Sugar	42	-12%	-9%	52	27	0		79	22	25	
C01182ND Honey	21	55%	53%	29		0		29	42	40	
C01183ND Jams, syrup, etc.	39	70%	66%	52	27	0		79	37	34	
C01184ND Confectionery and chocolate	667	39%	39%	730	49	1		781	10	10	
C01185ND Ice cream	205	26%	35%	266	15	0		282	22	30	

C0119 Food n.e.c.	812	4%	13%	298	0	0	298	-66	-63	x
C01190ND Spices, nutrient preparations, unspecified expenditure	812	4%	13%	298	0	0	298	-66	-63	
<b>C012 Non-alcoholic beverages</b>	965	32%	33%	1,191	17	6	1,214	22	23	x
C0121 Coffee, tea and cocoa	337	48%	54%	391	6	3	400	12	16	x
C01211ND Coffee	275	48%	50%	302	6	2	310	8	10	
C01212ND Tea	39	28%	39%	50	0	0	50	17	28	
C01213ND Cocoa	23	109%	125%	40	0	0	40	58	70	
C0122 Mineral waters, soft drinks and juices	628	24%	25%	799	12	3	814	27	27	x
C01221ND Mineral waters and soft drinks	306	17%	17%	500	9	3	511	63	63	
C01222ND Juices	322	32%	41%	300	3	0	303	-12	-7	
<b>C02 ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS</b>	2,097	18%	17%	4,784	83	35	4,902	131	128	x
<b>C021 Alcoholic beverages</b>	1,526	25%	23%	3,344	55	15	3,414	123	119	x
C0211 Spirits	278	14%	9%	822	0	3	825	208	196	x
C02110ND Spirits	278	14%	9%	822	0	3	825	208	196	
C0212 Wine, cider, long drinks	625	29%	31%	1,112	28	5	1,145	76	78	x
C02120ND Wine, cider, long drinks	625	29%	31%	1,112	28	5	1,145	76	78	
C0213 Beer	623	27%	26%	1,410	28	7	1,444	127	126	x
C02130ND Beer	623	27%	26%	1,410	28	7	1,444	127	126	
<b>C022 Tobacco</b>	571	2%	4%	1,292	28	20	1,340	123	126	x
C0220 Tobacco	571	2%	4%	1,292	28	20	1,340	123	126	x
C02200ND Tobacco	571	2%	4%	1,292	28	20	1,340	123	126	
<b>C023 Narcotics</b>	0		13%	148	0	0	148			x
C0230 Narcotics	0		13%	148	0	0	148			x
C02300ND Narcotics	0		13%	148	0	0	148			
<b>C03 CLOTHING AND FOOTWEAR</b>	3,147	10%	16%	4,344	406	17	4,767	31	38	x
<b>C031 Clothing</b>	2,660	11%	18%	3,662	388	12	4,061	30	38	x
C0311 Fabrics	29	7%	9%	97	0	0	97	234	240	x
C03110SD Fabrics	29	7%	9%	97	0	0	97	234	240	
C0312 Garments	2,354	10%	17%	3,212	366	8	3,586	28	36	x
C03121SD Outdoor clothing	1,789	5%	14%	2,480	296	6	2,782	28	39	
C03122SD Underwear	564	30%	32%	732	70	2	804	28	30	
C0313 Accessories and articles of clothing	223	20%	21%	283	22	2	307	26	27	x
C03131SD Yarn, etc.	67	25%	23%	79	0	0	79	18	17	
C03132SD Hats, ties, scarves, gloves, etc.	156	18%	21%	204	22	2	228	29	31	
C0314 Repair and hire of clothing	54	56%	43%	69	0	2	71	40	28	x
C03140S Garment repair and hire	54	56%	43%	69	0	2	71	40	28	
<b>C032 Footwear</b>	488	6%	8%	682	18	5	706	37	40	x
C0321 Footwear and footwear supplies	477	5%	8%	664	18	4	686	36	39	x
C03210SD Footwear and footwear supplies	477	5%	8%	664	18	4	686	36	39	
C0322 Footwear repair and hire	10	45%	18%	18	0	2	20	115	75	x
C03220S Footwear repair and hire	10	45%	18%	18	0	2	20	115	75	

<b>C04 HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS</b>	26,129	30%	33%	27,357	0	0	27,357	3	5	x
<b>C041 Actual rents for housing</b>	4,803	28%	12%	5,996	0	0	5,996	43	25	x
C0410 Actual rents for housing	4,803	28%	12%	5,996	0	0	5,996	43	25	x
C04100S Actual rents for housing	4,803	28%	12%	5,996		0	5,996	43	25	
<b>C042 Imputed rents for housing</b>	16,896	27%	37%	17,535	0	0	17,535	-4	4	x
C0420 Imputed rents for housing	16,896	27%	37%	17,535	0	0	17,535	-4	4	x
C04200S Imputed rents for housing	16,896	27%	37%	17,535		0	17,535	-4	4	
<b>C043 Maintenance and repair of dwelling</b>	18	33%	15%	30	0	0	30	90	65	x
C0431 Materials for the maintenance and repair of dwelling	18	33%	15%	30	0	0	30	90	65	x
C04310ND Materials for the maintenance and repair of dwelling	18	33%	15%	30		0	30	90	65	
C0432 Services for the maintenance and repair of dwelling	0				0		0			x
C04320S Services for the maintenance and repair of dwelling	0						0			
<b>C044 Other services relating to housing</b>	631	43%	46%	506	0	0	506	-21	-20	x
C0441 Water supply	345	43%	42%	344	0	0	344	0	0	
C04410ND Water supply	345	43%	42%	344		0	344	0	0	
C0442 Waste collection	174	39%	46%	137	0	0	137	-25	-21	x
C04420S Waste collection	174	39%	46%	137		0	137	-25	-21	
C0443 Sewage services	0				0		0			x
C04430S Sewage services	0						0			
C0440 Other services related to dwelling	112	52%	127%	25	0	0	25	-85	-78	x
C04440S Other services relating to housing n.e.c.	112	52%	127%	25		0	25	-85	-78	
<b>C045 Electricity, gas and other fuels</b>	3,781	52%	59%	3,290	0	0	3,290	-17	-13	x
C0451 Electricity	2,502	60%	68%	2,339	0	0	2,339	-11	-6	x
C04510ND Electricity	2,502	60%	68%	2,339		0	2,339	-11	-6	
C0452 Gas	13	301%			0		0		100	x
C04520ND Gas	13	301%					0		100	
C0453 Liquid fuels	423	13%	31%	470	0	0	470	-4	11	x
CC04530ND Liquid fuels	423	13%	31%	470		0	470	-4	11	
C0454 Solid fuels	376	50%	41%	333	0	0	333	-6	-12	x
C04540ND Solid fuels	376	50%	41%	333		0	333	-6	-12	
C0455 Hot water, steam and ice	467	54%	74%	148	0	0	148	-72	-68	x
C04550ND Hot water, steam and ice	467	54%	74%	148		0	148	-72	-68	
<b>C05 FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE</b>	4,531	21%	21%	5,358	0	3	5,361	18	18	x
<b>C051 Furniture and furnishings, carpets and other floor coverings</b>	1,523	8%	11%	1,832	0	1	1,833	17	20	x
C0511 Furniture and furnishings	1,248	1%	8%	1,517	0	1	1,518	14	22	x
C05111D Furniture	965	-3%	3%	1,042		0	1,042	2	8	

C05112D Garden and other outdoor furniture	70	12%	18%	99		0		99	34	41	
C05113D Lamps and shades	70	29%	27%	100		0		100	45	43	
C05114D Art objects	88	4%	15%	157		0		157	60	78	
C05115D Decorations, mirrors	54	15%	24%	119		1		120	103	118	
C0512 Carpets and other floor coverings	96	-5%	4%	141	0	0		141	33	47	x
CC05120D Carpets and other floor coverings	96	-5%	4%	141		0		141	33	47	
C0513 Repair of furniture, etc.	179	147%	58%	174	0	0		174	52	-3	x
C05130S Repair of furniture, etc.	179	147%	58%	174		0		174	52	-3	
<b>C052 Household textiles</b>	369	11%	13%	540	0	0		540	45	46	x
C0521 Household textiles	369	11%	13%	540	0	0		540	45	46	x
C05211SD Textiles	280	8%	11%	443		0		443	54	58	
C05212SD Mattresses	55	3%	6%	66		0		66	15	19	
C05213S Repair of textiles	34	84%	72%	31		0		31	-2	-8	
<b>C053 Household appliances</b>	750	18%	19%	913	0	1		914	21	22	x
C0531 Major household appliances	620	13%	13%	727	0	0		727	17	17	x
C05311D Ovens, stoves, sauna stoves	20	70%	43%	30		0		30	81	52	
C05312D Refrigerators and freezers	163	8%	9%	197		0		197	20	21	
C05313D Washing machines, dishwashers, tumble dryers	213	-1%	4%	248		0		248	10	17	
C05314D Sewing machines	12	21%	19%	32		0		32	166	160	
C05315D Electric cookers, microwave ovens, vacuum cleaners	212	34%	26%	220		0		220	10	4	
C0532 Small electric household appliances	101	60%	70%	124	0	1		125	15	22	x
C05320SD Small electric household appliances	101	60%	70%	124		1		125	15	22	
C0533 Repair of household appliances	29	16%	13%	62	0	0		62	123	117	x
C05330S Repair of household appliances	29	16%	13%	62		0		62	123	117	
<b>C054 Glassware, tableware and household utensils</b>	445	41%	37%	454	0	0		454	5	2	x
C0541 Glassware, tableware and household utensils	445	41%	37%	454	0	0		454	5	2	x
C05411SD Dishes, cooking dishes, etc.	234	52%	43%	239		0		239	9	2	
C05412SD Table cutlery and cooking utensils	80	45%	45%	87		0		87	8	8	
C05413SD Other household articles	101	16%	18%	103		0		103	0	2	
C05414S Repair of household equipment	30	52%	47%	25		0		25	-14	-17	
<b>C055 Tools and equipment for house and garden</b>	616	58%	52%	596	0	0		596	1	-3	x
C0551 Garden appliances, other work appliances	252	76%	69%	242	0	0		242	0	-4	x
C05510D Garden appliances, other work appliances	252	76%	69%	242		0		242	0	-4	
C0552 Tools and miscellaneous accessories	364	47%	42%	354	0	0		354	1	-3	x

C05521SD Household utensils and tools	188	57%	48%	181	0	0	181	2	-4	
C05522SD Small electric accessories	176	38%	35%	173	0	0	173	0	-2	
<b>C056 Goods and services for routine household maintenance</b>	<b>828</b>	<b>26%</b>	<b>30%</b>	<b>1,024</b>	<b>0</b>	<b>0</b>	<b>1,024</b>	<b>19</b>	<b>24</b>	<b>x</b>
C0561 Non-durable household goods	670	31%	31%	758	0	0	758	14	13	x
C05611ND Cleaning and washing substances	189	17%	19%	241	0	0	241	25	27	
C05612ND Insecticides and other pesticides	23	93%	53%	49	0	0	49	165	110	
C05613ND Disposable paper and plastic goods	215	26%	27%	229	0	0	229	5	6	
C05614ND Other non-durable goods	241	46%	45%	239	0	0	239	0	-1	
C0562 Household services	159	7%	29%	266	0	0	266	39	67	x
C05620S Household services	159	7%	29%	266	0	0	266	39	67	
<b>C06 HEALTH</b>	<b>2,940</b>	<b>14%</b>	<b>24%</b>	<b>4,395</b>	<b>10</b>	<b>20</b>	<b>4,426</b>	<b>37</b>	<b>49</b>	<b>x</b>
<b>C061 Medical products, appliances and equipment</b>	<b>1,560</b>	<b>10%</b>	<b>14%</b>	<b>1,692</b>	<b>10</b>	<b>13</b>	<b>1,715</b>	<b>5</b>	<b>8</b>	<b>x</b>
C0611 Medicines	1,134	11%	12%	1,125	10	7	1,142	-2	-1	x
C06110ND Medicines	1,134	11%	12%	1,125	10	7	1,142	-2	-1	
C0612 Other pharmaceutical products	44	80%	73%	76	0	1	77	79	71	x
C06120ND Other pharmaceutical products	44	80%	73%	76	0	1	77	79	71	
C061 Therapeutic appliances and equipment	381	5%	11%	492	0	4	496	21	29	x
C06131D Glasses, contact lenses, prostheses, hearing aids	374	5%	8%	450	0	3	453	17	20	
C06132D Other therapeutic appliances and equipment	7	-13%	61%	42	0	1	43	219	493	
<b>C062 Non-hospital medical and paramedical services</b>	<b>1,165</b>	<b>17%</b>	<b>32%</b>	<b>1,947</b>	<b>0</b>	<b>7</b>	<b>1,954</b>	<b>48</b>	<b>67</b>	<b>x</b>
C0621 Medical services	319	8%	26%	691	0	3	694	85	117	x
C06210S Medical services	319	8%	26%	691	0	3	694	85	117	
C0622 Dental services	544	20%	35%	785	0	3	788	28	44	x
C06220S Dental services	544	20%	35%	785	0	3	788	28	44	
C0623 Paramedical services	303	25%	38%	471	0	1	472	41	56	x
C06230S Paramedical services	303	25%	38%	471	0	1	472	41	56	
<b>C063 Hospital services</b>	<b>215</b>	<b>25%</b>	<b>31%</b>	<b>757</b>	<b>0</b>	<b>0</b>	<b>757</b>	<b>236</b>	<b>251</b>	<b>x</b>
C0630 Hospital services	215	25%	31%	757	0	0	757	236	251	x
C06300S Hospital services	215	25%	31%	757	0	0	757	236	251	
<b>C07 TRANSPORT</b>	<b>15,975</b>	<b>38%</b>	<b>29%</b>	<b>12,955</b>	<b>272</b>	<b>17</b>	<b>13,244</b>	<b>-13</b>	<b>-19</b>	<b>x</b>
<b>C071 Purchase of vehicles</b>	<b>6,876</b>	<b>16%</b>	<b>-5%</b>	<b>3,292</b>	<b>0</b>	<b>2</b>	<b>3,294</b>	<b>-41</b>	<b>-52</b>	<b>x</b>
C0711 Motor cars	6,235	15%	-8%	2,907	0	0	2,907	-42	-53	x
C07110D Motor cars	6,235	15%	-8%	2,907	0	0	2,907	-42	-53	
C0712 Motorcycles and snowmobiles	483	28%	6%	182	0	0	182	-55	-62	x
C07120D Motorcycles and snowmobiles	483	28%	6%	182	0	0	182	-55	-62	
C0713 Bicycles	158	55%	42%	203	0	2	205	41	28	x
C07130D Bicycles	158	55%	42%	203	0	2	205	41	28	
<b>C072 Operation of personal transport equipment</b>	<b>7,835</b>	<b>72%</b>	<b>53%</b>	<b>7,473</b>	<b>119</b>	<b>0</b>	<b>7,592</b>	<b>8</b>	<b>-5</b>	<b>x</b>

C0721 Spare parts and accessories for personal transport equipment	702	21%	20%	851	71	0		922	22	21	x
C07211SD Tyres	112	-42%	7%	239		0		239	15	113	
C07212SD Other spare parts and accessories	590	53%	27%	612	71	0		683	25	4	
C0722 Fuels and lubricants	3,990	33%	39%	3,990	12	0		4,002	-4	0	x
C07220ND Fuels and lubricants	3,990	33%	30%	3,990	12	0		4,002	-4	0	
C0723 Maintenance and repair of personal transport equipment	2,582	355%	134%	1,889	0	0		1,889	42	-27	x
C07230S Maintenance and repair of personal transport equipment	2,582	355%	53%	1,889		0		1,889	42	-27	
C0724 Other services for personal transport equipment	561	41%	47%	743	36	0		779	27	33	x
C07241S Car rental	34	-39%	4%	65	36	0		101	15	93	
C07242S Parking place, parking and road maintenance charges	228	59%	61%	292		0		292	26	28	
C07243S Driving lessons	119	52%	45%	175		0		175	54	47	
C07244S Motor vehicle inspection, driving test and number plate charges	179	49%	49%	211		0		211	18	18	
<b>C073 Transport services</b>	<b>1,264</b>	<b>15%</b>	<b>32%</b>	<b>2,190</b>	<b>152</b>	<b>15</b>		<b>2,358</b>	<b>51</b>	<b>73</b>	<b>x</b>
C0731 Train, tram and underground train travel	384	86%	52%	457	17	2		476	46	19	x
C07310S Train, tram and underground train travel	384	86%	52%	457	17	2		476	46	19	
C0732 Bus, motor-coach and taxi travel	760	44%	45%	881	95	12		988	15	16	x
C07320S Bus, motor-coach and taxi travel	760	44%	45%	881	95	12		988	15	16	
C0733 Air travel	54	-82%	1%	467	23	0		490	55	757	x
C07330S Air travel	54	-82%	1%	467	23	0		490	55	757	
C0734 Sea travel	31	-34%	34%	294	6	0		300	363	845	x
C07340S Sea travel	31	-34%	34%	294	6	0		300	363	845	
C0735 Other transport services	34	78%	43%	91	13	0		104	237	171	x
C07350S Other transport services	34	78%	43%	91	13	0		104	237	171	
<b>C08 TELECOMMUNICATIONS</b>	<b>2,325</b>	<b>11%</b>	<b>12%</b>	<b>2,420</b>	<b>8</b>	<b>33</b>		<b>2,461</b>	<b>3</b>	<b>4</b>	<b>x</b>
<b>C081 Telecommunications</b>	<b>2,325</b>	<b>11%</b>	<b>12%</b>	<b>2,420</b>	<b>8</b>	<b>33</b>		<b>2,461</b>	<b>3</b>	<b>4</b>	<b>x</b>
C0811 Postal services	54	-22%	-2%	69	4	12		85	1	27	x
C08110S Postal services	54	-22%	-2%	69	4	12		85	1	27	
C0812 Telecommunication equipment	318	55%	65%	398	0	3		401	18	25	x
C08120D Telecommunication equipment	318	55%	65%	398		3		401	18	25	
C0813 Telecommunication services	1,953	7%	5%	1,953	4	18		1,975	2	0	x
C08130S Telecommunication services	1,953	7%	5%	1,953	4	18		1,975	2	0	
<b>C09 RECREATION AND CULTURE</b>	<b>9,822</b>	<b>19%</b>	<b>20%</b>	<b>11,589</b>	<b>341</b>	<b>55</b>	<b>69</b>	<b>12,053</b>	<b>17</b>	<b>18</b>	<b>x</b>
<b>C091 Audio-visual, photographic and data processing equipment</b>	<b>1,399</b>	<b>-6%</b>	<b>-10%</b>	<b>1,648</b>	<b>74</b>	<b>10</b>		<b>1,732</b>	<b>22</b>	<b>18</b>	<b>x</b>
C0911 Equipment for the reception, recording and reproduction of sound and images	553	-5%	-29%	603	29	3		636	46	9	x
C09111D Radios, sound reproduction equipment, etc.	99	6%	-55%	74	17	2		93	76	-26	



C09112D Televisions and video recorders	409	-13%	-26%	494	9	1		504	42	21	
C09113SD Parts and accessories for entertainment electronics	44	126%	64%	36	3	0		39	13	-18	
C0912 Photographic and cinematographic equipment and optical instruments	132	-15%	-15%	133	12	0		145	1	1	x
C09121D Cameras, binoculars, etc.	122	-11%	-10%	124	11	0		135	1	2	
C09122D Video cameras	10	-46%	-52%	9	1	0		10	2	-9	
C0913 Personal computers, calculators and typewriters	540	5%	32%	681	0	4		685	0	26	x
C09130D Personal computers, calculators and typewriters	540	5%	32%	681		4		685	0	26	
C0914 Sound and picture recording equipment	156	-27%	-27%	164	30	3		197	6	5	x
C09141SD Films and other photographic accessories	10	16%	-67%	3	23	0		27	18	-67	
C09142SD Records, audio and video cassettes	145	-29%	-25%	160	7	3		170	5	10	
C0915 Repair of audio-visual, photographic and data processing equipment	18	-30%	-11%	66	3	0		69	186	264	x
C09150S Repair of audio-visual, photographic and data processing equipment	18	-30%	-11%	66	3	0		69	186	264	
<b>C092 Other major consumer durables for recreation and culture</b>	<b>886</b>	<b>45%</b>	<b>36%</b>	<b>794</b>	<b>37</b>	<b>1</b>		<b>832</b>	<b>-4</b>	<b>-10</b>	<b>x</b>
C0921 Major consumer durables for outdoor recreation	601	31%	26%	523	28	0		551	-10	-13	x
C09210D Major consumer durables for outdoor recreation	601	31%	26%	523	28	0		551	-10	-13	
C0922 Major durables for indoor recreation	119	10%	19%	149	9	0		159	16	25	x
C09220D Major durables for indoor recreation	119	10%	19%	149	9	0		159	16	25	
C0923 Maintenance and repair of other major durables for recreation and culture	166	293%	166%	122	0	0		122	8	-27	x
C09230S Maintenance and repair of other major durables for recreation and culture	166	293%	166%	122		0		122	8	-27	
<b>C093 Other recreational items and equipment, garden supplies and pets</b>	<b>2,155</b>	<b>37%</b>	<b>38%</b>	<b>2,178</b>	<b>15</b>	<b>6</b>		<b>2,198</b>	<b>0</b>	<b>1</b>	<b>x</b>
C0931 Games, toys and hobby equipment	448	43%	41%	440	15	5		460	0	-2	x
C09310SD Games, toys and hobby equipment	448	43%	41%	440	15	5		460	0	-2	
C0932 Sports and camping equipment	615	43%	40%	601	0	1		601	0	-2	x
C09320SD Sports and camping equipment	615	43%	40%	601		1		601	0	-2	
C0933 Flowers and garden supplies	467	9%	16%	501	0	0		501	0	7	x
C09330ND Flowers and garden supplies	467	9%	16%	501		0		501	0	7	
C0934 Pets and related products	498	67%	56%	466	0	0		466	0	-6	x

C09341ND Pet food	311	63%	54%	296		0		296	0	-5	
C09342SD Pets and pet supplies	187	75%	59%	170		0		170	0	-9	
C0935 Veterinary and other services for pets	127	22%	62%	170	0	0		170	0	34	x
C09350S Veterinary and other services for pets	127	22%	62%	170		0		170	0	34	
<b>C094 Recreational and cultural services</b>	<b>2,577</b>	<b>23%</b>	<b>28%</b>	<b>4,147</b>	<b>188</b>	<b>12</b>	<b>69</b>	<b>4,416</b>	<b>55</b>	<b>61</b>	<b>x</b>
C0941 Sports and recreational services	749	11%	27%	921	156	3		1,080	7	23	x
C09411S Sports and leisure-time equipment rentals	10	-76%	-15%	37	15	0		52	1	257	
C09412S Other sports and recreational services	738	16%	30%	884	141	3		1,028	7	20	
C0942 Cultural services	1,205	30%	30%	1,379	32	4		1,415	14	14	x
C09421S Rentals of television, video, etc.	18	-8%	-15%	23		1		24	36	25	
C09422S Television licences, cable television fees, etc.	799	53%	52%	735		0		735	-8	-8	
C09423S Photographer's services and film development services	62	-27%	-13%	89		0		89	20	44	
C09424S Other cultural services	326	8%	18%	533	32	2		567	50	63	
C0943 Football pools, lottery	623	29%	27%	1,846	0	6	69	1,921	201	196	x
C09430S Football pools, lottery	623	29%	27%	1,846		6	69	1,921	201	196	
<b>C095 Newspapers, books and stationery</b>	<b>1,406</b>	<b>1%</b>	<b>5%</b>	<b>1,494</b>	<b>27</b>	<b>19</b>		<b>1,540</b>	<b>2</b>	<b>6</b>	<b>x</b>
C0951 Books	236	-18%	3%	327	15	7		349	11	39	x
C09510SD Books	236	-18%	3%	327	15	7		349	11	39	
C0952 Newspapers and periodicals	999	6%	6%	1,000	9	7		1,017	0	0	x
C09520ND Newspapers and periodicals	999	6%	6%	1,000	9	7		1,017	0	0	
C0953 Maps, calendars, cards and other printed matter, etc.	99	1%	2%	99	3	1		104	0	1	x
C09530ND Maps, calendars, cards and other printed matter, etc.	99	1%	2%	99	3	1		104	0	1	
C0954 Stationery	73	12%	4%	67	0	3		70	0	-8	x
C09540ND Stationery	73	12%	4%	67		3		70	0	-8	
<b>C096 Package tours</b>	<b>1,399</b>	<b>27%</b>	<b>28%</b>	<b>1,328</b>	<b>0</b>	<b>7</b>		<b>1,335</b>	<b>-6</b>	<b>-5</b>	<b>x</b>
C0960 Package tours	1,399	27%	28%	1,328	0	7		1,335	-6	-5	x
C09600S Package tours	1,399	27%	28%	1,328		7		1,335	-6	-5	
<b>C10 EDUCATION</b>	<b>145</b>	<b>-6%</b>	<b>17%</b>	<b>420</b>	<b>0</b>	<b>0</b>		<b>420</b>	<b>132</b>	<b>189</b>	<b>x</b>
<b>C100 Educational services</b>	<b>145</b>	<b>-6%</b>	<b>17%</b>	<b>420</b>	<b>0</b>	<b>0</b>		<b>420</b>	<b>132</b>	<b>189</b>	<b>x</b>
C1000 Educational services	145	-6%	17%	420	0	0		420	132	189	x
C10000S Educational services	145	-6%	17%	420		0		420	132	189	
<b>C11 HOTELS, CAFES AND RESTAURANTS</b>	<b>3,540</b>	<b>15%</b>	<b>12%</b>	<b>5,227</b>	<b>1,326</b>	<b>35</b>		<b>6,588</b>	<b>51</b>	<b>48</b>	<b>x</b>
<b>C111 Catering services</b>	<b>3,187</b>	<b>18%</b>	<b>13%</b>	<b>4,932</b>	<b>1,150</b>	<b>26</b>		<b>6,108</b>	<b>62</b>	<b>55</b>	<b>x</b>
C1111 Restaurants and cafes	2,631	24%	14%	3,925	1,150	23		5,098	63	49	x
C11110S Restaurants and cafes	2,631	24%	14%	3,925	1,150	23		5,098	63	49	
C1112 Canteens	555	-4%	10%	1,007	0	3		1,010	58	81	x
C11120S Canteens	555	-4%	10%	1,007		3		1,010	58	81	
<b>C112 Accommodation services</b>	<b>353</b>	<b>-11%</b>	<b>-2%</b>	<b>295</b>	<b>176</b>	<b>9</b>		<b>480</b>	<b>-24</b>	<b>-16</b>	<b>x</b>
C1120 Accommodation services	353	-11%	-2%	295	176	9		480	-24	-16	x
C11200S Accommodation services	353	-11%	-2%	295	176	9		480	-24	-16	

<b>C12 MISCELLANEOUS GOODS AND SERVICES</b>	6,171	29%	26%	9,155	60	467		9,681	53	48	x
<b>C121 Personal hygiene and beauty care</b>	1,858	27%	34%	2,224	0	11		2,235	13	20	x
C1211 Hairdresser, barber and other personal hygiene services	724	28%	41%	997	0	2		999	25	38	x
C12110S Hairdresser, barber and other personal hygiene services	724	28%	41%	997		2		999	25	38	
C1212 Hairdryers, electric shavers and other electric appliances in kind	34	16%	44%	68	0	1		69	61	100	x
C1212 Hairdryers, electric shavers and other electric appliances in kind	34	16%	44%	68		1		69	61	100	
C1213 Other appliances, articles and products for personal care	1,100	27%	28%	1,159	0	8		1,167	4	5	x
C12131ND Cosmetic and toilet articles	742	28%	29%	751		2		753	0	1	
C12132ND Toilet paper, handkerchiefs, etc.	148	32%	33%	160		0		160	7	8	
C12133ND Nappies, sanitary towels, cotton wool	119	6%	17%	138		0		138	5	16	
C12134SD Combs, hairbrushes, shaving equipment, toothbrushes	91	42%	34%	111		5		116	29	22	
<b>C122 Prostitution</b>	0		12%	95	7	0		102			x
C1220 Prostitution	0		12%	95	7	0		102			x
C12200S Prostitution	0		12%	95	7	0		102			
<b>C123 Personal effects n.e.c.</b>	413	39%	26%	531	0	7		538	42	29	x
C1231 Jewellery, clocks and watches	202	38%	23%	290	0	1		291	61	43	x
C12311D Jewellery	151	31%	21%	216		0		216	56	44	
C12312D Wrist and pocket watches, wall and other clocks	39	91%	38%	57		1		58	104	48	
C12313S Repair of watches, clocks and jewellery	13	16%	13%	17		0		17	34	31	
C1232 Other personal effects	210	41%	30%	241	0	6		247	24	15	x
C12321SD Bags and wallets	125	72%	45%	127		1		128	21	2	
C12322SD Prams, pushchairs and child safety seats	36	2%	13%	45		0		45	12	24	
C12323SD Umbrellas, sunglasses, smoking articles	49	20%	17%	69		5		74	42	39	
<b>C124 Social protection</b>	651	21%	44%	1,229	0	444		1,673	58	89	x
C1240 Children's day care, institution and other social service expenses	651	21%	44%	1,229	0	444		1,673	58	89	x
C12400S Children's day care, institution and other social service expenses	651	21%	44%	1,229		444		1,673	58	89	
<b>C125 Insurance</b>	2,208	36%	54%	1,902	2	0		1,904	-24	-14	x
C1250 Insurance	2,208	36%	54%	1,902	2	0		1,904	-24	-14	x
C12500S Insurance	2,208	36%	54%	1,902	2	0		1,904	-24	-14	
C126 Financial services n.e.c.	348	28%	1%	2,497	18	0		2,515	811	618	x
C1261 FISIM	0		-37%	637	0	0		637			x
C12611S FISIM on loans	0		15%	217		0		217			
C12612S FISIM on deposits			-49%	420		0		420			

C1262 Actual financial services	348	28%	27%	1,860	18	0		1,878	439	435	x
C12620S Actual financial services	348	28%	27%	1,860	18	0		1,878	439	435	
C127 Other services n.e.c.	693	22%	19%	676	32	5		714	0	-2	x
C1270 Other services n.e.c.	693	22%	19%	676	32	5		714	0	-2	x
C12700S Other services n.e.c.	693	22%	19%	676	32	5		714	0	-2	
P311Y CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND	88,773	26%	27%	101,940	3,020	692		104,092	14	15	x
D DURABLE GOODS	11,915	14%	4%	9,177	75	20		9,230	-16	-23	x
SD SEMI-DURABLE GOODS	6,988	19%	24%	8,884	539	42		9,263	22	27	x
ND NON-DURABLE GOODS	26,987	29%	31%	29,958	633	68		30,416	9	11	x
S SERVICES	42,882	30%	31%	53,921	1,773	561		55,183	25	26	x

### *The basis is the latest Household Budget Survey*

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 latest calculations is the 2012 Household Budget Survey. The data are in electronic format and they are processed further with the help of a spreadsheet program.

### *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 61. Preliminary revision of data. Example:

		<i>Year 2012</i>		
		<i>1</i>	<i>2</i>	<i>3</i>
<i>National Accounts</i>	<i>Household Budget Survey</i>	<i>Consumption expenditure per household</i>	<i>Households in Finland</i>	<i>Households' total consumption expenditure</i>

<i>Consumption heading</i>	<i>Code</i>	<i>Heading text</i>	<i>EUR</i>	<i>million units</i>	<i>EUR million</i>
C01211ND Coffee	0121101	Coffee	100	2.594999	259.5
C01211ND Coffee	0121102	Instant coffee and ready-to-drink coffees	5	2.594999	13.0
C01212ND Tea	0121201	Tea	13	2.594999	33.7
C01212ND Tea	0121202	Herbal tea	1	2.594999	2.6
C01212ND Tea	0121203	Ready-to-drink teas	1	2.594999	2.6
C01213ND Cocoa	0121301	Cocoa and cocoa drinks	9	2.594999	23.4

***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 62. Data of the Household Budget Survey combined with the headings of the National Accounts. Example:

	<i>Year 2012</i>		
	<i>1</i>	<i>2</i>	<i>3</i>
<i>National Accounts</i>	<i>Consumption expenditure per household</i>	<i>Households in Finland</i>	<i>Households' total consumption expenditure (according to the Household Budget Survey)</i>
<i>Consumption heading</i>	<i>EUR</i>	<i>million units</i>	<i>EUR million</i>
C0121 Coffee, tea and cocoa	130		337.3
C01211ND Coffee	106	2.594999	275.1
C01212ND Tea	15	2.594999	38.9
C01213ND Cocoa	9	2.594999	23.4

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 63. The change percentages of the Household Budget Survey data by consumption heading of the National Accounts. Example:

<i>Consumption heading of the National Accounts</i>	<i>Year 2006: Households' total consumption expenditure (according to the Household Budget Survey), EUR million</i>	<i>Year 2012: Households' total consumption expenditure (according to the Household Budget Survey), EUR million</i>	<i>The change percentages of the Household Budget Survey data by consumption heading of the National Accounts.</i>
C0121 Coffee, tea and cocoa	227	337	48%
C01211ND Coffee	186	275	48%
C01212ND Tea	30	39	28%
C01213ND Cocoa	11	23	109%

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.

Table 64. Revision of change percentages of the National Accounts in accordance with change percentages of the Household Budget Survey by consumption heading. Example:

<i>Consumption heading of the National Accounts</i>	<i>The change percentages of the Household Budget Survey data by consumption heading of the National Accounts.</i>	<i>Change percentage produced by the statistical method based calculation of the National Accounts</i>	<i>Revised change percentage of the National Accounts</i>
C0121 Coffee, tea and cocoa	48%	75%	54%
C01211ND Coffee	48%	76%	50%
C01212ND Tea	28%	45%	39%
C01213ND Cocoa	109%	125%	125%

***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 original, uncorrected 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.

### ***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 according to 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. The reports of the tourism study 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.

### ***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.

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 because, for the time being, statistics that use the COICOP classification have had slightly different versions of the 5-digit level (this will change in future, when all statistics will start using 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 that are then linked to the classification of the National Accounts.

Table 65. Revisions to the Household Budget Survey data. Example:

	<i>Year 2012</i>				
<i>National Accounts</i>	<i>Households total consumption expenditure (data comparable with the Household Budget Survey)</i>	<i>Revision: Consumption expenditure of those not belonging to the Household Budget Survey (institutional population)</i>	<i>Population revised consumption expenditure</i>	<i>Revision: consumption expenditure of foreign households in Finland</i>	<i>Consumption expenditure revised to FNA2014 level</i>
<i>Consumption heading</i>	<i>EUR million</i>	<i>EUR million</i>	<i>EUR million</i>	<i>EUR million</i>	<i>EUR million</i>
<b>C0121 Coffee, tea and cocoa</b>	<b>391.3</b>	<b>2.9</b>	<b>394.2</b>	<b>5.8</b>	<b>400</b>
C01211ND Coffee	302.0	2.2	304.2	5.8	310
C01212ND Tea	49.6	0.4	50.0	0	50
C01213ND Cocoa	39.6	0.4	40.0	0	40



### 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 66. Turnover by product based on the Register of Establishments. The year 2012. Example:

	<i>47111 Large supermar- kets (over 1,000 m2)</i>	<i>47112 Small supermarke- ts (400 to 1,000 m2)</i>	<i>47113 Self- service shops (over 100, under 400 m2)</i>	<i>47191 Self- service department stores (over 2,500 m2)</i>	<i>47192 Department stores (over 2,500 m2)</i>	<i>Other industries, total</i>	<i>Official sales of the industries excluding taxes, total</i>
<i>Turnover (EUR million)</i>	5,167	2,090	4,151	4,940	1,189		
<i>Distribution by product (%):</i>							
C0121 Coffee, tea and cocoa							
C01211ND Coffee	1.36	1.36	1.63	1.2	0.9		
C01212ND Tea	0.24	0.24	0.29	0.2	0.17		

C01213ND Cocoa	0.16	0.15	0.10	0.1	0.13		
<i>Distribution by product (EUR million):</i>							
C0121 Coffee, tea and cocoa							
C01211ND Coffee	70.3	28.4	67.7	59.3	10.7	11.5	247.9
C01212ND Tea	12.4	5.1	12.0	9.9	2.0	1.7	43.1
C01213ND Cocoa	8.3	3.3	4.2	4.9	1.5	1.1	23.3

### 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 territory).
- 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.
- 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 67. From turnover in the Register of Establishments to households' consumption expenditure. The year 2012. Example:

	<i>Official sales of the industries excluding taxes, the total</i>	<i>of which tax-free purchases by tourists from outside the European</i>	<i>VAT %</i>	<i>Other taxes based direct on the volume of sales</i>	<i>Official sales of the industries with taxes, total</i>	<i>Share of unrecorded sales relative to recorded sales</i>	<i>Of the sales of households' consumption</i>	<i>Households purchases from the mentioned industries</i>	<i>Households purchases from elsewhere</i>	<i>Households' consumption expenditure calculated from the sales of the Register of</i>
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C01190ND Spices, condiments, nutrient preparation, unspecified consumption	353	0	13		399		0.748	298		298
C01212ND Tea	45	0	13		51		0.980	50		50
C03110SD Fabrics	81	0	23		99		0.980	97		97
C03121SD Outdoor clothing	2,530	91.7	23		3,091		0.900	2,782		2,782
C03122SD Underwear	670	25.3	23		819		0.982	804		804
C03131SD Yarn, etc.	67	0	23		82		0.962	79		79
C03132SD Hats, ties, scarves, gloves, etc.	187	6.3	23		228		0.998	228		228
C03140S Garment repair and hire	198	0	23		244		0.263	64	6.4	71
C03210SD Footwear and footwear supplies	597	12.7	23		732		0.938	686		686
C03220S Footwear repair and hire	19	0	10		21	0.05	0.850	18	1.8	20
C05111D Furniture	1,079	15.8	23		1,324		0.787	1,042		1,042
C05112D Garden and other outdoor furniture	97	0	23		119		0.831	99		99
C05113D Lamps and shades	88	0	23		109		0.922	100		100
C05114D Art objects	138	3.2	23		169		0.928	157		157
C05115D Decorations, mirrors	126	3.2	23		154		0.783	120		120
CC05120D Carpets and other floor coverings	134	0	23		165		0.858	141		141
C05130S Repair of furniture, etc.	120	0	23		147		0.972	143	31.458	174
C05211SD Textiles	364	0	23		448		0.990	443		443
C05212SD Mattresses	55	0	23		68		0.981	66		66
C05213S Repair of textiles	26	0	23		32		0.982	31		31
C05311D Ovens, stoves, sauna stoves	32	0	23		39		0.772	30		30
C05330S Repair of household appliances	39	0	23		49	0.05	1	51	10.699	62
C05411SD Dishes, cooking dishes, etc.	195	3.2	23		239		1.000	239		239
C05412SD Table cutlery and cooking utensils	73	0	23		90		0.974	87		87
C05413SD Other household equipment	83	0	23		103		1.000	103		103
C05414S Repair of household equipment	19	0	23		23	0.05	1.000	25		25
C05510D Garden appliances, other work appliances	367	3.2	23		451		0.538	242		242
C05521SD Household utensils and tools	331	0	23		408		0.444	181		181
C05522SD Small electric accessories	239	0	23		294		0.588	173		173
C05611ND Cleaning and washing substances	243	0	23		299		0.806	241		241
C05612ND Insecticides and other pesticides	51	0	23		62		0.776	49		49
C05613ND Disposable paper and plastic goods	200	0	23		246		0.932	229		229
C05614ND Other non-durable goods	199	0	23		245		0.978	239		239
C06120ND Other pharmaceutical products	61	0	23	4	80		0.972	77		77
C06131D Glasses, contact lenses, prostheses, hearing aids	384	0	23		473		0.959	453		453
C06132D Other therapeutic appliances and equipment	92	0	23		113		0.383	43		43
C07120D Motorcycles and snowmobiles	311	0	23	32	415		0.439	182		182
C07130D Bicycles	186	0	23		228		0.899	205		205

C07211SD Tyres	610	3.2	23		750		0.319	239		239
C07212SD Other spare parts and accessories	1,843	50.6	23		2,256		0.303	683		683
C07230S Maintenance and repair of personal transport equipment	1,533	0	23		1,885	0.15	0.8715	1,889		1,889
C09113SD Parts and accessories for entertainment electronics	39	0	23		48		0.829	39		39
C09141SD Films and other photographic accessories	28	0	23		34		0.781	27		27
C09150S Repair of audio-visual, photographic and data processing equipment	244	0	23		300	0.01	0.227	69		69
C09210D Major consumer durables for outdoor recreation	520	0	23		639		0.861	551		551
C09220D Major durables for indoor recreation	146	0	23		180		0.882	159		159
C09230S Maintenance and repair of other major durables for recreation and culture	33	0	23		41		1	41	81	122
C09310SD Games, toys and hobby equipment	384	0	23		472		0.975	460		460
C09320SD Sports and camping equipment	495	15.8	23		605		0.994	601		601
C09330ND Flowers and garden supplies	438	0	23		539		0.930	501		501
C09341ND Pet food	244	0	23		301		0.983	296		296
C09342SD Pets and per supplies	165	0	23		203		0.837	170		170
C09411S Sports and leisure-time equipment rentals	19	0	23		24	0.25	0.88	26	25.86	52
C09423S Photographer's services and film development services	142	0	23		175		0.506	89		89
C09510SD Books	336	0	9		367		0.953	349		349
C09530ND Maps, calendars, cards and other printed matter, etc.	95	0	23		117		0.888	104		104
C09540ND Stationery	63	0	23		77		0.911	70		70
C12131ND Cosmetic and toilet articles	630	0	23		775		0.971	753		753
C12132ND Toilet paper, handkerchiefs, etc.	144	0	23		178		0.899	160		160
C12133ND Nappies, sanitary towels, cotton wool	127	0	23		156		0.882	138		138
C12134SD Combs, hairbrushes, shaving equipment, toothbrushes	103	0	23		126		0.918	116		116
C12311D Jewellery	203	31.6	23		243		0.889	216		216
C12312D Wrist and pocket watches, wall and other clocks	51	12.7	23		60		0.969	58		58
C12313S Repair of watches, clocks and jewellery	15	0	23		19		0.927	17		17
C12321SD Bags and wallets	106	6.3	23		129		0.994	128		128
C12322SD Prams, pushchairs and child safety seats	46	0	23		56		0.810	45		45
C12323SD Umbrellas, sunglasses, smoking articles	67	0	23		82		0.905	74		74

**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). As the Household Budget Survey was compiled for 2012 and the data from stores had been received for 2010, they could not be directly compared. 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.

The data calculated based on the results of the 2006 Household Budget Survey were not revised based on the 2012 Household Budget Survey but the time series 2007 to 2012 were revised in accordance with the calculations produced by the 2012 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*

##### *5.7.2.4.1 Production accounts of the National Accounts as the basis*

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:

<b>Industry 1, industry 2, industry 3...</b>
<b>Output at basic prices</b>

Breakdown of output into products:
<b>Product 1, product 2, product 3...</b>
<b>Breakdown of product into various uses</b>
Other use than consumption
Public consumption expenditure
Consumption expenditure of non-profit institutions
<b>Households' consumption expenditure at basic prices</b>
plus value added tax and other taxes on products, net
<b>= Households' consumption expenditure at purchaser's prices</b>

This way, households' consumption expenditure for each examined product can be collected and summed up from industry-specific calculations:

<b>Households' consumption expenditure for each product is derived by summing up the consumption expenditure of all industries in the product in question</b>
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:

<b>Comparison and reconciliation in the years when the Household Budget Survey is available:</b>
Product 1 calculated with the output distribution method
plus/minus revisions caused by differences in the population and so on
<b>= Product 1, data from the Household Budget Survey</b>

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 underground 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 69. The main complementing data sources and their producers.

<i><b>IDENTIFIER</b></i>	<i><b>NAME OF DATA SOURCE</b></i>	<i><b>NAME OF COMPILER/PUBLISHER</b></i>
1	Balance Sheet for Food Commodities	Natural Resources Institute Finland, LUKE
2	Consumer Price Index	Statistics Finland
3	National accounting production accounts	Statistics Finland
4	Statistics on production and consumption	Lihatiedotus, Siipikarjaliitto, Finnish Beekeepers' Association, ICO (International Coffee Organization)
5	Statistics of the Federation of the Brewing and Soft Drinks Industry	Federation of the Brewing and Soft Drinks Industry
6	MARSI survey (produced annually)	Agency for Rural Affairs
7	Yearbook of alcohol and drugs	National Institute for Health and Welfare
8	Tobacco statistics	National Institute for Health and Welfare & Statistics Finland
9	Home appliance statistics	Kodintekniikkaliitto
10	Indices of turnover of trade, data on turnover of trade by industry	Statistics Finland
11	Social protection and health expenditure, Finnish statistics on medicines	National Institute for Health and Welfare, Social Insurance Institution
12	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
13	Sales volumes of fuels	Finnish Petroleum Federation
14	Statistics describing passenger volumes and transport kilometres	VR, HSL, Finavia, Finnish Maritime Administration
15	Mass media statistics, cultural statistics, statistics of the Film Foundation	Statistics Finland, Film Foundation
16	Profit and loss account data	Veikkaus, RAY, PAF, Hippos
17	Statistics on hotel and restaurant activities	The Finnish Hospitality Association (MaRa)
18	Tourism statistics	Statistics Finland
19	Sales data on water transport	Statistics Finland











C02120ND Wine, cider, long drinks	1,145			x (B/C021)	x					x									
C0213 Beer	1,444	x																	
C02130ND Beer	1,444			x (B/C021)	x		x			x									
C022 Tobacco	1,340	x																	
C0220 Tobacco	1,340	x																	
C02200ND Tobacco	1,340			x (B/C022)	x							x							
C023 Narcotics	148	x																	
C0230 Narcotics	148	x																	
C02300ND Narcotics	148			x (B/C023)	x	x													

Table 73. Calculation of group C021 Alcoholic beverages

<b>B/C021</b>	
	<b>2012</b>
<b>Yearbook of alcohol and drugs (National Institute for Health and Welfare):</b>	
<b>Value of retail consumption of alcoholic beverages, EUR 1,000</b>	
Liquor	384,690
Other strong alcoholic beverages	302,078
Fortified wines	46,977
Wines	625,736
Ciders	170,518
Long drinks	217,006
Strong beer	52,115
Medium strength beer	1,264,483
<b>Total (further grouped into the National Accounts headings):</b>	<b>3,063,603</b>
C02110ND Spirits, EUR million	687
C02120ND Wine, cider, long drinks, EUR million	1,060
C02130ND Beer, EUR million	1,317
<b>Share of entertainment consumption in retail consumption:</b>	
C02110ND Spirits	0.01
C02120ND Wine, cider, long drinks	0.01

C02130ND Beer	0.01
<b>Value of retail consumption less entertainment consumption:</b>	
C02110ND Spirits, EUR million	680
C02120ND Wine, cider, long drinks, EUR million	1,050
C02130ND Beer, EUR million	1,303
<b>Alcohol imported by tourists, from separate calculations:</b>	
Alcohol sales in water transport, EUR 1,000:	
C02110ND Spirits	87,032
C02120ND Wine, cider, long drinks	41,307
C02130ND Beer	41,307
Alcohol sales in air transport, EUR 1,000:	
C02110ND Spirits	6,718
C02120ND Wine, cider, long drinks	2,737
C02130ND Beer	581
Total alcohol sales in water and air transport (EUR million)	
C02110ND Spirits	94
C02120ND Wine, cider, long drinks	44
C02130ND Beer	42
<b>Sale of undeclared imported alcohol:</b>	
From Table 2 of statistic on alcohol and drugs: Illegal production and smuggling, million litres	0.002
Share acquired by households, %	50
Share acquired by households, million litres	0.0
Price of a litre of home-made spirit on the street, estimate from the customs bulletin (EUR/l)	16
To households' consumption expenditure, EUR million	0
<b>Brewery statistics:</b>	
Beer max. 2.8 percentage by volume, domestic sales (incl. imports by breweries), 1,000 litres	5,879
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	4,409
Beer max. 2.8 percentage by volume, average consumer price, EUR/l	1.95

Beer max. 2.8 percentage by volume, sale to households, EUR million	9
Soft drinks, domestic sales, 1,000 litres (total)	274,906
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	2,473
Alcoholic soft drinks (1.2 to 2.8 percentage by volume), average consumer price EUR/l	1.95
Alcoholic soft drinks (1.2 to 2.8 percentage by volume), sale to households, EUR million	5
<b>Balancing to the level of supply and use tables:</b>	
C02110ND Spirits, EUR million	+51
C02120ND Wine, cider, long drinks, EUR million	+46
C02130ND Beer, EUR million	+91
Collection of the above:	
<b>C021 Alcoholic beverages, EUR million</b>	<b>3,414</b>
C0211 Spirits, EUR million	825
C02110ND Spirits, EUR million	825
C0212 Wine, cider, long drinks, EUR million	1,145
C02120ND Wine, cider, long drinks, EUR million	1,145
C0213 Beer, EUR million	1,444
C02130ND Beer, EUR million	1,444

Table 74. Calculation of group C022 Tobacco

<b>B/C022</b>	
	<b>2012</b>
<b>From the tobacco statistics (National Institute for Health and Welfare &amp; Statistics Finland):</b>	
Retail sales value of tobacco products delivered to taxable consumption (incl. imports), EUR million	1,288
Share of entertainment consumption in retail sales	0.001
Value of retail sales excluding entertainment consumption, EUR million	1,287
<b>Tobacco imported by tourists, from separate calculations:</b>	
Water transport, EUR million	29







C04320S Services for the maintenance and repair of dwelling				x (B/C04)
C044 Other services relating to housing	506	x		
C0441 Water supply	344	x		
C04410ND Water supply	344			x (B/C04)
C0442 Waste collection	137	x		
C04420S Waste collection	137			x (B/C04)
C0443 Sewage services		x		
C04430S Sewage services				x (B/C04)
C0440 Other services relating to housing n.e.c.	25	x		
C04440S Other services relating to housing n.e.c.	25			x (B/C04)
C045 Electricity, gas and other fuels	3,290	x		
C0451 Electricity	2,339	x		
C04510ND Electricity	2,339			x (B/C04)
C0452 Gas		x		
C04520ND Gas				x (B/C04)
C0453 Liquid fuels	470	x		
CC04530ND Liquid fuels	470			x (B/C04)
C0454 Solid fuels	333	x		
C04540ND Solid fuels	333			x (B/C04)
C0455 Hot water, steam and ice	148	x		
C04550ND Hot water, steam and ice	148			x (B/C04)

### ***Main calculation principles and sources (B/C04)***

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 78. 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	
	Included	Transaction	Included	Transaction
blocks of flats and terraced houses				
Heating	yes	P1, P2	yes	actual and imputed rents
Water supply	yes	P1, P2	yes	actual and imputed rents
Waste collection	yes	P1, P2	yes	actual and imputed rents
Sewage services	yes	P1, P2	yes	actual and imputed rents

	Industries 68201 and 68202		Private consumption	
	Included	Transaction	Included	Transaction
detached houses				
Heating	no	-	yes	electricity, gas and other fuels
Water supply	yes	P1, P2	yes	actual and imputed rents
Waste collection	yes	P1, P2	yes	actual and imputed rents
Sewage services	yes	P1, P2	yes	actual and imputed rents

In accordance with the table, heating, water supply, waste collection and sewage services are primarily included in actual and imputed rents in private consumption of housing consumption expenditure. As an exception, heating costs of detached houses are visible as actual energy costs in the consumption expenditure of housing as well.

### ***C041 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" and "S1313 Local government" 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", "interest rates on loans" and "plot rent" pertaining to free-time residences. The housing output of sectors S1311 and S1313 derive from administrative data.

### ***C042 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, chimney sweeping, and so on, and heating, lighting and power, 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.

### ***C0432 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 ESA2010's Classification of Individual Consumption According to Purpose, COICOP, **materials for the maintenance and repair of dwelling** (C0431) 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** (C0432) 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.

#### ***C044 Other services relating to housing***

Other services relating to housing are **water supply** (C0441), **waste collection** (C0442), **sewage services** (C0443) and **other services relating to housing** (C0444). 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 (C0444) 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 (C0441) and waste collection (C0442). Separately paid sewage service costs are included in the cost item water supply (C0441). 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 (C0444)". 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.

#### ***C045 Electricity, gas and other fuels***

The energy costs of dwelling are classified into five categories: **electricity** (C0451), **gas** (C0452), which according to COICOP's definition are town and natural gas, butane, propane, and so on, **liquid fuels** (C0453), which include fuel oil for heating and lighting, **solid fuels** (C0454), which include hard coal, coke, briquette, fuel wood, wood coal, peat, and so on, **hot water, steam and ice** (C0455), 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.

Housing corporations' heating costs are recorded in actual and imputed rents. For detached houses, energy costs are calculated from the data of the Household Budget Survey.

















C07320S Bus, motor-coach and taxi travel	988			x (B/Transport)		x													
C0733 Air travel	490	x																	
C07330S Air travel	490			x (B/Transport)		x												x	
C0734 Sea travel	300	x																	
C07340S Sea travel	300			x (B/Transport)		x												x	
C0735 Other transport services	104	x																	
C07350S Other transport services	104			x (B/Share of output)		x													

Table 85. Calculation of category C0711 Motor cars

B/C0711 Motor cars	Data source		2012
<b>FIRST REGISTRATIONS OF MOTOR VEHICLES</b>			
Number of registered passenger cars	Statistics Finland: Motor vehicles	+	111 664
...of which to enterprises or associations, institutions and public sector, quantity	Statistics Finland: Motor vehicles, vehicle register, Ministry of Finance's VAT calculations	-	54,439
Residual: to private households, quantity		=	57,225
of which imported used vehicles by persons who have lived abroad, quantity	Finnish Customs	-	1,882
Residual to households at full price, quantity		=	55,343
<b>PRICES</b>			
List price for households for new (EUR)	Finnish Information Centre of Automobile Sector		28,840
Price of list price paid by households, %	Estimate	*	96.5
Average price paid by households (EUR)		=	28,245
<b>CONSUMPTION EXPENDITURE</b>			
Households' new taxed normally, EUR million		+	1,563

Individually imported used vehicles, EUR million	Finnish Customs (quantity)	+	285	
Imported used vehicles by persons who have lived abroad, EUR million		+	24	
=> From first registrations to consumption expenditure and from individually imported used vehicles to consumption expenditure, EUR million		=	1,872	
<b>USED</b>				
Derived estimate for used, EUR million	Indicators: volume of registrations and Consumer Price Index	+	761	Level derived from the Household Budget Survey, expanded with the help of the volume of registrations and the change in the consumer price of used cars.
<b>BENEFITS IN KIND</b>				
From benefit from use of a company car to the Motor cars heading, EUR million		+	274	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.
<b>C07110D Motor cars, EUR million</b>			<b>2,907</b>	

Table 86. An example of calculating transport services:

<b>x (B/ Transport)</b>		<b>2012</b>
Example: Sea travel	%	EUR million
Level approved for previous year		264
Finnish Maritime Administration: international passenger transport by boat (change %)	1.4	
CPI C07.3.4 Sea travel (change %)	12.1	
Change in value (=change in volume * price change)	13.6	
<b>C07340S Sea travel, EUR million</b>		<b>300</b>

### 5.7.3.8 C08 TELECOMMUNICATIONS

In terms of postal services, the basis for the calculation is the change in the production account data, in addition, the change in the CPI and the change on the sales data published by Posti are monitored as comparison data.

In terms of telecommunication services, the calculation also starts with the change in the production account data, in addition, the turnover development of industries 611 (Operation and services of wired networks) and 612 (Operation and services of wireless networks) have been monitored as comparison data. Previously, the statistics on telecommunications produced by Statistics Finland was also available, but it has been abolished and alternative, supplementary data sources are currently being sought.

Table 87. The calculation methods of category C08 Telecommunications and complementary sources used

Year 2012	Value		Basic calculation method		Complementary sources used																			
	EUR million	Summary level	Method A	Method B/...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
C08 TELECOMMUNICATIONS	2,461	x																						
C081 Telecommunications	2,461	x																						
C0811 Postal services	85	x																						
C08110S Postal services	85			x (B/Transport)																				
C0812 Telecommunication equipment	401	x																						
C08120D Telecommunication equipment	401		x										x											
C0813 Telecommunication services	1,975	x																						
C08130S Telecommunication services	1,975			x (B/Transport)																				

### 5.7.3.9 C09 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 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









Table 89. Calculation of products C09412 and C09421

x (B/C09142&C09421)			2012
	%	EUR million	Source: Statistics Finland/Finnish Mass Media, statistics of the Film Foundation, Household Budget Survey
<b>Video and DVD recordings:</b>			
Rented video, DVD and blue ray recordings, total		22	
of which to households	100.0	22	
<b>Sold video, DVD and blue ray recordings, total</b>			
		122	
of which to households, %	82.0	100	
Addition: purchases of pirated products (% of legal)	2	2	*) A majority of so-called pirated products are purchased abroad in which case they are not included in this heading but in tourism expenditure
<b>Other recordings:</b>			
Retail sale total		77	
of which to households	82.0	63	
Addition: purchases of pirated products (% of legal)	2	1	*) See above
<b>Blank recording media:</b>			
Audio cassettes and so on (households)		0	
Video cassettes and so on (households)		4	
<b>Hire of televisions, videos and so on, % of video recording rentals</b>			
		2	
<b>C09142SD Records, audio and video cassettes</b>		<b>170</b>	
<b>C09421S Rentals of television, video, etc.</b>		<b>24</b>	

Table 90. Calculation of product C09422

x (B/C09422)				2012
	%	Quantity or EUR	EUR million	

Number of notifications of television sets, 1,000		1,853		Source: Finnish Broadcasting Company's annual report
Price of the television licence per year, EUR		252		Based on a Government Decree
Imputed accumulation from Åland (7,440 licences and price EUR 220/licence), EUR million			1.6	
Imputed accumulation of television licences per year, total, EUR million			470	
Households' share of television licences	98.6			Source: Television licence administration
VAT of the television licence (NOTE: The Finnish Broadcasting Company pays nine per cent VAT on payments it receives from the state's television and radio fund)	0			
=> Households' television licence expenditure, total, EUR million			464	
<b>Cable television activities:</b>				
(Some of the expenditure is reflected in rents)				
Income from pay-TV (part of cable television companies' turnover)			184	Statistics Finland: Finnish Mass Media
Pay-TV, VAT %	23			
Households' share of pay-TV expenditure	100			
=> Households' pay-TV expenditure at purchaser's price			227	
<b>Other television expenditure:</b>				
Households' other expenditure (e.g. interactive programmes)			27	No source data, estimate linked to pay-TV subscription fees as a percentage ratio.
Households' other expenditure (e.g. interactive programmes), VAT %	23			
=> Households' other expenditure (e.g. interactive programmes) at purchaser's price			34	
Benchmarking (iteration: Household Budget Survey, FNA2005 series, sources)			10	
<b>C09422S Television licences, cable television fees, etc.</b>			<b>735</b>	<b>N.B. The television licence fee changed to a public broadcasting tax from 1 January 2013</b>

Table 91. Calculation of product C0943 Football pools, lottery

<b>x (B/C0943)</b>			<b>2012</b>
	+ / -	%	<b>EUR million</b>

<b>Finnish Slot Machine Association RAY</b>			
Income from game activities, EUR million	+		775
<b>Ålands Penningautomatförening (PAF)</b>			
Turnover of the PAF group, EUR million			105
of which turnover from Åland			3
of which turnover from cruise ships			33
of which turnover from online games			68
PAF group's share of profits in turnover		72.6	
To consumption expenditure			
from turnover from Åland (excl. profits)	+	100	1
from turnover from cruise ships (excl. profits)	+	50	4
from turnover from online games	+	75	51
<b>Veikkaus Oy</b>			
Turnover from games, EUR million	+		1,776
Players' winnings, EUR million	-		950
<b>Fintoto Oy</b>			
Turnover from horserace betting, EUR million	+		249
Players' winnings from horserace betting, EUR million	-		181
<b>Bingos</b>			
Turnover, EUR million	+		89
Prizes	-	70.8	63
Balancing: international online games, EUR million	+		169
<b>C09430S Football pools, lottery, EUR million</b>	=		<b>1,921</b>

Table 92. Calculation of product C0952 Newspapers and periodicals

x (B/C0952)		2012
-------------	--	------

	%	EUR million
Sources: Statistics Finland/Mass media and its basic data sources		
<b>NEWSPAPERS</b>		
Turnover from newspapers		1,132
Income distribution of newspapers:		
Advertisements	49.4	
Subscriptions and single-copy sales	50.6	573
of which subscriptions	87.0	498
of which single-copy sales	13.0	74
Subscribed Finnish newspapers:		
Households' share of subscriptions (excl. VAT)	90.5	451
VAT	9	41
=> Finnish newspapers subscribed for by households at purchaser's price		492
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:		
Newspapers bought by households as single copies	69.5	51
VAT	23	12
=> Newspapers bought by households as single copies at purchaser's price		63
<b>Households' total newspaper expenditure, EUR million</b>		<b>557</b>
<b>MAGAZINES AND PERIODICALS</b>		
Turnover from magazines and periodicals, EUR million		<b>650</b>
Income distribution:		
Subscription fees	68.0	442
Single-copy sales	7.0	46
Ad income	25.0	72
Subscribed Finnish magazines and periodicals:		
Households' share of subscriptions	83.5	369



Table 94. Calculation of product C10000S

<b>x (B/Share of output)</b>	
<b>a) S11 Non-financial corporations - TOL 85 Education</b>	
Output at basic prices, EUR 793 million	
Breakdown of output into products:	
Driving lessons, EUR 143 million	Other education, EUR 650 million
of which 99.5% to households' expenditure	of which 32.5% to households' expenditure
=> households' consumption expenditure at basic prices, EUR 142 million	=> households' consumption expenditure at basic prices, EUR 211 million
Transition to purchaser's price:	
VAT and other taxes on products net, EUR 32 million	VAT and other taxes on products net, EUR 44 million (part is VST 0%)
<b>=&gt; To item C07243S Driving lessons: households' consumption expenditure at purchaser's prices, EUR 175 million</b>	<b>=&gt; To item C10000S Education: households' consumption expenditure at purchaser's prices, EUR 255 million</b>
<b>b) S15 Non-profit institutions serving households - TOL 85 Education</b>	
Sales of non-market products (at basic prices), EUR 45 million	
of which 100% to households' expenditure	
=> Households' consumption expenditure at basic prices, EUR 45 million	
Transition to purchaser's price:	
VAT and other taxes on products net, EUR 0 million (VAT 0%)	
<b>=&gt; To item C10000S Education: households' consumption expenditure at purchaser's prices, EUR 45 million</b>	
<b>c) S13133 Central government – TOL 85 Education</b>	
Market output (at basic prices), EUR 255 million	
of which 10 % to households' expenditure	
Sales of non-market products, EUR 0 million	
=> Households' consumption expenditure at basic prices, EUR 26 million	
Transition to purchaser's price:	
VAT and other taxes on products net, EUR 6 million (VAT 23 %)	
<b>=&gt; To item C10000S Education: households' consumption expenditure at purchaser's prices, EUR 31 million</b>	
<b>d) S1313 Local government – TOL 85 Education</b>	
Market output, EUR 230 million	
of which 3.3 % to households' expenditure	
Sales of non-market products, EUR 75 million	
of which 100% to households' expenditure	



=> Households' consumption expenditure at basic prices, EUR 83 million	
Transition to purchaser's price:	
VAT and other taxes on products net, EUR 0 million (VAT 0%)	
<b>=&gt; To item C1000S Education: households' consumption expenditure at purchaser's prices, EUR 83 million</b>	
<b>e) S1313 Local government - TOL 841_842 Public administration</b>	
Sales of non-market products, EUR 219 million	
...of which 2.5% to households' expenditure	
=> Households' consumption expenditure at basic prices, EUR 5 million	
Transition to purchaser's price:	
VAT and other taxes on products net, EUR 0 million (VAT 0%)	
<b>=&gt; To item C1000S Education: households' consumption expenditure at purchaser's prices, EUR 5 million</b>	
<b>C1000S Educational services</b>	
<b>Of the output to households' consumption expenditure</b>	EUR million at purchaser's price
C10a) S11 - TOL 85 Education	255
C10b) S15 - TOL 85 Education	45
C10c) S1311 – TOL 85 Education	31
C10d) S1313 – TOL 85 Education	83
C10e) S1313 – TOL 841_842 Public administration	5
<b>Total C1000S Educational services</b>	<b>420</b>

### 5.7.3.11 C11 HOTELS, CAFES AND RESTAURANTS

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 17 of the list of other sources in Section 5.7.2.5), statistics on tourism (number 18 of the list of other sources in Section 5.7.2.5), sales data on sea transport (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 95. The calculation methods of category C11 Hotels, cafes and restaurants and complementary sources used

Year 2012	Value	Basic calculation method	Complementary sources used

	EUR million	Summ ary level	A	B/...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
C11 HOTELS, CAFES AND RESTAURANTS	6 588	x																						
C111 Catering services	6 108	x																						
C1111 Restaurants and cafes	5 098	x																						
C11110S Restaurants and cafes	5 098			x (B/C11)																		x	x	x
C1112 Canteens	1 010	x																						
C11120S Canteens	1 010			x (B/C11)																		x		
C112 Accomodation services	480	x																						
C1120 Accomodation services	480	x																						
C11200S Accomodation services	480			x (B/C11)																		x	x	

Table 96. Calculation of products in category C11

x (B/C0952)		
Industry		2012
<b>I</b>	<b>Accommodation and food service activities</b>	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	7,029
<b>55</b>	<b>Accommodation activities</b>	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	1,730
	of which accommodation sales, %	58.6
	of which restaurant sales, %	41.4
	of which accommodation sales (heading C11200S), EUR million, excl. VAT	1,015
	of which restaurant sales (heading C11110S), EUR million, excl. VAT	715
	Households' leisure accommodation purchases of accommodation sales, %	47.1
	Share of households' consumption expenditure in restaurant sales, %	47.1
	Heading C11200S Accommodation services, EUR million, excl. VAT	478
	Heading C11110S Restaurants and cafes, EUR million, excl. VAT	337
<b>56</b>	<b>Restaurant activities</b>	
	output (EUR million) excluding VAT derived from the production account of the National Accounts	5,299
	Households' share in sales, %	85.1

	Households' share in sales, EUR million, excl. VAT	4,507
	of which heading C11120S Canteens, %	16.5
	of which heading C11110S Restaurants and cafes, %	83.5
	Heading C11120S Canteens, EUR million, excl. VAT	743
	Heading C11110S Restaurants and cafes, EUR million, excl. VAT	3,764
<b>Others</b>	<b>Restaurant services from other industries (from separate calculations)</b>	
	TOL 841_842 Public administration (EUR million, excl. VAT) => canteens	153
	TOL 85 Education (EUR million, excl. VAT) => canteens	9
	TOL 90_91 Cultural and recreational services (EUR million, excl. VAT) => canteens	3
	TOL 93 Sporting activities (EUR million, excl. VAT) => canteens	7
	Of restaurant services in water transport as households' consumption expenditure (EUR million, VAT 0%) => restaurants and cafes	53
	<b>TRANSITION TO PURCHASER'S PRICE (in terms of taxable items raised with the applicable VAT per cents)</b>	
	The elevation coefficient of accommodation services in accordance with the VAT per cent, at tax free price	1.09
	C11200S Accommodation services, EUR million	521
	Benchmarking of series (iteration: Household Budget Survey, FNA2005 series, sources)	-31
	C11200S Accommodation services, EUR million FNA2014	480
	The elevation coefficient of restaurant services in accordance with the VAT per cent, at tax-free price	1.23
	C11110S Restaurants and cafes, EUR million FNA2014	5,098
	The elevation coefficient of canteen services in accordance with the VAT per cent, at tax-free price	1.23
	C11120S Canteens, EUR million	1,125
	Benchmarking of series (iteration: Household Budget Survey, FNA2005 series, sources)	-115
	C11120S Canteens, EUR million FNA2014	
	<b>TOTAL:</b>	
	<b>C11 HOTELS, CAFES AND RESTAURANTS, EUR million</b>	<b>6,548</b>
	<b>C111 Catering services, EUR million</b>	<b>6,108</b>
	<b>C1111 Restaurants and cafes, EUR million</b>	<b>5,098</b>
	C11110S Restaurants and cafes, EUR million	5,098





C12500S Insurance	1,904		x (B/Insurance)																		
C126 Financial services n.e.c.	2,515	x																			
C1261 FISIM	637	x																			
C12611S FISIM on loans	217			Centralise d calculatio n of the National Accounts																	
C12612S FISIM on deposits	420			Centralise d calculatio n of the National Accounts																	
C1262 Actual financial services	1,878	x																			
C12620S Actual financial services	1,878			x (B/Share of output)																	
C127 Other services n.e.c.	714	x																			
C1270 Other services n.e.c.	714	x																			
C12700S Other services n.e.c.	714			x (B/Share of output)																	

Table 98. Calculation of group C122 Prostitution

<b>B/C122</b>	
	<b>2012</b>
<b>From calculations on the underground economy (corporate team):</b>	
<b>C122 Prostitution total, EUR million</b>	<b>102</b>

**x (B/Insurance)**

The data on insurance for households' consumption expenditure are produced in connection with the production account calculations of insurance by the sector researcher in question.

**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 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 99. Example: Breakdown of the output of industry "96 Other personal service activities" into use items

<b>x (B/Share of output)</b>			
Output at basic prices, EUR 1,227 million			
Breakdown of output into products:			
Hairdresser, barber and other personal hygiene services, EUR 1,043.5 million	Funeral services, EUR 109.9 million	Other sports and recreational services, EUR 24.5 million	Other n.e.c., EUR 49.1 million
- of which 77.8% households' consumption expenditure (services, no product purchases)	- of which 99.5% households' consumption expenditure	- of which 100% households' consumption expenditure	
Received:			
Households' consumption expenditure at basic prices, EUR 811.8 million	Households' consumption expenditure at basic prices, EUR 109.4 million	Households' consumption expenditure at basic prices, EUR 24.5 million	Households' consumption expenditure at basic prices, EUR 49.1 million
VAT and other taxes on products net, EUR 186.7 million	VAT and other taxes on products net, EUR 0 million	VAT and other taxes on products net, EUR 5.6 million	VAT and other taxes on products net, EUR 0 million
Households' consumption expenditure at purchaser's prices, EUR 998.5 million	Households' consumption expenditure at purchaser's prices, EUR 109 million	Households' consumption expenditure at purchaser's prices, EUR 30 million	Households' consumption expenditure at purchaser's prices, EUR 49 million
Of the goods included in industry "96 Other personal service activities" the following are allocated to households' consumption expenditure:			
C12110S Hairdresser, barber and other personal hygiene services			EUR 999 million
C12700S Other services n.e.c.			EUR 158 million
C09412S Other sports and recreational services			EUR 30 million

### 5.7.3.13 P311Y–P3Y SUMMARY AND BALANCING ITEMS

By summing up aggregate level data, item P31 / 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 100. Calculation and sources of summary and balancing items:

	Year 2012				Sources
	Value		Basic calculation method		
	EUR million	Summary level	Method A	Method B/...	
P31 / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND	104,092	x			Sum C01...C012
D DURABLE GOODS	9,230	x			Sum of 5-digit level headings ending with the letter D
SD SEMI-DURABLE GOODS	9,263	x			Sum of 5-digit level headings ending with the letters SD
ND NON-DURABLE GOODS	30,416	x			Sum of 5-digit level headings ending with the letters ND
S SERVICES	55,183	x			Sum of 5-digit level headings ending with the letter S
TUR TOURISM EXPENDITURE	-357	x			Difference: P33 – P34
P33 / S14 Consumption expenditure of resident households in the rest of the world	2,664			x (B/TUR)	Data from the tourism balance
P34 / S14 Consumption expenditure of non-resident households in Finland	3,021			x (B/TUR)	Data from the tourism balance



P31NC / S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS	103,735	x			
P31 / S15 Consumption expenditure of non-profit institutions	5,373			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	109,465	x			
P31NC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE	109,108	x			

- P31 / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND  
= Sum of product-specific consumption expenditure (C01+C02+...+C12)
- D DURABLE GOODS  
= Sum of durable goods (sum of the products whose heading codes are in the form C12345D).
- SD SEMI-DURABLE GOODS  
= Sum of semi-durable goods (sum of the products whose heading codes are in the form C12345SD).
- ND NON-DURABLE GOODS  
= Sum of non-durable goods (sum of the products whose heading codes are in the form C12345ND).
- S SERVICES  
= Sum of services (sum of the products whose heading codes are in the form C12345S).

Table 101. Calculation of tourism expenditure

x (B/TUR)		
	2012	
Free-time consumption expenditure of resident households in the rest of the world, EUR million	2,876	Statistics Finland's tourism balance (included in the balance of payments)
Hotel expenditure included in package tours abroad, EUR million	212	Estimate, the item is included in the heading C09600S Package tours of households' consumption expenditure
Difference: Consumption expenditure of resident households in the rest of the world, EUR million	2,664	

<b>TUR S14 TOURISM EXPENDITURE</b>	<b>-357</b>	
<b>P33 S14 Consumption expenditure of resident households in the rest of the world</b>	<b>2,664</b>	
<b>P34 S14 Consumption expenditure of non-resident households in Finland</b>	<b>3,021</b>	<b>Statistics Finland's tourism balance (included in the balance of payments)</b>

- P31NC / S14 CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS  
= P31 / 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
- P31DC / S14+S15 PRIVATE CONSUMPTION EXPENDITURE IN FINLAND  
= P31 / S14 CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND  
+ P31 / S15 Consumption expenditure of non-profit institutions
- P31NC / S14+S51 PRIVATE CONSUMPTION EXPENDITURE  
=P31NC / 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.

In 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 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 102. Non-profit institutions' consumption expenditure and sub-items of which consumption expenditure is formed, in 2010 to 2014, EUR million

	2010	2011	2012	2013	2014
<b>P31 / K / S15 Private consumption expenditure</b>	<b>5,087</b>	<b>5,307</b>	<b>5,373</b>	<b>5,387</b>	<b>5,565</b>
<b>P132 / R Other non-market output</b>	<b>5,082</b>	<b>5,303</b>	<b>5,370</b>	<b>5,384</b>	<b>5,562</b>
<b>D632 / K / S15 Social transfers in kind (purchased market output)</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>3</b>

## 5.9 Government final consumption expenditure

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.

Table 103. Government final consumption expenditure in 2010 to 2014, EUR million

	2010	2011	2012	2013	2014
<b>S13 General government</b>	<b>44,700</b>	<b>46,491</b>	<b>48,682</b>	<b>50,311</b>	<b>50,902</b>
S1311 Central government	12,498	12,492	12,889	13,716	13,760
S1313 Local government	28,947	30,584	32,234	33,065	33,569
S1314 Social security funds	3,255	3,415	3,559	3,530	3,573
S13141 Employee pension schemes	719	734	772	787	764
S13149 Other social security funds	2,536	2,681	2,787	2,743	2,809

### 5.9.1 Central government

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 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 from the sector accounts of 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 other government industries are collective consumption expenditure.

Also see Section 3.9.1.

## 5.9.2 Local government

**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 finances of municipalities and joint municipal authorities (part II, 01 table). 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 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 types "payments" and "producers for own use" are recorded here from the statistics on finances (part II, 01 table).

**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** (D632PAY) 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" (D632PAY) 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 based on industry. Consumption expenditure of industries 85, 86, 87\_88, 90\_91 and 93, as well as social transfers in kind from the private consumption expenditure. Non-market output of industries 411, 42+431, 50, 56, 62\_63, 681+68209, 69, 75, 78, 81, 82, 841\_842, 845, 846 and 9601 forms the collective consumption expenditure.

### 5.9.3 Social security funds

#### 5.9.3.1 Employment pension schemes

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

The consumption 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). Other social security funds have only private consumption expenditure.

**Market output (P11R)** consists of sales proceeds from the Social Security Institution's rehabilitation institute and various real estate profits. For most years, the data have been estimated based on data from previous years.

**Output for own final use (P12R)** consists of software and R&D investments deriving from centralised calculations. For most years, the data have been estimated based on data from previous years, apart from R&D investments.

**Sales of non-market products (P131R)** consists of income from the Social Security Institution card, compensation paid by the Finnish Centre for Pensions to the Social Security Institution for receiving employment pension applications, fees paid by municipalities for the right to inquiry about social security benefits, sold computer and other services, and sales proceeds from

publications. For most years, the data have been estimated based on data from previous years.

**Other non-market output (P132R)** is a residual. Market output, output for own final use and sales of non-market products are subtracted from PIR output.

**Social transfers in kind - purchased market production** consist of individual goods and services that social security funds transfer as social transfers in kind to households. They can be purchased from the market or non-market products produced by the social security funds themselves. Social transfers in kind are separated into their own group from social insurance benefits and social allowances. The table below shows the social transfers in kind, that is, social insurance benefits and social allowances that social security funds transfer to households.

Table 104. Paid social transfers in kind - purchased market production

<b>EUR million</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>OTHER SOCIAL SECURITY FUNDS</b>					
<b><u>Social transfers in kind:</u></b>					
Medicines	1,226	1,262	1,303	1,273	1,306
Doctor's services	73	74	75	73	73
Dental services	121	123	124	126	122
Examination and treatment	72	76	79	64	63
Travel and ambulance transport	251	276	298	294	305
<b>All compensation for medical treatment, total</b>	<b>1,742</b>	<b>1,811</b>	<b>1,879</b>	<b>1,830</b>	<b>1,869</b>
<b>Individual rehabilitation</b>	<b>237</b>	<b>257</b>	<b>271</b>	<b>288</b>	<b>310</b>
(Rehabilitation grant; not included in social transfers in kind)	68	72	77	84	91
(Total individual rehabilitation benefits)	305	329	348	372	401
<b>Social transfers in kind, total</b>	<b>1,979</b>	<b>2,068</b>	<b>2,150</b>	<b>2,118</b>	<b>2,179</b>
<b><u>Social allowances in kind:</u></b>					
Maternity packages	10	7	7	7	7
School transportation subsidy (starting from 1 January 1997)	33	42	48	51	51
Rehabilitation travel costs of front veterans	1	1	1	1	1
Subsidies for farmers' working condition surveys	2	2	3	3	3
Maintenance and travel allowances	17	17	14	12	11
Interpretation services for the disabled	7	27	32	35	39
<b>Social allowances in kind, total</b>	<b>70</b>	<b>96</b>	<b>105</b>	<b>109</b>	<b>112</b>
<b>D62K SOCIAL TRANSFERS IN KIND, PAYABLE</b>	<b>2,049</b>	<b>2,164</b>	<b>2,255</b>	<b>2,227</b>	<b>2,291</b>

## 5.10 Acquisitions less disposals of produced fixed assets

### 5.10.1 Overview

"Acquisitions of tangible fixed assets minus transfers" in accordance with ESA2010 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 Solidium Oy and Leijona Catering Oy
- 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*

##### *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.

##### *Forestry*

Construction investments of forestry concerning the non-financial corporations and households sectors come from Statistics Finland's structural statistics.

### ***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).

### ***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.)

### ***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.

Also see Section 5.10.3.1.

### ***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 2012, the investments of other social security funds totalled EUR 15 million.

### ***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***

ESA2010 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

Table 105. Gross fixed capital formation by product type and industry in 2012, EUR million, at current prices

	A	B	C	D	E	F	G	H	I	J
<b>N1</b>	1,593	464	6,845	1,684	605	887	1,868	1,437	225	1,781
<b>N111</b>										
<b>N112</b>	854	151	400	900	363	138	387	253	64	148
<b>N1121</b>	516	55	382	179	80	117	379	168	64	15
<b>N1122</b>	82	89	18	721	283	21	8	85		133
<b>N1123</b>	256	7								
<b>N113</b>	703	214	2,139	674	214	643	1,044	1,068	138	650
<b>N1131</b>	295	35	109	40	43	143	276	841	24	63
<b>N11321</b>	14	4	105	8	4	7	39	10	5	150
<b>N11322</b>	7	12	180	12	7	9	43	22	10	112
<b>N1139</b>	387	163	1,745	614	160	484	686	195	99	325
<b>N114</b>										
<b>N1151</b>	29									
<b>N117</b>	7	99	4,306	110	28	106	437	116	23	983
<b>N1171</b>	2	9	3,476	35	25	50	101	12	1	342
<b>N1172</b>		87								
<b>N1173</b>	5	3	830	75	3	56	336	104	22	369
<b>N1174</b>										272
<b>N1179</b>										

	K	L	M	N	O	P	Q	R	S	A_S
<b>N1</b>	418	16,844	1,308	618	3,500	2,204	1,379	583	246	44,489
<b>N111</b>		12,585			-35		9			12,559
<b>N112</b>	18	4,099	39	34	2,329	577	919	374	128	12,175
<b>N1121</b>	18	4,015	39	31	364	562	900	226	122	8,232
<b>N1122</b>		17		3	1,965	15	19	148		3,607
<b>N1123</b>		67							6	336
<b>N113</b>	60	138	299	509	426	210	364	129	91	9,713
<b>N1131</b>		49	35	182	102	18	38	26	9	2,328
<b>N11321</b>	33	4	41	65	31	24	14	6	6	570
<b>N11322</b>	4	1	12	25	7	7	16	17	11	514
<b>N1139</b>	23	84	211	237	286	161	296	80	65	6,301
<b>N114</b>					538					538
<b>N1151</b>								11		40
<b>N117</b>	340	22	970	75	242	1,417	87	69	27	9,464
<b>N1171</b>	93	3	832	5	75	1,387	15	15	7	6,485
<b>N1172</b>										87
<b>N1173</b>	247	19	138	70	166	30	72	22	20	2,587
<b>N1174</b>								32		304

<b>N1179</b>					1					1
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Table 106. Gross fixed capital formation by asset category and sector in 2012, EUR million, at current prices

	S1	S11	S12	S13	S14	S15
<b>N1</b>	44,489	23,101	418	7,952	12,480	538
<b>N111</b>	12,559	1,567		-26	10,878	140
<b>N112</b>	12,175	6,638	18	4,361	905	253
<b>N1121</b>	8,232	5,204	18	2,191	589	230
<b>N1122</b>	3,607	1,367		2,164	63	13
<b>N1123</b>	336	67		6	253	10
<b>N113</b>	9,713	8,034	60	901	622	96
<b>N1131</b>	2,328	1,910		115	303	
<b>N11321</b>	570	466	33	57	9	5
<b>N11322</b>	514	470	4	19	6	15
<b>N1139</b>	6,301	5,188	23	710	304	76
<b>N114</b>	538			538		
<b>N1151</b>	40	15			25	
<b>N117</b>	9,464	6,847	340	2,178	50	49
<b>N1171</b>	6,485	4,401	93	1,945		46
<b>N1172</b>	87	87				
<b>N1173</b>	2,587	2,087	247	232	18	3
<b>N1174</b>	304	272			32	
<b>N1179</b>	1			1		

### 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 of 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 "5.10.3.2.1 Structural statistics" above. Here, the calculation is explained to the extent other data sources and methods are used.

#### *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.

#### *Forestry*

Civil engineering investments of the non-financial corporations and households sectors come from METLA's database on forestry and forest improvement work.

#### *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.

### ***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.

### ***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.

### ***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".

Also see Section 5.10.3.1.

## **5.10.3.4 N1123 Land improvements**

### ***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. The value of land improvements in industry 089 was EUR seven million in 2012.

### ***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 "5.10.3.2.1 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.

### ***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.

### ***Forestry***

Investments in machinery and equipment of forestry concerning the non-financial corporations and households sectors come from Statistics Finland's structural statistics.

### ***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).

### *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".

Also see Section 5.10.3.1.

#### *5.10.3.6 N114 Weapon systems*

##### **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).

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.

##### **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

#### *Capitalisation of R&D expenditure*

According to ESA2010, research and development expenditure (R&D) is recorded as investments not as intermediate consumption. The technical calculation change mainly applies to the non-financial corporations sector (S11) and the public sector (S13), and, to a smaller extent, the financial corporations sector (S12) and the non-profit institutions sector (S15).

In the method applied in the calculation of the non-financial corporations sector (S11 and S12), the share of industry and sector-specific intermediate consumption from previous time series of the National Accounts, which is considered to belong to the investment concept of the National Accounts is moved to R&D investments. In addition, R&D produced for own final use is 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) are left in intermediate consumption. 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 (S13) is similar to that of the private sector. The R&D investments of the public 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 nor imports/exports.

The main source data is the statistics describing research and development activity (R&D expenditure statistics). The statistics is compiled based on the OECD's and the EU's recommendations. The Statistics Act (280/2004) is applied in the production of the statistics on science and technology (incl. research and development). In addition, Commission Regulation (EC) No 753/2004 requires collection of data and steers the compilation of the statistics. The import and export data of R&D services (e.g. merchanting) derive from the statistics on international trade in services.

The main data source is the statistics on research and development (R&D expenditure statistics). Recommendations of the OECD and EU are observed in the compilation of the statistics. The Statistics Act (280/2004) is applied in the production of the statistics on science and technology (incl. research and development). In addition, Commission Regulation (EC) No 753/2004 requires collection of data and steers the compilation of the statistics. The import and export data of R&D services (e.g.

merchandising) derive from the statistics on international trade in services. In addition, data from the National Accounts, business structural statistics and the Structure of Earnings statistics are used.

In the statistics on R&D expenditure (BERD), 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. A corresponding raising and intrapolation has been performed on the investments in the R&D expenditure statistics (machinery, equipment, buildings and other acquisition costs of fixed assets). The annual investments in the R&D expenditure statistics have been replaced with consumption of fixed capital, that is, in the calculation, investments are deducted and consumption is added.

The output and investments of research and development activities of the non-financial corporations sector are calculated as follows:

$$(1) \text{ R\&D OUTPUT} = \text{R\&D EXPENDITURE (BERD)} - \text{CAPITAL EXPENDITURE} + \\ \text{CONSUMPTION OF FIXED CAPITAL} + \text{OPERATING SURPLUS} - \text{OTHER SUBSIDIES ON} \\ \text{PRODUCTION} - \text{SOFTWARE DEVELOPMENT COSTS} + \text{INTERMEDIATE CONSUMPTION} \\ + \text{MARKET OUTPUT (S11)}$$

$$(2) \text{ R\&D INVESTMENTS} = \text{R\&D OUTPUT} + \text{R\&D ACQUISITIONS (S13)} - \text{INTERMEDIATE} \\ \text{CONSUMPTION} + \text{IMPORTS} - \text{EXPORTS}$$

–

The output and investments of research and development activities of the public sector (and the non-profit sector) are calculated as follows:

$$(3) \text{ R\&D OUTPUT} = \text{R\&D EXPENDITURE (BERD)} - \text{CAPITAL EXPENDITURE} + \\ \text{CONSUMPTION OF FIXED CAPITAL} - \text{SOFTWARE DEVELOPMENT COSTS} + \text{MARKET} \\ \text{OUTPUT (S11)}$$

$$(4) \text{ R\&D OUTPUT} = \text{R\&D INVESTMENTS}$$

For determining consumption of fixed capital, the stock of capital used in R&D production in 1994 has been assessed. The calculations utilise the National Accounts ratio of the net stock of fixed capital to investments by industry in the following way:

$$(5) \text{ STOCK} = \text{N}/(\text{I} \cdot \text{ACOST}) - \text{ACOST}$$

in which N is the value of the net stock in 1995, I represents investments in the industry in 1995 and ACOST represents the acquisition costs of the industry in R&D expenditure statistics.

Next the consumption rate (D) has been calculated for 1995:

$$(6) D = C/N$$

where C is consumption of fixed capital.

Consumption (CON) for 1995 is achieved by adding investments to the net stock (NST) of the previous year and multiplying this with the consumption rate:

$$(7) CON_t = D \cdot (NST_{t-1} + ACOST_t)$$

The net stock is accrued by adding investments and subtracting consumption from the net stock of the year before:

$$(8) STOCK_t = (NST_{t-1} + ACOST) - CONS$$

The consumption ages of the product type "R&D assets" are assessed by industry and sector, based on international recommendations and average validity of patents. The average consumption age of product types is around ten years. Consumption of fixed capital is centrally calculated with the Perpetual Inventory Method. Time series are calculated genuinely starting from the year 1995. For the period 1975 to 1994, the index calculated based on the R&D expenditure statistics is used. Because the consumption time series starting in 1975 require an opening capital stock for 1974, this is estimated with a model instructed by the OECD based on the 1975 investment level and risk of consumption.

Consumption of fixed capital in the R&D production of the public sector and non-profit institutions is calculated in a similar manner as in the non-financial corporations sector.

The method applied in the calculation of R&D expenditure is cost based. The value of R&D activities in commercial research laboratories has also been calculated based on remuneration costs of personnel and other acquisition costs (e.g. materials and supplies, services bought from elsewhere). In R&D calculations, the operating surplus of the industry is added to these costs.

Data on the ratio of expenditure on software developers' wages and salaries to the expenditure on wages and salaries of other employees from the structural statistics on wages and salaries are used in eliminating software overlaps. Missing data for 1996 have been linearly intrapolated on the basis of data for 1995 to 1997. 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.

R&D input 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) are classified as intermediate consumption. Intermediate consumption is calculated based on the R&D services purchased by industry 72 (research and development). R&D export and import data are based on data by industry on research and development services obtained from the statistics on foreign trade.

The operating surplus (return on capital) is achieved by multiplying the industry-specific R&D expenditure from the production accounts with multipliers calculated as the ratio of operating surplus and output. A five year moving average has been used in the calculation of the multiplier to reduce random variation. Other subsidies on production are calculated as the weighted sum of external financing (subsidies, chargeable research) in R&D expenditure statistics.

Table 107. Calculation items and value of R&D investments in 2012 (EUR million)

	T&K-menot (BERD)	Pääoma- menot	Kiinteän kuluminen	pääoman Toiminta- ylijäämä	Tuotantotuki- palkkiot	Ohjelmistojen kehittämismenot	Välituote- käyttö	Markkina- tuotos (S11)	T&K TUOTOS	T&K hankinta	Välituote- käyttö	Tuonti	Vienti	T&K INVESTOINNIT
Yrityssektori (S11, S12)	3952	196	204	312	168	291	14	448	4611	144	14	211	440	4512
Julkinen sektori (S13, S1)	662	28	28			11		144	795					795

### 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. In 2012, investments in mineral exploration amounted to EUR 87 million.

### 5.10.3.10 N1173 Software and databases

#### **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".

#### **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".

Also see Section 5.10.3.1.

### 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 entertainment, literary and art originals is the copyright that entitles economic utilisation of the original.

In the National Accounts, investments in originals are low relative to all investments. The lifetime of original investments is assumed to be ten years. In the capital stock calculations, a geometric consumption model is used so the consumption is larger in the early years. The calculation method for originals is crude and the method is currently being developed from 2013 onwards. The year 2012 was calculated with the old model, which is explained below.

#### **Films**

All films and short films that meet the criteria listed above are included in film originals. Only the final, edited version is considered as an original. The production company of the films decides in which country's accounts the original is included.

In Finland, the Film Foundation annually lists the films produced in Finland, which the foundation has supported and their budgets. The budgets also include marketing costs, so the film's production costs are estimated to be lower than the total budget. The originals estimate of films is added as an investment to industry 59\_60 (Motion picture, video and television programme production) and the corresponding figure is subtracted from the industry's intermediate consumption.

#### **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 because they can be shown more than once or in several countries. Thus, stock programmes are

considered to meet the lifetime criterion for originals. Flow programme formats form an exception as they are considered to belong to originals. Formats can be reused and they can be sold onwards.

Radio and television companies are making less and less programmes themselves. In the National Accounts, production for own final use in industry 59\_60 is a rough estimate based on notifications by larger companies on the share of own production in their programmes. The corresponding item is also added to investments.

Programmes purchased from outside are recorded as expenses in bookkeeping. If the acquisition cost covers more than one showing, the companies record around 40 to 100 per cent of the acquisition cost as an expense. The estimate on what share of television programmes' acquisition costs are considered to belong to stock programmes is based on the report "Finnish television programme supply" published by the Ministry of Transport and Communications that examines the programme production of television channels by type. The estimate item is transferred from intermediate consumption to investments in industry 59\_60.

### **Original books**

All books meet the criteria of originals regardless of the topic, style or publication form.

The calculation of original books starts with the copyright income, the value of which comes from the Tax Administration. Personal taxation data contain copyright compensations both as earned income and capital income. The income is recorded as earned income when it is based on the own activities of the person liable to pay taxes. If the copyrights have been received as an inheritance or based on a last will and testament, the income is capital income. The Tax Administration's copyright compensations include income from all types of intangible assets. Data from organisations that collect and distribute copyright compensations are utilised when dividing the income. In Finland, organisations collection copyright compensations for literature are Sanasto and Kopiosto.

Copyright compensations received by authors are included in the output of industry 90\_91 (Cultural activities) of the households sector. It is assumed that the compensations are paid by domestic publishing houses. In this case, the compensations paid are removed from the intermediate consumption of industry 58 (Publishing activities) and moved to original investments of the industry.

### **Original music pieces**

All types of music that meet the criteria of originals are considered to be originals. Music videos are also originals. Advertisement jingles, etc. do not meet the criteria of originals based on their lifetime.

In Finland, copyright compensations 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. Compensations to private persons are estimated from the Tax Administration's personal taxation data just like for books. More often than among authors, music makers are companies, in which case their turnover contains the income from music.

Compensations paid to private persons are added to the output of industry 59\_60 of the households sector. The share of compensations collected in Finland are considered to be paid by enterprises in industry 59\_60. Therefore, the corresponding item from industry 59\_60 of the non-financial corporations sector's intermediate consumption is moved to its investments. The remainder of the output increase is assumed to belong to the investments of industry 59\_60 of the households sector.

#### *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 Changes in inventories*

#### *5.11.1 General comments*

The changes in inventories is classified by type of inventory in the National Accounts. The types of inventory according to ESA2010 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. Therefore, no items are recorded in the change of defence equipment inventories.

Materials and supplies are divided 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 have only been recorded in agriculture. Forest growth has been recorded as a change in inventories. Unfinished buildings are not recorded in other work in progress, they are recorded as investments as the construction progresses.

Finished products and work in progress are valued at basic prices, materials and supplies and merchandise at purchaser's prices. In Finland, the average prices of the accounting period (average of the beginning and end of the year) are used to calculate inventory stocks and changes in inventories excluding work in progress.

### 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 numbers are based on a sample survey conducted in December, although for bovine animals, the data derive directly from the bovine animal register. 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 beginning 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 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.

### 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 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 Finnish Forest Research Institute 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.

### 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. Inventories at the beginning and end of the accounting period are turned into average priced in building construction with the supply input index of

building construction. In civil engineering average prices are achieved with the help of the producer price indices of building construction and civil engineering.

### *5.11.5 Other industries in the non-financial corporations and households sectors*

The source data for inventory data of the industries in the non-financial corporations and households sectors are the structural business statistics. Change in inventories for the industries are calculated through the inventory stock of the establishments, i.e. as the difference between the opening and closing values of the inventories. Both the opening and closing values are taken from the structural business statistics. The closing value of the inventories is the balance sheet value of current assets. The closing value of the previous year is copied as the opening value unless the establishment is included in the establishment inquiry (T5) that asks for the opening and closing values of inventories. The structural business 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.

In connection with the source data run of inventory stocks 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 beginning inventory data are available from the previous year, the beginning 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 beginning 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 order to find differences, a revision run is made and the biggest differences are revised manually. Depending on the case, either the beginning or closing value of the inventory stock is revised.

In the National Accounts, inventories excl. work in progress are valued at the average price of the year. The beginning and closing inventories of finished products are turned into average price values with the industry-specific producer price index. The beginning and closing inventories of merchandise are turned into average price values by utilising the total index of the basic price index for domestic supply. The beginning and closing inventories of fuel are turned into average price values with the basic price index for domestic supply of hard coal. The beginning and closing inventories of other materials and supplies (mainly raw materials) are

turned into average price values with the help of the industry-specific basic price index.

Inventory calculation is carried out in the inventory sub-system of the National Accounts' annual application. Inventory stocks are also turned into average price values in the inventory sub-system. Thus, the change in inventories is calculated as the difference between the beginning and closing stock at average prices. The method is not applied to work in progress, the change in inventories is accordant with the price concept of the structural business statistics (mainly valued based on actual production costs). When the average priced changes in inventories by industry have been calculated, they are carried forward to the production account sub-system. The change in finished and unfinished inventories is recorded in the output, while the change in inventories of materials and supplies belongs to 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.

## 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. Of government's accounting offices, the most considerable valuable acquisitions are made by the National Gallery.

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 an estimate by a sector expert.

Table 108. Acquisitions of valuables minus reductions in 2012, EUR million



	S1 Total economy	S1311 Central government	S1313 Local government	S14 Households
N13 Valuables	69	2	2	
N131 Precious metals and stones				
N132 Antiques and other art objects	65			
N133 Other valuables	4	2	2	

### 5.13 Exports 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 in principle congruent with the figures presented in the balance of payments but due to technical reasons the data differ slightly. The common information system will remove these differences in 2017.

The main data source for foreign trade in goods is the foreign trade statistics, which in Finland are produced by the Finnish Customs' statistical department. Due to the revision of National Accounts (ESA2010), the data from the Finnish Customs are complemented in terms of global production. Additionally, in National Accounts import is reported at FOB value instead of CIF value used in the Finnish Customs. The Customs's data is also covered, for example, with the estimates of e-commerce and illegal imports. Table 109 shows imports and exports of goods and services.

Table 109. Imports and exports of goods and services in National Accounts 2010 – 2012

Year / in million euros	2010	2011	2012
<b>P7 / R Imports of goods and services</b>	<b>69 998</b>	<b>78 768</b>	<b>81 764</b>
<b>P71 / R Imports of goods</b>	<b>49 221</b>	<b>57 269</b>	<b>57 272</b>
<b>P72 / R Import of services</b>	<b>20 777</b>	<b>21 499</b>	<b>24 492</b>
P721 / R FISIM import	146	152	222
P7211 / R FISIM import, loans	99	143	192
P7212 / R FISIM import, deposits	47	9	30
P722 / R Other imports of services	20 631	21 347	24 270
P7221 / R Imports of manufacturing services	321	345	363
P7222 / R Other imports of services except FISIM and manufacturing services	20 310	21 002	23 907
<b>P6 / K Exports of goods and services</b>	<b>72 366</b>	<b>77 093</b>	<b>78 881</b>
<b>P61 / K Exports of goods</b>	<b>51 470</b>	<b>55 655</b>	<b>56 561</b>
<b>P62 / K Exports of services</b>	<b>20 896</b>	<b>21 438</b>	<b>22 320</b>
P621 / K FISIM export	80	93	81
P6211 / K FISIM export, loans	79	93	81
P6212 / K FISIM export, deposits	1		
P622 / K Other exports of services	20 816	21 345	22 239
P6221 / K Exports of manufacturing services	604	319	254
P6222 / K Other exports of services except FISIM and manufacturing services	20 212	21 026	21 985

The table below shows the items of the National Accounts' goods trade by data collection period: M = Monthly, Q = quarterly and A = annual. The table also describes the value of the data collection estimate:

OV = research data, less than 20% estimation,

OE = research data - share of estimation 20 to 50%,

E50 = share of estimation 50 to 80%,

E80 = share of estimation over 80%

Table 110. Data sources, reporting period and estimate quality of goods trade in the National Accounts

Goods trade item	Exports/imports	Data collection/method	Period	Estimate
Goods trade,	Exports Imports	Foreign trade statistics, statistical department of Finnish Customs  Goods items related to goods for processing (41,42,51,52) are removed based on the code of the nature of the trade activity	M	OV
Merchanting exports	Exports	Statistics on international trade in services (ITS)  purchases of goods, negative entry and sales of goods, positive entry	Q	OV
Income and expenditure of foreign sea transport	Exports Imports (partly)	Included in ITS data collection  Separate data collection has ended (2015)	Q	OV
Air transport	Exports and Imports (partly)	Included in ITS data collection  Separate data collection has ended (2015)	Q	OE
CIF-FOB conversion	Imports	Estimator from goods imports -> to service imports  Sea freight, Air freight, Railway freight, Freight insurance	M	E50
e-commerce estimate	Imports	The basis for the estimate is the statistics on e-commerce produced by a market research bureau	A	E50
Vehicles imported by private persons	Imports	The vehicle unit of Finnish Customs	A	OE

Review of goods for processing	Exports and imports	The National Accounts, detailed enterprise-specific review in supply-use context	A (+ 2 years)	E50
The illegal economy estimate	Imports	Finnish Customs, the Police, National Institute for Health and Welfare	A	E80

### 5.13.1 Foreign trade statistics

The foreign trade 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**.

Legislation concerning the compilation of statistics on the EU's internal and external trade ensures that the statistics are based on precisely defined norms that are applied in all EU member states. In addition, uniform definitions and methods for practical application of foreign trade statistics have been given in regulations and decisions of the Commission.

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 internal and external trade are published as one set of statistics of foreign trade. Preliminary data on foreign trade is available around six weeks from the end of the statistical reference month and detailed product statistics within around nine weeks.

Statistics on internal trade 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. The parties responsible for reporting statistical data on internal trade have been defined in Article 20 of the basic Regulation on internal EU trade No 3330/91. 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 2015, the value threshold for the data supply obligation was EUR 500,000 for imports and exports. The total value data of internal 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 internal and external trade. Regional division is determined

uniformly based on the concepts of country of origin and country of destination. Foreign trade statistics are very extensive in Finland and include, for example, data on the imports and exports of valuables and on outsourcing.

### 5.13.2 Differences in statistical bases

The statistical bases of the National Accounts and the balance of payments differ slightly from the IMTS recoding principles of foreign trade statistics. As a result of the ESA2010 calculation system renewal, the recording of the National Accounts are based on **changes in the ownership of the product**. According to Finnish Customs' IMTS 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. These recording differences between ESA2010 and IMTS are explained more in detail later in chapter 5.17

### 5.13.3 CIF-FOB conversion

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.

### 5.13.4 Coverage revisions

Other revisions are also made to Finnish Customs' statistics on imports and exports of goods in the balance of payments and the National Accounts. In order to improve coverage, imports of goods from the EU area related to private persons' online shopping are added. The basis for the estimates is the statistics on e-commerce produced by a market research bureau. e-commerce outside the EU area is included in Finnish Customs' statistics so it has not been estimated.

Goods imports are complemented with the value of vehicles imported by private persons, which has not been considered in foreign trade statistics. The source for the data is the annual data of Finnish Customs' vehicle tax unit.

An estimate on the value of illegally imported alcohol, narcotics and tobacco is also added to goods imports. The calculations by the National Research and Development Centre for Welfare and Health are based on the number of confiscations by Finnish Customs and the police.

So-called bunker oil sold in Finland to foreign ships and aircraft is nowadays included in the goods procured in ports of Finnish Customs' goods trade statistics but the fuels acquired by Finnish ships and aircraft abroad must be inquired with a separate inquiry.

## 5.14 Exports of services

This section describes the calculation of both exports and imports of services.

The figures of imports and exports of services in the National Accounts are congruent with the figures presented in the balance of payments when, in connection with the ESA2010 renewal, recording of foreign trade in construction services was moved from property income to services in the National Accounts.

Statistics on international trade in services has consisted of several sources, the most important one being Statistics Finland's inquiry to enterprises on international trade in services. In addition, data on service trade have been inquired in several separate inquiries. The fact that there have been several inquiries has made it difficult for some enterprises to respond, and starting from 2015, the enterprise inquiries on international trade in services have been developed to fit under one inquiry.

Table 111. Data sources, reporting period and estimate quality of service trade in the National Accounts

Service item	Exports/im ports	Data collection/method	Period	Estimate
Manufacturing services (on physical inputs owned by others) Maintenance and repair services n.e.c. Postal and courier services, Transport services, Construction services, Financial services (not FISIM), Telecommunications, computer, and information services, Royalties and licence fees, Other business services, Personal, cultural and recreational services	Exports Imports	Statistics on international trade in services	Q	OV
Income and expenditure of foreign sea transport	Exports, imports (partly)	Statistics on international trade in services The separate inquiry has ended (2014)	Q	OV
Income and expenditure of foreign air transport	Exports, imports (partly)	Statistics on international trade in services	Q	OE

		The separate inquiry on air transport has ended (2014)		
Estimator: Freight services in sea transport Freight services in air transport Freight services in rail transport Freight insurance services	Imports	CIF-FOB estimation	M	E50
Tourism services	Exports Imports	Statistics Finland/Business Statistics The Border Interview Survey was ended in 2014 New method is being developed	Q	OE
e-commerce estimate	Imports	TNS Gallup statistics on e-commerce	A	E50
Value of imputed international housing services based on housing wealth	Exports Imports	estimate, National Land Survey of Finland, Household Budget Survey	A	E50
Other services in sea transport	Exports	Finnish Customs fairway dues, Finnish Port Association, Finnish Maritime Pilots' Association	A	OE
Inquiry on railway transport	Exports, Imports	Statistics on international trade in services The separate inquiry on air transport has ended (2014)	Q	OE
Insurance services	Exports Imports	Insurance corporation inquiry Financial Supervision Authority	A	OE
FISIM financial services	Exports Imports	National Accounts, centralised calculation	Q	OE
Estimate on the illegal economy	Imports	Finnish Customs, the Police, National Institute for Health and Welfare	A	E80
Individual revision item	Exports Imports	National Accounts, considerable item detected when examining financial statements	Z	Z
Manufacturing services (on physical inputs owned by others, processing fee) and factoryless goods processing	Exports Imports	The National Accounts, detailed enterprise-specific review in supply-use context	A (+ 2 years)	E50

### 5.14.1 Statistics on international trade in services

The main source for exports and imports of services is Statistics Finland's enterprise inquiry of the statistics on international trade in services based on which the statistics on international trade in services are also published. The inquiry has been renewed in 2014 to correspond with the new calculation requirements of the National Accounts and balance of payments. In the quarterly and annual inquiry on international trade in services, enterprises are asked about international trade in services divided by country and service type. The classification used in the compilation of the statistics is the Extended Balance of Payments Services (EBOPS) classification, which is an international classification presented in the Manual on International Trade in Services. The inquiry covers

manufacturing services, maintenance and repair services n.e.c., postal and courier services, transport services, construction services, financing services, telecommunication, information technology and information services, royalties and licence fees, other business services, and personal, cultural and recreational services. The inquiry does not include tourism and insurance services.

The data on international trade in services are collected from all enterprises known to be engaged in international trade in services. In addition to this total survey, data are also collected by random sampling from such enterprises for which it is not known whether they have international trade in services. The response data received from enterprises included in the sample are raised to correspond with the data by industry on all enterprises included in the framework. The international trade in services data are collected in annual and quarterly inquiries. The annual inquiry usually includes 3,300 enterprises and the quarterly inquiry 300 enterprises.

#### *5.14.2 Travel services*

In 1999, a method based on travel surveys was developed at Statistics Finland for measuring travel income and expenditure. The main source for travel income is the Border Interview Survey directed at foreign tourists that is complemented with the accommodation statistics compiled in accordance with the EU's directive on tourism statistics (95/57/EC). The source for travel expenditure is the travel survey directed at persons living in the country, which is complemented with package tour statistics collected by the Association of Finnish Travel Agents. The reference data are statistics on international air and sea transport. The Border Interview Survey was abolished in 2014 and, for example, a method utilising credit card data is being developed instead.

#### *5.14.3 Transport and traffic services*

Production of data on transport services and traffic has been a complex whole formed by various separate inquiries and estimators. All imported goods include transport fees, and it does not make sense to inquire them quarterly.

Data concerning the exports of transport services have mainly been acquired with separate inquiries and data on imports of transport services are mainly estimated in connection with the CIF-FOB conversion. Data concerning the exports and partly imports of transport services in sea transport have been derived from the statistics on income and expenditure of foreign sea transport compiled by the Business Statistics unit. The freight income received by Finnish shipping companies from transporting freight with their own or leased equipment in transport between Finland and the rest of the world, and the same income from transport between third countries are recorded as freight income in sea transport.

All data cannot be covered with inquiries. Fairway dues reported by Finnish Customs, harbour services for international vessels and piloting fees provided by the Finnish Port Association are included in other income in sea transport.

Freight expenditure of sea, air and railway transport to abroad is estimated in connection with the CIF-FOB conversion of imports. The export data of transport services in air traffic have been inquired from domestic enterprises engaged in international air transport. The income of international airlines from Finland has been estimated based on data from the above-mentioned enterprise and market share data on air transport from Finland to abroad. The income and expenditure of railway transport have been collected by asking the only railway transport company for the time being about its income and expenses in international transport. Export income of road transports from abroad is based on an expert estimate from the Finnish lorry association.

The inquiry on international trade in services has covered the inquiry on road transport imports. Starting from 2015, the inquiry on international trade in services has included the inquiries on exports in sea, railway and air transport services. Separate inquiries were last completed concerning the year 2014.

#### 5.14.4 Insurance services

The imports and exports of insurance services have derived from an inquiry directed at insurance corporations operating in Finland. The inquiry asks insurance corporations about their international insurance operations using the following distribution: reinsurance directed at and received from abroad, life and pension insurance acquired from abroad (from foreign residents), other original insurance acquired from abroad, and international purchases and sales of services supporting insurance activities. The inquiry includes all insurance corporations operating in Finland.

In the insurance inquiry, insurance corporations operating in Finland were asked about gross income from abroad and gross expenses to abroad related to received reinsurance. The same questions were asked about reinsurance surrendered (given) to abroad. Premium income, paid damages, fees, other income and other expenses were asked concerning life and pension insurance acquired from abroad.

The exports of insurance services are calculated from the above-mentioned data so that in terms of received international reinsurance the exports of services are the item gross income from abroad minus gross expenses to abroad. In terms of services supporting insurance activities the volume of service exports is also income from abroad minus expenses to abroad. In terms of other insurance types, imports are the average share of service fees of domestic insurance relative to insurance premiums received from abroad of these insurance types.

The imports of insurance services are calculated from the above-mentioned data so that in terms of surrendered international reinsurance the import of services is the item gross expenses to abroad minus gross income from



abroad. We currently have no information on the number or size of original insurance acquired from abroad. We do, however, make a cautious estimate on the insurance premiums paid abroad on original insurance. Based on this estimate, we calculate the imports of original insurance services based on the domestic share of service fees as described above in the calculation of exports.

Table 112. Reporting level of insurance corporations' international activities from the VH01 form, FIVA rest of the world, EUR million

Insurance type	Row identifier	Life insurance corporation (410)	Non-life insurance corporation (420)
Revenue total	05	228.1	223.1
Premium income total	0510	206.0	87.1
Premium income original insurance	051005	203.5	23.7
Premium income reinsurance	051010	2.6	63.4
Compensations received from re-insurers	0515	4.3	127.6
Premiums received	0520	17.6	8.3
Other income received	0525	0.1	0.0
Expenditure total	10	717.7	178.3
Claims paid total	1010	706.2	54.1
Claims paid, original insurance	101005	705.0	9.0
Claims paid, reinsurance	101010	1.2	45.1
Premiums paid to re-insurers	1015	5.7	115.3
Premiums paid	1020	2.1	9.0
Other expenses paid	1025	3.7	0.0

#### 5.14.5 Adaptations of supply-use balancing in manufacturing services

The activities of the main enterprises involved in manufacturing services are examined by commodity in the supply-use framework. When the final data are completed (t+2 years), the commodities of the main enterprises are balanced, which may lead to revisions in the imports and exports of manufacturing services.

#### 5.14.6 Imputed housing services

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. Since then, the housing wealth and annual investment level have been estimated based on previous years.

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 re-estimate the investments in international dwellings.

The source data for direct investments in the balance of payments are based on the National Land Survey's statistics on real estate transactions, which also include data on the buyer's nationality. These figures were raised by 20 per cent based on an estimate, in order for them to cover dwelling transactions as well.

There are no actual source data on the value of housing services used. Received property income have been used as estimates. The annual imputed property income has been estimated based on the balance sheet value of housing wealth. According to the estimate, the dwelling would be used three months per year and the annual income would be 4.2 per cent. As a model for the calculations, 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.

#### *5.14.7 FISIM service items*

The centralised FISIM calculation of the National Accounts produces the service items for exports and imports of financial services.

#### *5.14.8 Other service items*

The imports of services in the illegal economy include prostitution. The estimate is based on reports by the National Research and Development Centre for Welfare and Health and the police. The calculations are carried out in a centralised manner in the National Accounts.

In the enterprise-specific examination, individual items have been added to international trade in services, which would otherwise be ignored. For example, a considerable financial service item is licence payments that are not reported in the statistical inquiry.

### *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 ESA2010, 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 ESA2010,

international phenomena are recorded 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 enterprise involved in global production has increased considerably in the statistical reference year 2013. 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 ESA2010 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 processed abroad 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.

#### Merchandising:

- The production value of the Finnish enterprise includes the margin of trading taking place abroad, purchases and sales. Merchandising is inquired in connection with the enterprise inquiry on international trade in services.
- According to ESA2010, the merchandising margin is shown as exports of goods trade. According to the instructions, the merchandising 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 merchandising enterprises are available.

#### Factoryless goods producers:

Factoryless goods producers are not mentioned in the ESA2010 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 international margin is recorded in the exports of services that are productised in the supply and use tables according to the

Finnish activities of the factoryless enterprises (e.g. research and product development or headquarter services).

## CHAPTER 6 THE BALANCING OR INTEGRATION PROCEDURE, AND VALIDATING THE ESTIMATES

### 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 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+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.

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 into basic prices.
4. Compilation of unbalanced product account.
5. Balancing of the supply and use data.

#### 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 (product transaction specific) data (t+19 months) of the National Accounts' various sub-systems (SS).

##### Sub-system

Output and employment (OJ\_VU14\_TUOTTYOLL)  
 Rest of the world (OJ\_VU14\_ULK)  
 Investments (OJ\_VU14\_INV)  
 Consumption expenditure (OJ\_VU14\_KULUTUS)

##### Product transaction

output and intermediate consumption  
 imports and exports  
 gross fixed capital formation  
 private consumption, public  
 consumption expenditure and

Inventories (OJ_VU14_VARASTO)	consumption expenditure of non-profit institutions
Sector accounts (OJ_VU14_STILI)	changes in inventories
	taxes on products and subsidies on products

In the compilation of SUT, the product transaction specific data concerning the supply and use of the National Accounts are divided into 776 products according to the National Accounts' classification of products (NACP) (Appendix) that is based on the CPA2008 classification. The supply and use data are divided into ten supply data categories and 40 use data categories in accordance with the National Accounts (see Table 113). The industry, sector, producer type and output type classifications, and the accuracy of the classifications are the same as in the annual accounts. The Standard Industrial Classification contains 179 NACE industries. Only gross fixed capital formation and the changes in inventories are compiled in SUT without the Standard Industrial Classification, deviating from the annual accounts.

Table 113. Supply and use data categories of the supply and use tables

Code	Heading
1010	Domestic output
1022	Imports of goods, EU, members of EMU
1023	Imports of goods, EU, non-members of EMU
1024	Imports of goods, non-EU
1026	Imports of services, EU, members of EMU
1027	Imports of services, EU, non-members of EMU
1028	Imports of services, non-EU
1102	Cif/fob adjustment, EU, members of EMU
1103	Cif/fob adjustment, EU, non-members of EMU
1104	Cif/fob adjustment, non-EU
2010	Intermediate consumption
2111	Final consumption expenditure of households
2112	Final consumption expenditure of NPISHs
2121	Final consumption expenditure of central government
2122	Final consumption expenditure of local government
2123	Final consumption expenditure of social security funds
2211	Dwellings, gross fixed capital formation
2212	Buildings other than dwellings, gross fixed capital formation
2213	Civil engineering and other structures, gross fixed capital formation
2214	Land improvements, gross fixed capital formation
2215	Transport equipment, gross fixed capital formation
2216	Computers and peripheral device, gross fixed capital formation
2217	Other communication devices, gross fixed capital formation
2218	Other machinery and equipment, gross fixed capital formation
2219	Weapons systems, gross fixed capital formation
2220	Livestock for breeding, dairy, etc, gross fixed capital formation
2221	Tree, crop and plant resources yielding repeat products, etc, gross fixed capital formation
2222	Costs of ownership transfer on non-produced assets
2223	Research and development, gross fixed capital formation
2224	Mineral exploration and evaluation, gross fixed capital formation
2225	Computer software, gross fixed capital formation
2226	Entertainment, literary or artistic originals, gross fixed capital formation
2227	Other intellectual property products
2301	Fuels, changes in inventories
2302	Other materials and supplies, changes in inventories
2303	Work in progress on cultivated assets, changes in inventories
2304	Other work in progress, changes in inventories
2305	Finished goods, changes in inventories
2306	Military inventories
2307	Goods for resale, changes in inventories
2308	Valuables, changes in inventories
2412	Exports of goods, EU, members of EMU
2413	Exports of goods, EU, non-members of EMU
2414	Exports of goods, non-EU
2416	Re-exports of goods, EU, members of EMU
2417	Re-exports of goods, EU, non-members of EMU
2418	Re-exports of goods, non-EU
2420	Exports of services, EU, members of EMU
2421	Exports of services, EU, non-members of EMU
2422	Exports of services, non-EU



### 6.1.2.1 Source data for product data

The product transaction specific data of the preliminary annual accounts are divided into NACP products based on source data. The source data are mainly the same as in the preliminary annual accounts. All source data are annual data apart from the Household Budget Survey that is used as the source data for the product data on households' consumption expenditure. All product data used as source data are value data.

### *Output (data category 1010)*

#### Secondary production excl. construction (S11 and S14)

The market output of industries B Mining and quarrying, C Manufacturing and D Electricity, gas, steam and air conditioning supply, E Water supply; sewerage, waste management and remediation activities is first divided into the data variables of the production account of the Annual National Accounts that are based of the turnover items of the structural statistics (Table 114). The data variables are divided into NACP products with the help of the link between the production data of the commodity statistics and the turnover items of the structural statistics and the NACP classification.

Table 114. Data variables of the output of production account of the Annual National Accounts

Data variable	Heading
P11_131	Trade margins
P11_1321	Deliveries of products
P11_1322	Deliveries of produced electricity
P11_1323	Deliveries of produced heat
P11_1324	Network activity
P11_1325	Industrial repair and installation deliveries
P11_1326	Paid labour and turnover from other industrial service activities
P11_133	Turnover from construction activities
P11_1341	Agency activities
P11_1342	Restaurant activities
P11_1343	Hotel activities
P11_1344	Other unspecified turnover
P11_1345	Advertising revenue from advertising sales
P11_141	Rental returns excl. rents from land
P11_142	Royalties: returns from patents and licences
P11_143	Other returns
P12_21	Self-produced software
P12_22	Other production for own use
P12_23	Self-produced R&D

The data variable P11\_1321 Deliveries of products is divided into products with the help of the commodity statistics. The statistics on industrial

production include data on sold production and total production by product heading for industries 05100 to 33200. These statistics are a sample survey that cover over 90 per cent of the production value of the data variable by enterprise. The establishments or establishment combinations of multi-establishment enterprises are found in the statistics by industry. The remaining ten per cent of industrial production that remains outside the commodity statistics is estimated based on the industry-specific product distribution of output in the commodity statistics.

The processing and revisions of the commodity statistics continue by comparing the enterprise-specific industrial output of the commodity statistics to the total value of industrial output in the structural statistics. The product distribution derived from the commodity statistics is revised by comparing it to Finnish Customs' product data. The enterprise-specific revisions of the commodity statistics carried out in connection with the compilation of the National Accounts apply all in all to around 200 enterprises. Some of the revisions are made from the viewpoint of global transactions (examination of manufacturing services), in some revisions the viewpoint is the breakdown of internal deliveries into products, and the majority of the revisions are directed at enterprises with the biggest differences between the data of the commodity statistics and the data of Finnish Customs. The examinations also utilise other sources like enterprises' profit and loss account data and annual reports.

For data variables P11\_1322 Deliveries of produced electricity and P11\_1323 Deliveries of produced heat, the comparison data for electricity and district heat production in industries 351 to 353 Electricity, gas, steam and air conditioning supply come from the production data of the energy statistics. The production data of the energy statistics are based on value data derived with the help of unit prices from the volume data of various energy forms.

#### **Service industries incl. building development, civil engineering (S11 and S14)**

The market output of service industries (industries 411, 42+431, 45–9602\_9609) are divided into NACP products with the help of the data variables of the production accounts of the Annual National Accounts in two stages (Table 2). Other data variables than P11\_1344 Other unspecified turnover is divided into NACP products with the help of the link between the turnover items of the structural statistics and the NACP classification. In the link, the share of NACP products of the data variable are either constant or based on the shares of balanced product data from the previous year.

The data variable P11\_1344 Other unspecified turnover is divided into NACP products depending on the industry either with the help of the data of the business services statistics and the Finnish Communications Regulatory Authority turnover data or with the help of the 5-digit industry-level data of the structural statistics utilising the link between the 5-digit TOL classification and the NACP classification. The business services statistics include product data on industries 58 Publishing activities, 62\_63

Computer programming, consultancy and related activities, 69 Legal and accounting activities, 702 Management consultancy activities, 71 Technical services, 73 Advertising and market research, and 78 Employment activities. Finnish Communications Regulatory Authority turnover data cover the product data of industry 61 Telecommunications.

#### **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).

#### **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 come from the data of the structural statistics. The calculation of product data follow the calculation method applied to product data in the non-financial corporations sector.

#### **Other industries/sectors**

The product data of the output of other industries/sectors come from the experts of the National Accounts. The data include product data of industries 011-03 Agriculture, hunting, forestry and fishing, 412+432\_439 Building construction, 68201 Letting of dwellings, 68202 Operation of dwellings, and 97\_98 Household services, and industries in sectors S12 Financial and insurance corporations, S1314 Social security funds, and S15 Non-profit institutions serving households.

#### **Output for own final use**

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 the NACP product 620100 Computer programming services. Self-produced R&D includes the NACP product 720002 Research and development services, asset. The data derive from the centralised calculations of the National Accounts where the supply and use of the product are in balance. Other production for own use covers industry-specific products.

#### ***Imports and exports of goods***

The data categories of the imports and exports of goods in the supply and use tables are the following:

1021	Imports of goods, EU
1024	Imports of goods, non-EU
1101	Cif/fob adjustment, EU
1104	Cif/fob adjustment, non-EU
2411	Exports of goods, EU
2414	Exports of goods, non-EU
2415	Re-exports of services, EU
2418	Re-exports of goods, non-EU

Goods import data at CIF price and export data at FOB price come from the foreign trade statistics of Finnish Customs 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. The adjustments 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 and private vehicle imports. Re-exports are separated from the goods export data. Revisions caused by global production are also made to the imports and exports of goods (Section 5.13). 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.

At the total level, the value of goods imports is changed from CIF priced to FOB priced by subtracting transport and insurance costs from the imports, i.e the so-called CIF/FOB revision, which derives from the data of Statistics Finland's balance of payment statistics. 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.

Imports of goods from EU countries, exports of goods to EU countries and re-exports of goods to EU countries are divided only after Statistic Finland's balancing, into EMU countries and countries outside the EMU.

1022	Imports of goods, EU, members of EMU
1023	Imports of goods, EU, non-members of EMU
1102	Cif/fob adjustment, EU, members of EMU
1103	Cif/fob adjustment, EU, non-members of EMU
2412	Exports of goods, EU, members of EMU
2413	Exports of goods, EU, non-members of EMU
2416	Re-exports of goods, EU, members of EMU
2417	Re-exports of goods, EU, non-members of EMU

### ***Imports and exports of services***

The data categories of the imports and exports of services in the supply and use tables are the following:

1025	Imports of services, EU
1028	Imports of services, non-EU
2419	Exports of services, EU
2422	Exports of services, non-EU

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 bopcode6 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. The service item of the illegal economy and e-commerce is added to the data on imports of services. Revisions caused by global production are also made to the imports and exports of service (Section 5.13).

The import and export estimates for financial intermediation services indirectly measured (FISIM) come from the centralised calculations of the National Accounts.

Imports of services from EU countries and exports of services to EU countries are divided only after balancing into EMU countries and countries outside the EMU.

1026	Imports of services, EU, members of EMU
1027	Imports of services, EU, non-members of EMU
2420	Exports of services, EU, members of EMU
2421	Exports of services, EU, non-members of EMU

### ***Intermediate consumption (data category 2010)***

#### **Secondary production excl. construction (S11 and S14)**

The market output of industries B Mining and quarrying, C Manufacturing and D Electricity, gas, steam and air conditioning supply, E Water supply; sewerage, waste management and remediation activities is first divided into the data variables of the production account of the Annual National Accounts that are based on the turnover items of the structural statistics (Table 115). The data variables are divided into NACP products with the help of the link between the production data of the commodity statistics and the expenditure items of the structural statistics and the NACP classification. In the link, the share of NACP products of the data variable are either constant or based on the shares of the previous year.

Table 115. Data variables of intermediate consumption in the structural statistics.

Data variable	Heading
P22_131	Acquisition of materials and supplies
P22_132	Acquisition of packaging materials
P22_133	Acquisition of fuels
P22_134	Contracted repair, maintenance and installation work
P22_135	Contracted paid labour
P22_136	Subcontracting
P22_137	Renting of labour force
P22_141	Acquisition of electricity for own use
P22_1410	Representational expenses
P22_1411	Other expenses not mentioned above
P22_142	Acquisition of heat for own use
P22_1431	Research and development expenses
P22_1432	Research and development expenses
P22_144	Transport and storage expenses
P22_1451	Advertising, sale and marketing expenses
P22_1452	Activated marketing expenses
P22_1453	Marketing costs (agency etc.)
P22_146	Computer, design and programming expenses
P22_147	Expenses from patents and licences
P22_148	Leasing expenses
P22_149	Other rents

The above-formed data variable P22\_131 Acquisition of materials and supplies is divided into products with the help of raw material data of the commodity statistics. The commodity statistics contain commodity-specific value and volume data on purchased materials and supplies by product heading for industries 05100 to 33200.

The inquiry covers, in principle, all industry in Finland, but in practice, the data collection only includes enterprises that employ over 20 persons. The remaining production input of industrial output that remains outside the commodity statistics is estimated based on the industry-specific input division of the commodity statistics. The inquiry asks to include at least 80 per cent of purchases in the answers. In practice, interest lies in the main production input of the enterprise during the year. The establishments or establishment combinations of multi-establishment enterprises are found in the statistics by industry.

In the National Accounts the data are processed and revised further by comparing the enterprise-specific use of raw materials in industrial output of the commodity statistics with the value of acquisition of materials and supplies in industrial output from the structural statistics. The product distribution derived from the commodity statistics is revised by comparing the product distribution of the production inputs to Finnish Customs' data. The enterprise-specific revisions carried out in connection with the compilation of the National Accounts apply all in all to around 200 enterprises. Some of the revisions are made from the viewpoint of global

transactions (examination of manufacturing services), in some revisions the viewpoint is the breakdown of internal purchases into products, and the majority of revisions are directed at enterprises with the biggest differences between the data of the commodity statistics and the data of Finnish Customs. The examinations also utilise other sources like enterprises' annual reports.

The data variable P22\_133 Acquisition of fuels is divided into NACP product based on the data from the energy statistics. The data of the energy statistics have been classified with a 6-digit CPA classification and 3-digit industrial classification. Comparison data for the intermediate consumption of electricity and district heating (P22\_141 Acquisition of electricity for own use, P22\_142 Acquisition of heat for own use) also derived from the energy statistics. The data are based on value data derived with the help of unit prices from the volume data of various energy forms.

#### **Service industries incl. building development, civil engineering (S11 and S14)**

The product data of intermediate consumption of service industries (industries 411, 42+431, 45–9602\_9609) are compiled with the help of the data variables of the production accounts of the Annual National Accounts (Table 3). The data variables of the Annual National Accounts' production accounts are divided into NACP products defined either based on the data variable or the data variable and the industry. The data variable share of NACP products are either constant or based on the shares of balanced product data from the previous year.

#### **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 NACP products of industries' intermediate consumption are determined with the help of the link between industry-specific accounts (around 40 activity-related expenditure items) and the NACP 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.

#### **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 NACP products by industry with the help of the expenditure item-NACP product link.

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 statistics. The calculation of their product data follows the calculation method applied to product data in the non-financial corporations sector.

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.

### **Other industries/sectors**

The input data for intermediate consumption in agriculture come from the agricultural expert in the National Accounts. The input data cover the 48 expenditure items of the index of purchase prices of means of agricultural production that are divided into NACP products based on the link between the expenditure item and the NACP 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 NACP products with the link between the VIRATI code and the NACP product.

The structure data of the input data for intermediate consumption in sectors S14 (except TOL 011\_016), S15, S12 (except S1221 deposit banks) and industries 017-03, 412+432\_439 and 68201 of sector S11 are insufficient or missing completely. For them, the product structure of intermediate consumption is calculated with the structure from the previous year.

### **Financial intermediation services indirectly measured (FISIM)**

The intermediate consumption by industry of FISIM comes from the centralised calculations of the National Accounts.

### ***Households' consumption expenditure (data category 2111)***

Households' consumption expenditure is compiled at the accuracy of 182 COICOP categories in the National Accounts. The COICOP classification is mainly at 5-digit level. The data of the Annual National Accounts are converted to the product classification required by the supply and use tables with the help of the COICOP-NACP classification conversion keys. The latest Household Budget Survey from 2012 had around 900 COICOP headings at 7-digit level. The classification conversion key is always updated with the help of the data from Statistics Finland's latest Household Budget Survey.

The products of private consumption of output types P12 Production for own final use and P131 Non-market product, purchases are the same as the domestic outputs of the output types.



### ***General government's consumption expenditure***

The data categories of general government's consumption expenditure in the supply and use tables are the following:

2112	Final consumption expenditure of NPISHs
2121	Final consumption expenditure of central government
2122	Final consumption expenditure of local government
2123	Final consumption expenditure of social security funds

The product data of general government's consumption expenditure are calculated in two stages. The product data for private and collective consumption expenditure are the same as the output of output type P132 Other non-market output in each sector.

The product data for central government's and municipalities' social transfers in kind come from the data of State bookkeeping and the statistics on the finances of municipalities and joint municipal authorities. The product data for other social security funds' social transfers in kind derive from the data of social security funds at the accuracy of 12 product groups.

### ***Investments***

The data categories of investments in the supply and use tables correspond with the investment asset categories of the Annual National Accounts. The data categories are:

2211	Dwellings
2212	Buildings other than dwellings
2213	Civil engineering and other structures
2214	Land improvements
2215	Transport equipment
2216	Computers and peripheral device
2217	Other communication devices
2218	Other machinery and equipment
2219	Weapons systems
2220	Livestock for breeding, dairy, etc
2221	Tree, crop and plant resources yielding repeat products, etc
2222	Costs of ownership transfer on non-produced assets
2223	Research and development
2224	Mineral exploration and evaluation
2225	Computer software
2226	Entertainment, literary or artistic originals

## 2227 Other intellectual property products

The product data of investments are calculated by data category, sector and producer type. The investments are compiled in the supply and use tables without industrial classification deviating from the Annual National Accounts. Apart from residential buildings and other building construction, as well as animal resources, the product data are mainly calculated with the product structure of the balanced supply and use tables of the previous year. These product data are revised later in the balancing stage. Some of the investments are output type P12 Output for own final use. Their product-specific value is calculated based on supply data.

The product data of residential buildings and other building construction investments are calculated with the help of output data of building construction and real estate agencies, and price formation items determined by sector and producer type. The product data for animal resources come from the agricultural expert in the National Accounts.

The investment data 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 is recorded in software and database investments and includes the NACP product 620100 Computer programming services. Self-produced R&D is recorded in research and development investments and includes the NACP product 720002 Research and development services, asset. Other production for own use includes, for example, repair and installation services of machinery and equipment that are recorded in other machinery and equipment investments.

### *Changes in inventories*

The data categories of changes in inventories in the supply and use tables correspond with the asset categories of the Annual National Accounts. The data categories are:

2301	Fuels, changes in inventories
2302	Other materials and supplies, changes in inventories
2303	Work in progress on cultivated assets, changes in inventories
2304	Other work in progress, changes in inventories
2305	Finished goods, changes in inventories
2306	Military inventories
2307	Goods for resale, changes in inventories
2308	Valuables, changes in inventories

The product shares of changes in inventories of finished products in industry are calculated with the help of output data of the industry's goods

(excl. fuels). The product shares follow the industry-specific product division of the production data in commodity statistics. The product shares of changes in inventories of other materials and supplies in industry are calculated with the help of intermediate consumption data of the industry's goods (excl. fuels). The product shares follow the industry-specific product division of the raw material data in commodity statistics. Changes in inventories of other industries' finished products and other materials and supplies are divided into products based on the industry.

The product shares of changes in inventories of other work in progress are calculated with the help of output data of the industry's goods. The product shares of changes in inventories of other fuels are calculated with the help of intermediate consumption data of the industry's goods.

The compilation of the changes in inventories of merchandise in trade industries 45 Wholesale and retail trade and repair of motor vehicles and motorcycles, 46 Wholesale trade (excl. motor vehicles, etc.) and 47 Retail trade (excl. motor vehicles, etc.) starts by calculating the values of the industries' changes in inventories at the 5-digit industry level based on the data of the structural statistics. After this, each 5-digit level industry's NACP products are determined with the help of the NACP industry link. Next, the share data of each product in the industry are calculated based on the supply data of the product. The values of the industries' changes in inventories are divided based on the above-mentioned product share data and summed to the industry level of the National Accounts. Finally, the product values of the industries' merchandise are calculated with the help of the share data and values in the Annual National Accounts. The changes in inventories of merchandise in other industries are divided into products based on the industry.

The product data for changes in inventories of immature cultivated assets and merchandise in industry 011\_016 Agriculture come from the sector researcher of agriculture. The change in inventory of immature cultivated assets by product in industry 025 Net growth of forests is calculated directly from the output data of the industry.

The changes in inventories of antiques and other art objects is recorded in NACP product 900100 Performing arts and creative work.

### ***6.1.3 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 supply and use data products are converted into basic prices with the help of price formation data in accordance with the following equation:

**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**

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.

### *Subsidies on products*

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 735 million in 2012.

### *Import duties*

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 184 million in 2012.

### *Value added tax (non-deductible)*

The annual value added tax rate is defined by product with the help of legislation concerning value added tax (VAT). The general value added tax rate in 2012 was 23 per cent. The lowered tax rate of 13 per cent was applied to food, fodder and restaurant and meal services. The lowered tax rate of nine per cent was applied to, for example, medicines, various cultural services and subscribed magazines. Services that are exempt from VAT 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, VAT is only included in output types P11 Market output and P7 Imports. In use categories, VAT is not included in exports or in change in inventories. In terms of intermediate consumption and investments, VAT is determined based on the producer type and industry. VAT is included (i.e. VAT is not 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 VAT calculations of households' consumption expenditure 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 VAT amounted to EUR 17,987 million in 2012.

### *Other taxes on products*

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 2012, 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 NACP products with the help of data from tax legislation. The product share data are calculated based on the ratio between 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 9,940 million in 2012.

### *Trade margins*

Trade margins can be defined as the difference between selling and purchase price of products acquired for resale. On the supply side products that generate trade margins are:

351400	Trade services of electricity
451000	Trade services of motor vehicles
462000	Wholesale trade services
463000	Wholesale trade services of fuel
471000	Retail trade services
473000	Retail trade services of fuel

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 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:

$$\text{(Turnover from trade - purchases of merchandise + change in the inventories of merchandise) / (purchases of merchandise + change in the inventories of merchandise)}$$

After this, the wholesale and retail trade industry is determined for each NACP classified product 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, NACP 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 12,488 and 16,268 million in 2012.

### *Transport margins*

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).

On the supply side, products that generate transport margins are:

492000	Freight rail transport services
494000	Freight transport services by road and removal services
495000	Transport services via pipeline
500200	Freight water transport services
512000	Freight air transport services
521000	Warehousing and storage services
522100	Services incidental to land transportation
522200	Services incidental to water transportation
522400	Cargo handling services
522900	Other transportation support services

The combined value of transport margins amounted to EUR 1,140 million in 2012.

### *6.1.4 Compilation of the unbalanced product account*

The first complete but still unbalanced balance of goods 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 balance of goods

comprises the values of price formation items in use data and use data at basic prices by product.

At this point, it is checked that the supply and use of certain defined products, like FISIM and housing services are in balance. Correspondingly, the output types P12 Output for own final use, P131 Non-market goods, sales and purchases, and P132 Other non-market output must be in balance by product because their use data are determined from the industry-specific output data of supply.

In addition, the values of the price formation items in use data are checked. The values of the subsidies and taxes on products of use data must be close to the paid taxes on products and collected subsidies on products at this point of the compilation of supply and use tables, and the trade and transport margins must be close to the supply values of service products that produce trade and transport margins. Finally, it is checked that the values of the balance of products match the values of the product transactions in the preliminary annual accounts. At this stage, the values of product transactions in the preliminary annual accounts can also be revised if shortcomings or errors are detected in the preliminary 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 776 NACP products and their difference, i.e. the balance situation is calculated (Table 116). In other words, the balancing condition for each product is

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

Table 116. Supply at basic prices and use at basic prices and their difference by product

NACP	NACP_heading	supply at bp	use at bp	difference	balancing
011111	Soft wheat and meslin	189	179	10	
011120	Maize (corn)	1	0	0	
011131	Barley	361	328	33	
011132	Rye	23	9	14	
011133	Oats	216	218	-2	
011140	Other cereals	1	4	-3	
011160	Green leguminous vegetables	10	7	4	
011180	Oil seeds and oleaginous fruits	135	95	41	man_tp
011210	Rice, not husked	0	0	0	
011312	Cabbages	50	40	9	
011314	Lettuces	86	80	6	
011320	Other leafy or stem vegetables, melons	55	34	21	
011332	Cucumbers	74	77	-4	
011334	Tomatoes	122	112	10	
011335	Other fruit-bearing vegetables n.e.c.	76	49	27	
011341	Carrots and turnips	85	67	18	
011350	Potatoes	80	115	-35	man_tp
...	...	...	...	...	...
960100	Washing and (dry-)cleaning services of textile and fur products	361	345	16	
960200	Hairdressing and other beauty treatment services	785	761	24	
960300	Funeral and related services	127	120	8	
960400	Physical well-being services	97	75	22	
960900	Other personal services n.e.c.	67	107	-39	man_tp
970000	Private households with employed persons	175	175	0	

Balancing of supply and use data is carried out in four stages:

1. Manual balancing (product-specific)
2. Automatic balancing of price formation items
3. Elimination of the statistical discrepancy
4. Automatic balancing (product-specific)

### *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 (in Table 4, entry "man\_tp"). 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 addition, some of the product-specific use data, for example, in terms of investments, are calculated based on the previous year's structure of balance of products due to lack of source data. These data are manually corrected in balancing as required by the balance of the products in question. 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-described 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 levels of industry-specific supply and intermediate consumption data, imports and final use are changed in manual balancing only in exceptional cases when, for example, shortcomings and errors found in preliminary data need to be corrected.

In practice, manual balancing is done with the help of the balance of products interface. In the interface, balancing data (e.g. the original and corrected value and the comment text related to the correction) are saved to the database table reserved for metadata.

Around 300 NACP products were selected for manual balancing in 2012. In addition to the above-mentioned 300 products, 180 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 15 billion.



### *Automatic balancing of price formation items*

After the manual balancing, it is time for automatic balancing of price formation items. At this stage, the values of price formation items in use data are close to the actual values, and the final revision is done for them in order to make the subsidies and taxes on products in use data correspond with the paid and collected subsidies and taxes on products, and the trade and transport margins correspond with the supply values of service products that produce trade and transport margins.

### *Elimination of the statistical discrepancy*

After the automatic balancing of price formation items, we are able to see at which products the statistical discrepancy 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 the elimination of the statistical discrepancy, the preliminary levels of industry-specific output and intermediate consumption data, imports and final use change. In practice, the corrections are usually made in the intermediate consumption data. The effect of the changes determines the final value of the GDP.

The statistical discrepancy of the balance of supply was EUR -459 million in the preliminary data in 2012 (Table 119). During the compilation of the input data of the supply and use tables and the manual balancing, the statistical discrepancy decreased by EUR 65 million. The final correction of the statistical discrepancy was EUR 394 million. The correction was made in the intermediate consumption of the non-financial corporations sectors' service industries.

Table 117. The preliminary balance of supply, changes in the items of the balance of supply at the various stages of compiling supply and use tables and the final balance of supply in 2012, EUR million

National balance of supply and demand, year 2012	preliminary	correction of data sources + manual balancing	elimination of statistical discrepancy	final
P1 R / Output at basic prices	385 932	183	0	386 115
P2 K / Intermediate consumption at purchaser's price	214 239	-147	-394	213 698
B1GPH T / Value added at basic prices	171 693	330	394	172 417
D21N T / Taxes less subsidies on products	27 376	0	0	27 376
D21 K / Taxes on products	28 111	0	0	28 111
D31 R / Subsidies on products	735	0	0	735
B1GMH T / GDP at basic prices	199 069	330	394	199 793
P7 R / Imports	81 764	0	0	81 764
P71 R / Imports of goods	57 272	0	0	57 272
P72 R / Imports of services	24 492	0	0	24 492
SUPP R / TOTAL SUPPLY AT BASIC PRICES	280 833	330	394	281 557
P6 K / Exports	78 881	0	0	78 881
P61 K / Exports of goods	56 561	0	0	56 561
P62 K / Exports of services	22 320	0	0	22 320
P3 K / Final consumption expenditure	157 709	81	0	157 790
P31Y K / Final consumption expenditure of households	103 653	82	0	103 735
P32Y K / Final consumption expenditure of NPISHs	5 373	0	0	5 373
P3J K / Final consumption expenditure of government	48 683	-1	0	48 682
P51 K / Gross fixed capital formation	44 305	184	0	44 489
P52 K / Changes in inventories	328	0	0	328
P53 K / Acquisitions less disposals of valuables	69	0	0	69
USE K / TOTAL USE AT BASIC PRICES	281 292	265	0	281 557
DEB1*G T / Statistical discrepancy	-459	65	394	0

### *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 performed, where the remaining differences are eliminated 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 final 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 NACP products are included in automatic balancing. Altogether, use data at purchaser's prices were corrected in automatic balancing with good EUR nine billion in 2012. 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 the annual accounts. The revised data form the balanced data of the National Accounts. In this case, the statistical discrepancy of the balance of supply is zero (Table 117).

## 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 production.

### 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 meeting, the calculation entity 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.

## 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 air-space 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 to calculate output and intermediate consumption are good and exhaustive. The end demand items are calculated independently. In the remaining 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. 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, six different revision types related to the exhaustiveness of source data have been recognised in the 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 1.1.4.

The revision columns are

- KML1 Conceptual changes
- KML2 Revisions of errors in data
- KML3 Statistical delimitations
- KML4 Exhaustiveness, statistical shortcomings
- The underground economy
- 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 revision types used by the National Accounts do not directly correspond with the N1 to N7 categories of non-exhaustiveness but the content of the revision types and their connections to the categories of non-exhaustiveness are described below. The connections are also described in Table 120 in Section 7.1.1.

#### *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 Revisions 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 revisions 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 their importance is estimated to be small due to good-quality source data.

*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 and sell the product themselves directly to consumers 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 estimates of smuggling (tobacco 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.

### 7.1.1.5 The underground economy

The estimates of the non-observed economy are 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. Section 7.1.3 describes the methods of the calculation of the underground economy in more detail.

### 7.1.1.6 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 118. The connections between the non-exhaustiveness types and the National Accounts

Non-exhaustiveness type	Revision item in the National Accounts
Data validation	KML2
Other conceptual	KML1
N1	- (The underground economy, presented under N6)
N2	KML4
N3	-
N4	-
N5	-
N6	The underground economy
N7	KML3, KML4 (excl. illegal economy, which is in item N2)
Balancing	Balancing

### 7.1.2. Adjustments made for the different types of non-exhaustiveness

Table 119. The illegal economy in the output approach in 2012, EUR million

		<i>PROSTITUTION</i>	<i>NARCOTICS</i>	<i>SMUGGLING</i> <i>(TOBACCO,</i> <i>ALCOHOL)</i>	<i>ILLEGAL</i> <i>ECONOMY,</i> <i>TOTAL</i>
<i>SECTOR</i>		S.14 Households	S.14 Households	S.14 Households	
<i>INDUSTRY</i>		96 Other personal service activities	47 Retail trade (excl. motor vehicles and motorcycles)	47 Retail trade (excl. motor vehicles and motorcycles)	
<i>OUTPUT</i>	P1	100	99	13	212
<i>INTERMEDIATE CONSUMPTION</i>	P2	44			44
<i>VALUE ADDED</i>	B1G	56	99	13	168
<i>IMPORTS OF SERVICES</i>	P7	24	56	5	85



Table 120. 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 2012

Industry (share B1GPH %)	S11 Enterprises, %	S14 Households, %	S1 Total economy (domestic sectors total), %
A Agriculture, Forestry and Fishery	0.0	0.0	0.0
B Mining and quarrying	0.1	0.0	0.0
C Manufacturing	0.1	0.0	0.1
E Water supply and waste management	0.1		0.0
F Construction	0.8	3.6	0.9
G Trade	0.6	0.4	0.4
H Transport	0.3	0.2	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	0.2	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	0.2	0.0
R Arts, entertainment and recreation	0.0	0.1	0.0
S Other service activities	0.1	0.6	0.1
Estimated share of the underground economy in output (P1/R), at basic prices	1.2	3.4	1.2
Estimated share of the underground economy in value added, gross at basic prices (B1GPH)	3.2	5.5	2.7

### 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 refers. 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.

In Finland, prostitution, narcotics and the smuggling of alcohol and tobacco are taken into account in the calculation of the estimates of the illegal economy. Conceptually, mutual understanding is required but, in practice, there are problems related to the issues. All phenomena have at least criminals or criminal organisations in the background and coercion and violence may occur. When exact data are not available it is hard to draw lines.

Normal basic data are not, in practice, available on the illegal economy. Therefore, the estimates have been made using various surveys, research and reports, and by combining and comparing data from these. If necessary, calculations are made by dividing the phenomena under examination into sub-entities and by making sub-area estimates on these.

The main domestic sources are data from the National Institute for Health and Welfare, THL (previously the National Research and Development Centre for Welfare and Health, STAKES), Finnish Customs and the Police. In addition, some reports from other authorities have been used. The work also utilises Eurostat's reports and other international studies related to the topic.

### 7.1.3.1.1.1 Prostitution

Prostitution is one sub-area of the illegal economy even though prostitution is legal in Finland with some limitations. 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 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 visiting prostitutes and prostitutes permanently resident in Finland. Prostitutes permanently resident in Finland are further divided into Finnish, foreigners (by nationality groups) and other prostitutes working occasionally. An estimate on the number of daily customer contacts, prices and the value of intermediate consumption of the activity has been made for each group. The group-specific numbers and prices of the prostitutes are based on expert surveys. Intermediate consumption consisting of rents and equipment is an estimated share of output. No annual data are available on the price and volume data.

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.

In terms of the illegal economy, the estimates should only include economic activity that is based on a mutual agreement, for example, robberies are not included in the calculations of the National Accounts even though they would generate economic value for one of the parties. In accordance with the principle of mutual agreement, persons forced into prostitution should be left outside the calculations of the National Accounts. There is currently no separate estimate on persons working as prostitutes against their will.

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 (2010), 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.

Services offered by prostitutes staying in Finland for a short time, under six months, in practice for a few weeks, are classified in imports of services in the National Accounts. The figures are also considered in the compilation of the balance of payments.

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.

#### 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.

The figures in the illegal economy concerning narcotics are based on supply side estimates. The users are divided into two groups, regular and occasional users. The number of users, size of a dose, price of a hit and number of usage days per year are estimated within in each group by narcotics group.

Annual data on prices are available but the estimation is made difficult by the fact that street prices may vary considerably in Finland depending on the geographical location. The report *Huumetilanne Suomessa* (Narcotics situation in Finland) (National Institute for Health and Welfare, THL, 2011) states that in Southern Finland, the prices are usually clearly lower than in other major cities. The user group-specific estimates have not, however, been made based on the place of residence. The estimates on prices are based on the above-mentioned publication of the National Institute for Health and Welfare, the figures of which are partially based on data from the National Bureau of Investigation.

There is no direct annual estimate on the number of narcotics users available. The estimate on the number of problem users is received around every five years, in addition, various sources provide results of ad hoc surveys, for example, on the number of persons, who have tried narcotics at some point. The annual development is an expert estimate often based on several sources.

It is assumed that the narcotics sold in Finland have been produced or manufactured elsewhere and imported to Finland, thus, there is no intermediate consumption. In terms of storage and distribution (for

example, fuel costs), there is probably some intermediate consumption but this has been estimated as low. Exports of narcotics are not included in statistics but the assumption is that there are only transit exports. Statistics Finland has no estimate on transit transport of narcotics. The imports of narcotics are presented in the international trade of services and the division of countries is mainly based on the data of confiscations from Finnish Customs and expert estimates.

Narcotics are usually milder in street trade than when they are imported, so the problem is to determine the value of imports even by an approximate estimate. The difference between the value of the street trade and imports includes both pure commission and margin, as well as dilution of the product. The report on the non-observed economy (Suomen piilotalous (Finland's non-observed economy), 2008) resulted in a general and rough margin that covers dilution and other actual increase in prices from imports to consumption.

The trade margin of narcotics sales is used as the value of output and value added. The value of imports is, thus, indirectly determined when the estimated margin is subtracted from the sales value of narcotics in street trade.

Currently, drug type specific calculations have been formed for cannabis, amphetamine, cocaine, buprenorphine (Subutex), ecstasy and heroine.

#### 7.1.3.1.1.3 Smuggling (tobacco and alcohol)

There are quite exhaustive various source data available concerning **smoking**. Data based on demand are recommended to be used when calculating the smuggling estimates of tobacco products. The basis for the current calculation method is data on Finnish Customs' confiscations and data on the consumption of tobacco products.

The calculation is based on a comparison that uses the data on sold numbers of taxed cigarettes, data on Finnish Customs' tobacco confiscations, the value of taxed sales and the share of various taxes in the price of cigarettes. Mainly cigarettes have been taken into account because smuggling of other tobacco products is assumed to be low. There may be reason to revise the calculations concerning snuff. It is forbidden to sell snuff in Finland and snuff is mainly imported from Sweden and used by the importer but it is estimated that some sales also occurs. Importing for own use is allowed with limitations and a majority of imports is estimated to be for own use or for acquaintances without any commission.

When calculating the smuggling of tobacco, the ratio of the number of cigarettes confiscated by Finnish Customs compared to the number of cigarettes sold legally per year that derives from the statistics has first been determined. The ratio used is the long term average. The revised number of confiscations derives with the help of the ratio from the legal consumption.

Next, the shares of different taxes are examined. A so-called unit tax per 1,000 cigarettes is collected and also value tax and value added tax are collected. The combined taxes are subtracted from taxed sales and the

result is the tax-free legal value. After this, the share of total smuggling that Finnish Customs catches (10%) is estimated and the smuggled volume not caught by Finnish Customs is calculated.

The calculation of prices is based on the number of cigarettes sold, total sales volume and expert estimates. The smuggled tax-free unit value is an estimated share (2/3) of the domestic tax-free unit value. The illegal imports derive from the value and volume data. In street trade, the selling price is estimated to be slightly higher than the tax-free price of legal tobacco (+10%).

Smuggling and illegal manufacturing of **alcohol** has been estimated using data published by the National Institute for Health and Welfare as the main source.

The publication gives the amount of retail consumption of alcohol found in statistics as litres of 100% alcohol and the value of retail consumption of alcohol found in statistics. They give us the legal price of 100% alcohol per litre. The National Institute for Health and Welfare publishes an estimate on the consumption volume of illegal production and smuggling as 100% alcohol. The value of street trade of smuggled alcohol and the value of imports is an estimated share of the value calculated with legal prices.

It is assumed that no tobacco or alcohol is smuggled from Finland to other countries, so exports are not recorded. Intermediate consumption like the costs of transport and storage are not estimated to exist in considerable amounts.

#### ***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), a 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.

#### 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 inquiries 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.

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 I 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, letting 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 121. Underground economy detected in tax audits by industry (Finland's internationalising underground economy report)

Industry	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
<b>A</b> 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>B</b> Mining, extraction of peat	88	640,365,238	69,082,822	2,542,249	297,549	185,445	3,025,243	4.38
<b>C</b> 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
<b>D</b> Electricity, gas, steam and air conditioning supply	71	6,467,255,545	281,556,021	969,837	6,274	0	976,111	0.35
<b>E</b> 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
<b>F</b> 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
<b>G</b> 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
<b>H</b> 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
<b>I</b> 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
<b>J</b> 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
<b>K</b> 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
<b>L</b> 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
<b>M</b> 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
<b>N</b> 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
<b>O</b> Public administration	24	237,547,122	718,153,562	259,235	1,088,733	0	1,347,968	0.19
<b>P</b> Education	137	161,145,744	351,880,277	1,353,427	1,915,424	1,269,062	4,537,913	1.29
<b>Q</b> 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
<b>R</b> 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
<b>S</b> Other service activities	379	140,001,258	79,927,553	1,411,271	3,282,613	1,467,807	6,161,691	7.71
<b>ZZZ</b> 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
<b>TOTAL</b> 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 122 in Section 7.1.2. presents the percentage shares of the underground economy at the character level of industries in 2012.

Table 122. 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	<b>add estimate</b>
- 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 (GDP)		residual category
- Wages, salaries and subsidies	- Wages and salaries	Hidden wages and salaries	<b>add estimate</b>
- 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	<b>residual category (mixed income, withdrawals from entrepreneurial income)</b>

## 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 revisions 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

Table 123. Coverage revisions of the expense approach according to the process tables.

Compilation of GNI	Level of Details	Adjustments							Total exhaustiveness
		Exhaustiveness							
		N1	N2	N3	N4	N5	N6	N7	
<b>GDP EXPENDITURE APPROACH</b>									
<b>Total final consumption expenditure</b>		37	0	0	0	0	0	200	237
Household final consumption expenditure	<b>Total</b>	0	0	0	0	0	0	0	0
	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 household	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		37	0	0	0	0	0	200	237
<b>Gross capital formation</b>		87	0	0	0	0	0	2708	2795
Gross fixed capital formation	<b>Total</b>	87	0	0	0	0	0	2708	2795
	111 Dwellings	0	0	0	0	0	0	0	0
	112 Other buildings and structures	71	0	0	0	0	0	2802	2873
	113 Machinery and equipment	12	0	0	0	0	0	8	20
	114 Weapons systems	0	0	0	0	0	0	0	0
	115 Cultivate d biological resources	0	0	0	0	0	0	11	11
	117 Intellectual property products	4	0	0	0	0	0	87	91
Changes in inventories		0	0	0	0	0	0	0	0
materials and supplies		0	0	0	0	0	0	0	0
work-in-progress		0	0	0	0	0	0	0	0
finished goods		0	0	0	0	0	0	0	0
goods for resale		0	0	0	0	0	0	0	0
Acquisitions less disposals of valuables		0	0	0	0	0	0	0	0
<b>Exports of goods and services</b>		0	0	0	0	0	0	0	0
goods		0	0	0	0	0	0	0	0
services		0	0	0	0	0	0	0	0
<b>Imports of goods and services</b>		0	0	0	0	0	0	0	0
goods		0	0	0	0	0	0	0	0
services		0	0	0	0	0	0	0	0
<b>Gross domestic product</b>		124	0	0	0	0	0	2908	3032

### 7.2.3 Exhaustiveness methods

The revisions 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 Identification of types of non-exhaustiveness (for which adjustments are needed)***

#### ***7.3.1.1 Comparison of employment data of the Labour Force Survey and the National Accounts***

##### ***7.3.1.1.1 Calculation of wage and salary earners and self-employed persons and working hours in the National Accounts***

The number of wage and salary earners in the National Accounts derives from the Business Register. In the Business Register inquiries, the number of staff years of all multi-establishment enterprises' establishments is asked directly from the enterprises. For enterprises that do not respond to the inquiry at all or that do not respond concerning all establishments, an estimation method is used.

The number of staff years is not used in the National Accounts but the average number of wage and salary earners during the year. This is estimated separately in the Business Register and divided with the help of the distribution of staff years to the establishments.

Differences between the figures of the National Accounts and the Labour Force Survey are generated, for example, by persons in military or non-military service. In the National Accounts, these are classified as employed but in the Labour Force Survey they are not. Another big difference is that in the National Accounts, employed persons are defined based on the borders of the economic territory and in the Labour Force Survey based on nationality. Thus, the figures of the Labour Force Survey are missing persons that have arrived to Finland from abroad but does include Finnish persons that are working abroad. In addition, the underground economy may cause deviation.

In the calculation of the National Accounts, employment and work input figures are always proportioned to changes in wages and salaries when possible, and the data of the Labour Force Survey are used as the comparison data source.

##### ***7.3.1.1.2 Conceptual and definitional differences between the Labour Force Survey and the National Accounts***

In the National Accounts, conscripts and so-called grey workers that do not pay taxes on their wages are included in wage and salary earners unlike in the Labour Force Survey. The definitions of the public sector differ slightly from each other in these statistics. Some units that belong to the public sector in the National Accounts belong to the private sector in the Labour Force Survey (universities of limited company form, etc.). And vice versa, for example, municipal enterprises belong to the private sector in the National Accounts and to the public sector in the Labour Force Survey. Employees outsourced by municipalities and temporary employment agency workers belong to the public sector in the Labour Force Survey (the

sector of the employee is the workplace's sector) but to the private sector in the National Accounts.

The fact that the National Accounts have decided on certain industry-sector combinations for which data can be calculated may also cause differences between these statistics. For example, industries 64 to 66 only occur in the financial corporation sector S12.

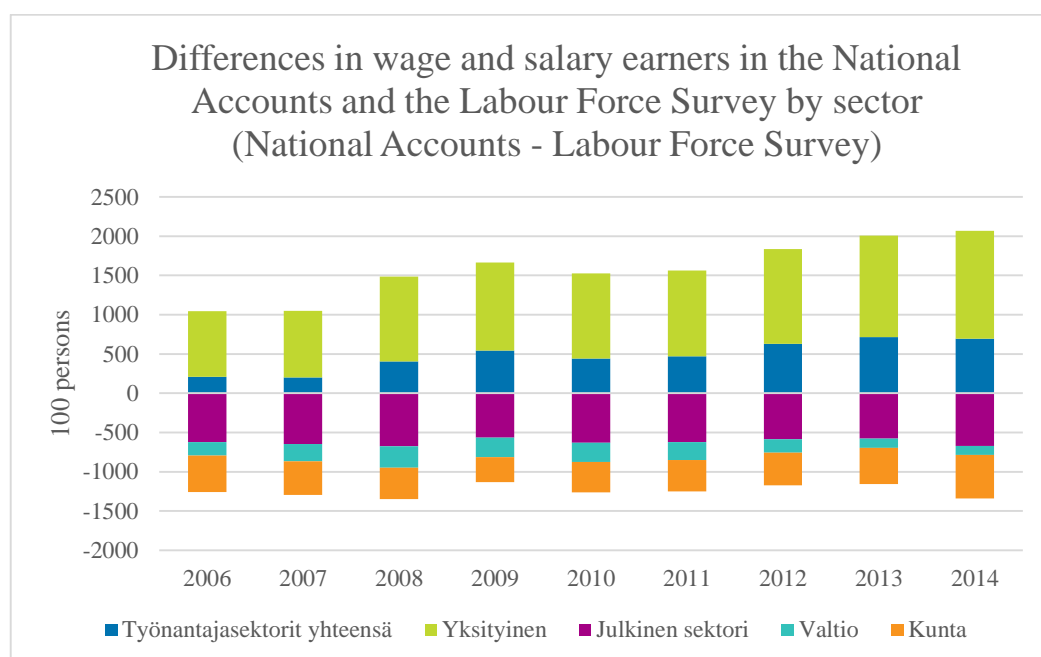
The employment of the National Accounts also includes foreign nationals working in Finland if they are paid by a Finnish employer. By contrast, the Labour Force Survey reaches such individuals poorly because they do usually not belong to the population of the survey (the Population Register).

### ***7.3.1.1.3 Differences between employed persons and working hours at total level and by sector***

The total number of employed persons in the National Accounts is higher than the number of employed persons in the Labour Force Survey. This is logical because as mentioned above, the National Accounts calculate more persons as employed than the Labour Force Survey (e.g. so-called grey workers).

By sector, the employed of the National Accounts and the Labour Force Survey are divided somewhat differently. In the private sector, the National Accounts has around five per cent more employed persons than the Labour Force Survey and in the public sector around ten per cent fewer. In the National Accounts, only a few industries have employees within the public sector. A majority of these are in administration, education and human health and social work activities.

**Figure 6. Differences in wage and salary earners in the National Accounts and the Labour Force Survey by sector (National Accounts minus Labour Force Survey)**



### 7.3.1.1.4 Differences between employed persons and working hours by industry

#### 7.3.1.1.4.1 Differences between wage and salary earners and their working hours

Table 124. Number of wage and salary earners in the National Accounts and the Labour Force Survey, 100 persons

	Työvoimatutkimus			Kansantalouden tilinpito		
	2010	2011	2012	2010	2011	2012
S1 Toimialat yhteensä	21200	21430	21460	21887	22140	22314
A, B Maatalous, metsätalous, kalatalous; kaivostoiminta (01–09)	390	390	370	469	457	473
C Teollisuus (10–33)	3410	3370	3330	3454	3445	3448
D, E Energia-, vesi- ja jätehuolto (35–39)	260	240	250	251	249	255
F Rakentaminen (41–43)	1320	1350	1330	1561	1604	1596
G Tukku- ja vähittäiskauppa(45–47)	2580	2620	2610	2602	2605	2690
H Kuljetus ja varastointi (49–53)	1310	1240	1200	1308	1316	1284
I Majoitus- ja ravitsemistoiminta (55–56)	710	730	760	643	664	691
J Informaatio ja viestintä (58–63)	860	910	920	858	873	884
K, L Rahoitus- ja vakuutustoiminta; kiinteistöala (64–68)	640	690	670	656	663	661
M Ammatillinen, tieteellinen ja tekninen toiminta (69–75)	1200	1210	1230	1038	1081	1100
N Hallinto- ja tukipalvelutoiminta (77–82)	870	860	890	1131	1201	1217
O Julkinen hallinto ja maanpuolustus (84)	1170	1160	1130	1748	1741	1693
...josta 844 Maanpuolustuskalusto ja varusmiehet				244	239	225
P Koulutus (85)	1700	1740	1720	1632	1630	1630
Q Terveys- ja sosiaalipalvelut (86–88)	3620	3770	3890	3465	3542	3624

R Taiteet, viihde ja virkistys (90–93)	430	450	460	417	421	423
S-U Muu palvelutoiminta yms. (94–99)	620	600	610	654	648	645
X Toimiala tuntematon (00)	110	100	100			

Table 125. Wage and salary earners' working hours in the National Accounts and the Labour Force Survey, 100,000 hours

	Työvoimatutkimus			Kansantalouden tilinpito		
	2010	2011	2012	2010	2011	2012
S1 Toimialat yhteensä	33579	33820	33810	34735	35185	35226
A, B Maatalous, metsätalous, kalatalous; kaivostoiminta (01–09)	753	742	711	891	872	879
C Teollisuus (10–33)	5650	5619	5561	5388	5463	5395
D, E Energia-, vesi- ja jätehuolto (35–39)	426	391	407	413	415	420
F Rakentaminen (41–43)	2303	2385	2334	2749	2847	2824
G Tukku- ja vähittäiskauppa(45–47)	4063	4074	4051	4056	4132	4202
H Kuljetus ja varastointi (49–53)	2143	2019	1959	2227	2191	2130
I Majoitus- ja ravitsemistoiminta (55–56)	1035	1077	1113	1046	1083	1113
J Informaatio ja viestintä (58–63)	1430	1495	1522	1402	1413	1422
K, L Rahoitus- ja vakuutustoiminta; kiinteistöala (64–68)	1017	1101	1092	1055	1048	1042
M Ammatillinen, tieteellinen ja tekninen toiminta (69–75)	1951	1966	2037	1676	1717	1701
N Hallinto- ja tukipalvelutoiminta (77–82)	1317	1315	1394	1677	1773	1821
O Julkinen hallinto ja maanpuolustus (84)	1844	1844	1777	2981	2963	2875
...josta 844 Maanpuolustuskalusto ja varusmiehet				711	699	664
P Koulutus (85)	2396	2382	2310	2342	2339	2345
Q Terveys- ja sosiaalipalvelut (86–88)	5524	5696	5821	5224	5330	5455
R Taiteet, viihde ja virkistys (90–93)	608	640	653	572	575	579
S-U Muu palvelutoiminta yms. (94–99)	946	906	919	1036	1024	1023
X Toimiala tuntematon (00)	172	170	150			

*A, B, Agriculture, forestry and fishing; mining and quarrying (01 to 09)*

In 2012, the number of wage and salary earners in the National Accounts was some 20 per cent higher than in the Labour Force Survey. The difference between the wage and salary earners in the industry is second highest measured in percentages, the difference is higher only in industry N Administrative and support service activities. The difference may partially be explained by the fact that farm workers coming to Finland from abroad are not included in the figures of the Labour Force Survey but they should be included in the National Accounts' figures. It may, however, be hard to obtain data. The difference is similar in hours worked. The increase in foreign temporary workers in primary production supports the difference between the figures.

### *C Industry (10 to 33)*

The number of wage and salary earners in the industry does not significantly differ in the National Accounts from that of the Labour Force Survey, the difference is fewer than 2,000 wage and salary earners while the total number of wage and salary earners in the industry is over 300,000. The difference is of the same magnitude in working hours.

### *D, E Energy supply, water supply and waste management (35 to 39)*

Also in this industry, the difference between the statistics is low, around two per cent relative to the number of wage and salary earners in the National Accounts. There are 500 more wage and salary earners in the National Accounts than in the Labour Force Survey. There are also more working hours according to the National Accounts than to the Labour Force Survey, the difference is around three per cent.

### *F Construction (41 to 43)*

In construction, the figures of the National Accounts are higher, the difference is almost 27,000 wage and salary earners. The difference in wage and salary earners and their working hours is 15 per cent, in the working hours the difference is two percentage points more. One of the reasons is the grey employment in the industry and possibly also the high share of foreign labour force used in the industry that is not part of the population of the Labour Force Survey.

### *G Wholesale and retail trade (45 to 47)*

In wholesale and retail trade, the number of wage and salary earners is around 8,000 persons higher in the National Accounts than in the Labour Force Survey. The number is around three per cent of the number of wage and salary earners in the industry in the National Accounts. The difference is of the same magnitude in working hours. The National Accounts assumes that there are some activities in the industry that are not reported to the Tax Authority.

### *H Transport and storage (49 to 53)*

The difference in transport and storage is a little bigger, 6.5 per cent of the number of wage and salary earners in the National Accounts. The National Accounts assume that there are some activities in the industry that are not reported to the Tax Authority.

### *I Accommodation and food service activities (55 to 56)*

The difference is around -12 per cent from the figure of the National Accounts in 2012, so in this industry, the Labour Force Survey has more wage and salary earners than the National Accounts. The number of hours worked by wage and salary earners is, however, almost the same in both statistics.

*J Information and communication (58 to 63)*

According to the Labour Force Survey, the industry has more wage and salary earners than according to the National Accounts. The difference is around four per cent of the wage and salary earners in the National Accounts, or 3,600 wage and salary earners.

*K, L Financial, insurance and real estate activities (64 to 68)*

The difference between the figures of the Labour Force Survey and the National Accounts for this industry is low, according to the Labour Force Survey there are 900 more wage and salary earners than according to the National Accounts. This is only 1.4 per cent of the number of wage and salary earners in this industry in the National Accounts. The difference is slightly larger in working hours, nearly five per cent, but similar.

*M Professional, scientific and technical activities (69 to 75)*

The difference is around -15 per cent from the figure of the National Accounts in 2012, so in this industry, the Labour Force Survey has more wage and salary earners than the National Accounts.

*N Administrative and support service activities (77 to 82)*

The difference in the industry's wage and salary earners is the largest of all industries measured in percentages. The number of wage and salary earners in the National Accounts exceeds that of the Labour Force Survey by around 27 per cent. The figure of the National Accounts includes some work input that is not reported to the Tax Administration and the industry 78 Employment activities, where all agency-hired employees are recorded in the National Accounts. In the Labour Force Survey, agency-hired employees are recorded under the industry in which the work.

*O Public administration and defence*

The difference is around -14 per cent from the figure of the National Accounts in 2012, so in this industry, the Labour Force Survey has 56,300 more wage and salary earners than the National Accounts. The difference is similar even if the around 24,000 persons in military or non-military service, which according to the National Accounts are recorded in the industry, were removed from the figures.

*P Education (85)*

The number of wage and salary earners in the industry is higher in the Labour Force Survey than in the National Accounts. The difference is around 9,000 wage and salary earners, or 5.5 per cent of the figure of the National Accounts. The difference is different in working hours, the figure of the National Accounts is a few per cent higher than that of the Labour Force Survey. No work input not reported to the Tax Administration has been estimated for the industry.

*Q Human health and social work activities (86 to 88)*

The number of wage and salary earners in the industry is higher in the Labour Force Survey than in the National Accounts. The difference is around 26,000 wage and salary earners, or some seven per cent of the figure of the National Accounts. The difference in working hours is similar.

*R Arts, entertainment and recreation activities (90 to 93)*

The number of wage and salary earners in the industry is higher in the Labour Force Survey than in the National Accounts. The difference is around 3,700 wage and salary earners, or some nine per cent of the figure of the National Accounts. The difference is somewhat larger in working hours, 13 per cent.

*S to U Other service activities, etc. (94 to 99)*

The number of wage and salary earners in the National Accounts exceeds that of the Labour Force Survey by around five per cent, or 3,500 wage and salary earners. The difference is slightly higher in working hours, ten per cent. The figures of the National Accounts contain some work input not reported to the Tax Administration.

*X Industry unknown (00)*

A small share of the labour force (15,000 wage and salary earners in 2012) cannot be allocated to any industry in the Labour Force Survey so the industry is recorded as unknown. No such problem occurs in the National Accounts.

7.3.1.1.4.2 Differences between entrepreneurs and their working hours

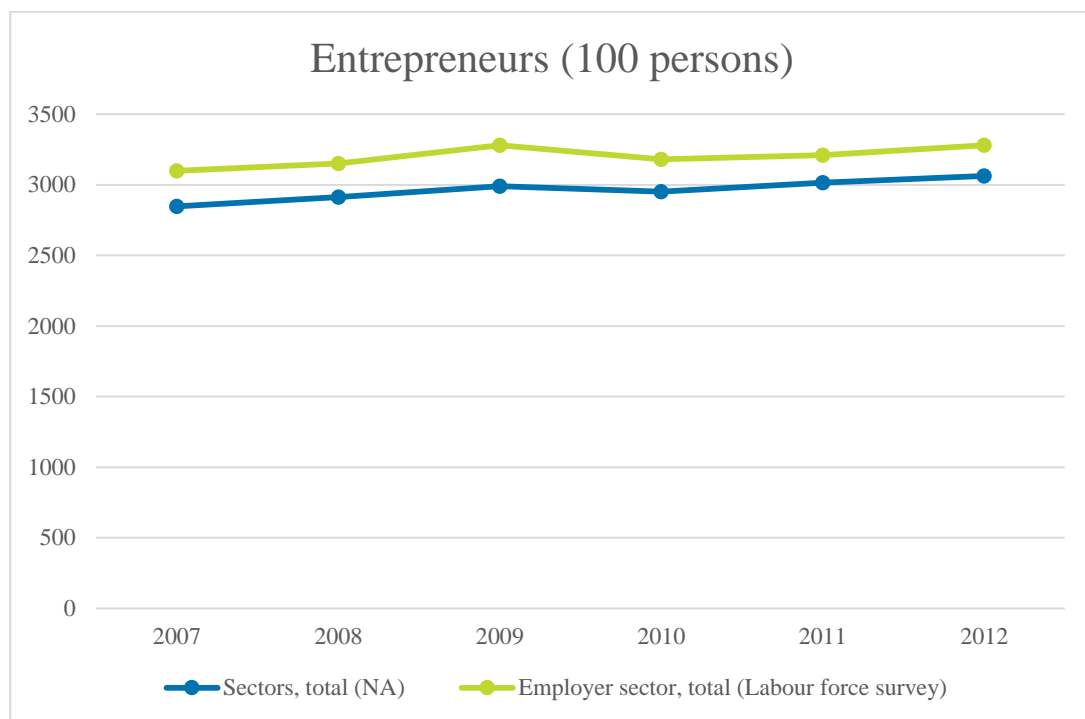
In the National Accounts, the source for the number of entrepreneurs is the Business Register. The data of the Business Register are an estimation. For example, data on the amount of pension contributions paid by entrepreneurs are utilised in the estimate. The number of entrepreneurs in the statistics is the number of persons working as entrepreneurs not staff year data.

The number of entrepreneurs is around six per cent lower in the National Accounts than in the Labour Force Survey. On the other hand, there is not much difference in the working hours of entrepreneurs.

The statistics differ from each other to the extent that for the fishing industry, the National Accounts includes the hours used for fishing by leisure fishers. Similarly, hours of own-account construction used on renovating your own dwelling are included in the figures of the construction industry.

**Figure 7. Number of entrepreneurs according to the National Accounts and the Labour Force Survey**





**Figure 8. Entrepreneurs' working hours according to the National Accounts and the Labour Force Survey**



**7.3.1.1.5 Labour Force Survey vs. Business Register**

When comparing the Labour Force Survey with the data in the Business Register from the viewpoint of the underground economy, first an assumption is made that the Labour Force Survey as a sample survey contains at least to some extent the hidden labour force, i.e. persons participating in the survey report they are working even though their wages or part of them have been paid under the table. Only the private sector, i.e. enterprises and households, have been examined. It is assumed that the non-observed economy is small or non-existent in the public and financial sectors. The temporary agency work force has been removed from the Labour Force Survey in order for the data to be more comparable. The industry data of the enterprise have been used in the comparison. The target of the examination has been wages and salaries and staff years. In the latest comparison, the data for 2005 to 2013 were examined and attention was paid in particular to the accommodation and food service industry but other industries were also examined.

There are some uncertainties involved in the comparison between the Labour Force Survey and the Business Register. The calculations use the assumption that the amount of hidden wages would be the same as the normal wages in the industry. It is difficult to assess the realism of this assumption numerically. Probably all persons participating in the Labour Force Survey do not reveal they are working as unreported employees, in other words, they say they are unemployed or only report the job for which they receive official wages. Foreigners working in Finland for a fixed term are not included in the Labour Force Survey.

The results supported to some extent the assumptions of industries where the underground economy occurs. The Labour Force Survey gave higher employment figures for these and, correspondingly, for manufacturing industries where the assumption is that the underground economy is almost non-existent, the number of employed was lower in the Labour Force Survey than in the Business Register. In some industries, the results were conflicting. The conflicts may be caused by the above-mentioned uncertainties but also by the fact that the Labour Force Survey as a sample survey is necessarily not suitable for estimating hidden employment in smaller industries. There may also be difference between the industrial classification of the workplace in different sources.

### *7.3.2 Adjustments made for the different types of non-exhaustiveness*

Table 126. Coverage revisions of the income approach according to the process tables.

Compilation of GNI	Level of Details	Adjustments							Total exhaustiveness
		Exhaustiveness							
		N1	N2	N3	N4	N5	N6	N7	
<b>GDP INCOME APPROACH</b>									
<b>Compensation of employees</b>		0	0	0	0	0	11	735	746
Non-Financial Corporations		0	0	0	0	0	0	735	735
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	11	0	11
NPSH		0	0	0	0	0	0	0	0
<b>Gross operating surplus (1)</b>		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
NPSH		0	0	0	0	0	0	0	0
<b>Mixed income</b>									0
<b>Taxes on production and imports</b>									0
<b>Subsidies</b>									0
<b>Gross domestic product</b>		0	0	0	0	0	11	735	746

### 7.3.3 Exhaustiveness methods

The revisions made for different non-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 127. GNI items paid from abroad to Finland and from Finland to abroad

Year, EUR million	2010	2011	2012
D1 / Compensation of employees, receivable	639	661	698
D1 / Compensation of employees, payable	540	588	608
D2 / Taxes on production and imports, payable	152	191	185
D3 / Subsidies, receivable	784	772	773
D4 / Property income, payable	11,778	13613	13522
D4 / Property expenditure, receivable	13582	13851	13887

## 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 2000. 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 2000, there were around EUR 100 million in tax-exempt wages and salaries earned abroad. When considering that responses to these types 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 2000 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.

### Wages and salaries and subsidies 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 128. 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.

*Calculation method and size of employers' social contributions related to foreign wages and salaries*

**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.

Table 129. Employers' social contributions paid to abroad from Finland

	D12 / R Employer's social security contributions
2000	31
2001	35
2002	38
2003	45
2004	54
2005	61
2006	68
2007	80
2008	92
2009	102
2010	107
2011	116
2012	121

2013	124
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## 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 abroad 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 of standard size, 16 per cent, of the wagebill received from abroad in 1995 to 2004. The table presents the social contributions paid by employers obtained from abroad.

Table 130. Employers' social contributions paid from abroad to Finland

	D12 / K Employer's social security contributions
2000	82
2001	88
2002	81
2003	74
2004	74
2005	77
2006	76
2007	77
2008	85
2009	87

2010	89
2011	92
2012	96
2013	101

## 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 131. Taxes on production and imports

	2010	2011	2012
D2 / R Taxes on production and imports, receivable	152	191	185
D2121 / R Import duties	151	190	184
D214 / R Other taxes on products than VAT and import taxes	1	1	1
D 762 EU's resources based on value added tax	233	261	277

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 recording 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
- ESF
- EU institutions by the Finnish Intervention Unit
- EU institutions by the Finnish Fund for Agricultural Development.

Table 132. Received subsidies

	2010	2011	2012
D3 / K Subsidies, receivable	784	772	773
D319 / K Other subsidies on products	67	51	49
D39 / K Other subsidies on production	717	721	724

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*

### 8.4.1 *Interest*

In this Section, the calculation of dividends and reinvested earnings is also explained. The data are based on balance of payments surveys.

Statistics Finland and the Bank of Finland jointly collect 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 entity with duty to report 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. If necessary, some respondents are asked for a separate report on business acquisitions and mergers.

Until the end of 2013, the Bank of Finland has carried out the annual balance of payments survey on foreign financial assets and liabilities, but as a result of reviewing the division of work between Statistics Finland and

the Bank of Finland the main responsibility for the data collection was transferred to Statistics Finland from the beginning of 2014. The surveys are carried out as a joint data collection of Statistics Finland and the Bank of Finland.

Table 133. Interests, dividends and reinvested earnings between Finland and other countries derive from the balance of payments surveys.

Year/EUR million	2010	2011	2012
D411 / R Actual interest, receivable	5,679	6,350	6,389
D412 / R FISIM adjustment of interests, deposits	-46	-9	-30
D421 / R Dividends, receivable	5,192	7,804	9,014
D43 / R Reinvested earnings on direct foreign investment	631	-953	-2,308
D411 / K Actual interest, payable	3,926	4,314	4,003
D412 / R FISIM adjustment of interests, loans	20	50	111
D42 / K Distributed income of corporations (as an expense)	6,077	8,998	8,297
D43 / K Reinvested earnings on direct foreign investment	2,543	-856	24

There are currently three types of balance of payments surveys:

1. Statistics Finland's monthly and annual inquiries on foreign financial assets and liabilities that collect data on the stock of assets and liabilities and changes in them, valuation items and corresponding interests and dividends by sector.

Based on the annual inquiry, data on enterprises' results, dividends and interests are received. Reinvested earnings are the residual when dividends paid are subtracted from income on equity.

2. Monthly inquiry on custody of financial instruments directed at the Bank of Finland's account operators (domestic financial instrument custodians). The inquiry provides data on interests and dividends.
3. The Bank of Finland's monthly inquiry on foreign security-based assets and liabilities. The inquiry provides data on interests and dividends.

In addition, the Bank of Finland collects data for the balance of payments also in connection with the ECB's balance sheet data collections of financial institutions and mutual funds.

The basic principle of the statistical system is an inquiry directly from the data source, i.e. the institutional units making investment and financing decisions. Balance of payments inquiries are by nature total surveys from which small enterprises have been left out. Small enterprises are taken into account by methodological means.

The frameworks for the surveys of the non-financial corporations sector are defined based on Statistics Finland's Business Register. The Business

Register contains data on around 300,000 corporations and a note on foreign ownership. In addition, the register includes a list of enterprises that have foreign affiliates. The frameworks are complemented with the balance sheet data of the 15,000 largest enterprises derived from the Tax Administration and data received from the surveys. The balance of payments surveys of the non-financial corporations sector include enterprises whose foreign assets and liabilities are estimated to be the highest based on these data sources. In practice, in recent years, the monthly inquiry covered around 90 to 140 enterprises and the annual inquiry a total of some 1,000 to 1,200 enterprises.

Other actors in the financial sector not included in the definitions of financial institutions and mutual funds are picked for the balance of payments surveys based on data from the Financial Supervision Authority, balance sheet data from the Tax Administration and the Business Register in the same manner as for the non-financial corporations sector.

## *8.4.2 Distributed income of corporations*

### *8.4.2.1 Dividends*

Described in Section 8.4.1

### *8.4.2.2 Withdrawals from the income of quasi-corporations*

In connection with the ESA2010 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)*

Data on reinvested earnings on direct foreign investment are based on the annual inquiry on balance of payments. (Section 8.4.1)

Reinvested earnings are the residual when dividends paid are subtracted from income on equity.

## *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 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, and 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.

Insurance corporations' (S.128) property 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.

Table 134. Property income attributed to insurance policyholders

	2010	2011	2012
D441 / R Investment income attributed to insurance policyholders (received)	8	5	5
D442 / R Investment income based on pension entitlements (received)	2	1	1

#### 8.4.4.2 Investment income payable on pension entitlements

See previous chapter 8.4.4.1.

#### 8.4.4.3 Investment income attributable to collective investment fund shareholders

Data derive from the dividends and interests of balance of payments in which mutual funds are separated. The separation has been implemented in connection with the ESA2010 renewal.

Table 135. Investment income from mutual funds belonging to shareholders

	2010	2011	2012
D4431 / R Dividends from mutual funds belonging to shareholders (received)	29	33	27
D4431 / R Undistributed profits from mutual funds belonging to shareholders (received)	283	382	424
D4431 / R Undistributed interests from mutual funds belonging to shareholders (received)	185	252	261
D4431 / R Undistributed dividends from mutual funds belonging to shareholders (received)	98	130	163
D4431 / K Dividends from mutual funds belonging to shareholders (paid)	270	487	519
D4431 / K Undistributed profits from mutual funds belonging to shareholders (paid)	746	858	933
D4431 / K Undistributed interests from mutual funds belonging to shareholders (paid)	503	625	676
D4431 / K Undistributed dividends from mutual funds belonging to shareholders (paid)	243	233	257

#### 8.4.4.4 Rent on land and sub-soil assets

The item is not separately compiled into statistics in Finland 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).

Table 136. The Classification of Sectors, the left column contains the ESA2010 code and the next column gives the corresponding FNA heading.

<b>EKT 2010 - koodi</b>	<b>SKT 2010 - koodi</b>	<b>Sektoriluokitus (S)</b>	<b>Classification of sectors (S)</b>
<b>S.1</b>	<b>S1</b>	<b>Koko kansantalous (kotimaiset sektorit yhteensä)</b>	<b>Total economy</b>
<b>S.11</b>	<b>S11</b>	<b>Yritykset</b>	<b>Non-financial corporations</b>
	S111	Yritykset pl. asuntoyhteisöt	Non-financial corporations excl. housing corporations
	S112	Asuntoyhteisöt	Housing corporations
<b>S.12</b>	<b>S12</b>	<b>Rahoitus- ja vakuutuslaitokset</b>	<b>Financial and insurance corporations</b>
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
<b>S.13</b>	<b>S13</b>	<b>Julkisyhteisöt</b>	<b>General government</b>

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
<b>S.14</b>	<b>S14</b>	<b>Kotitaloudet</b>	<b>Households</b>
<b>S.15</b>	<b>S15</b>	<b>Kotitalouksia palvelevat voittoa tavoittelemattomat yhteisöt</b>	<b>Non-profit institutions serving households</b>
<b>S.2</b>	<b>S2</b>	<b>Ulkomaat</b>	<b>Rest of the world</b>
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 EY_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

### 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 below, 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 and housing.

Table 137. Standard Industrial Classification FNA 2010 and NACE rev.2

NACE rev.2	SKT 2010	Toimialaluokitus	Industrial classification
	<b>0</b>	<b>0 Toimialat yhteensä</b>	<b>0 Industries total</b>
<b>A</b>	<b>A</b>	<b>A Maa-, metsä- ja kalatalous</b>	<b>A Agriculture, forestry and fishing</b>
01	01	Maatalous ja metsästys	Agriculture and hunting
01.1_01.6	011_016	Maatalous	Agriculture
01.7	017	Metsästys	Hunting

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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
02.5	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>	<b>B</b>	<b>B Kaivostoiminta ja louhinta</b>	<b>B Mining and quarrying</b>
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
<b>C</b>	<b>C</b>	<b>C Tehdasteollisuus</b>	<b>C Manufacturing</b>
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 kulkuneu	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	Mootoriajoneuvojen ym. valmistus	Manufacture of motor vehicles, etc.
30	30	Muiden kulkuneuvojen valmistus	Manufacture of other transport equipment
31_32	31_32	Muu valmistus ml. huonekalu	Manufacture of furniture and other products
31_33	31_33	Huonekalujen valmistus; Muu teollinen valmistus; Koneiden ja laitteiden korjaus, huolto ja ase	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
<b>D</b>	<b>D</b>	<b>D Energiahuolto</b>	<b>D Electricity, gas, steam and air conditioning supply</b>
<b>E</b>	<b>E</b>	<b>E Vesi- ja jätehuolto</b>	<b>E Water supply and waste management</b>
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 ympäristöhuoltopalvelut	Remediation activities and other waste management services
<b>F</b>	<b>F</b>	<b>F Rakentaminen</b>	<b>F Construction</b>
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.
<b>G</b>	<b>G</b>	<b>G Kauppa</b>	<b>G Trade</b>
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.)
<b>H</b>	<b>H</b>	<b>H Kuljetus ja varastointi</b>	<b>H Transportation and storage</b>



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
<b>I</b>	<b>I</b>	<b>I Majoitus- ja ravitsemistoiminta</b>	<b>I Accommodation and food service activities</b>
55_56	55_56	Majoitus- ja ravitsemistoiminta	Accommodation and food service activities
55	55	Majoitus	Accommodation
56	56	Ravitsemistoiminta	Food and beverage service activities
<b>J</b>	<b>J</b>	<b>J Informaatio ja viestintä</b>	<b>J Information and communication</b>
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
<b>K</b>	<b>K</b>	<b>K Rahoitus- ja vakuutustoiminta</b>	<b>K Financial and insurance activities</b>
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
<b>L</b>	<b>L</b>	<b>L Kiinteistöalan toiminta</b>	<b>L Real estate activities</b>
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
<b>M</b>	<b>M</b>	<b>M Ammatillinen, tieteellinen ja tekninen toiminta</b>	<b>M Professional, scientific and technical activities</b>
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	Lakiasia- 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

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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
<b>N</b>	<b>N</b>	<b>N Hallinto- ja tukipalvelutoiminta</b>	<b>N Administrative and support service activities</b>
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
<b>O</b>	<b>O</b>	<b>O Julkinen hallinto ja sosiaalivakuutus</b>	<b>O Public administration and social security</b>
8.4	84	Julkinen hallinto ja sosiaalivakuutus	Public administration and social security
8.41_8.42	841_842	Julkinen hallinto	Public administration
8.43	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
<b>P</b>	<b>P</b>	<b>P Koulutus</b>	<b>P Education</b>
85	85	Koulutus	Education
<b>Q</b>	<b>Q</b>	<b>Q Terveys- ja sosiaalipalvelut</b>	<b>Q Human health and social work activities</b>
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
<b>R</b>	<b>R</b>	<b>R Taiteet, viihde ja virkistys</b>	<b>R Arts, entertainment and recreation</b>
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
<b>S</b>	<b>S</b>	<b>S Muu palvelutoiminta</b>	<b>S Other service activities</b>
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
<b>T</b>	<b>T</b>	<b>T Kotitalouspalvelut</b>	<b>T Household service activities</b>

### 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.

Table 138. Classification of producer types

<b>SKT-koodi</b>	<b>Tuottajatyypiluokitus (T)</b>	<b>Classification of producers by type</b>
T10	Markkinatuottajat	Market producers
T20	Omaan loppukäyttöön tuottajat	Producers for own final use
T30	Muut markkinattomat tuottajat	Other non-market producers
<b>T0</b>	<b>Tuottajatyypit yhteensä</b>	<b>Types of producers total</b>

### 9.1.4 Product classification

The product classification applied to the Finnish National Accounts is presented in Appendix 1.

## 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

The classification of individual consumption used in Finland follows the COICOP classification well. In the Finnish classification, five characters and a durability class label are used to separate the products. In education and insurance, the Finnish classification has only one group compared to the COICOP's division by level of education and insurance type. For rents, one group has been used for both actual and imputed rents. Otherwise, the differences are insignificant.

Table 139. Classification of individual consumption

C01	ELINTARVIKKEET JA ALKOHOLITTOMAT JUOMAT	FOOD AND NON-ALCOHOLIC BEVERAGES
C011	Elintarvikkeet	Food
C0111	Leipä- ja viljatuotteet	Bread and other grain products
C01111ND	Riisi	Rice
C01112ND	Jauhot ja suurimot	Flour and groats
C01113ND	Perunajauhot	Potato flour
C01114ND	Ruokaleipä	Bread
C01115ND	Kahvileipä	Cakes and pastries
C01116ND	Muut viljatuotteet	Other grain products
C0112	Liha ja lihatuotteet	Meat and meat products
C01121ND	Naudanliha	Beef
C01122ND	Sianliha	Pork
C01123ND	Siipikarjan liha	Poultry
C01124ND	Lammas, poro ym.	Mutton, reindeer meat, etc.
C01125ND	Riistan liha	Game
C01126ND	Makkara	Sausages
C01127ND	Lihäsäilykkeet, -einekset ja -valmisteet	Tinned meat, processed and precooked meat
C01128ND	Muut lihatuotteet	Other meat products
C0113	Kala ja kalatuotteet	Fish and fish products
C01131ND	Tuore kala	Fresh fish
C01132ND	Kalasäilykkeet ja -valmisteet	Fish preserves and precooked fish products
C0114	Maito, juusto ja munat	Milk, cheese and eggs
C01141ND	Tinkimaito ja tuottajan kulutus	Milk sold directly to consumers and consumption for own use
C01142ND	Maito ja maitojauhe	Milk and milk powder
C01143ND	Hapanmaitotuotteet	Sour milk products
C01144ND	Kerma	Cream
C01145ND	Juustot	Cheeses
C01146ND	Munat	Eggs
C0115	Rasvat ja öljyt	Oils and fats
C01151ND	Voi ja voi-kasviöljyseokset	Butter and butter-vegetable oil mixtures

C01152ND	Margariini	Margarine
C01153ND	Muut rasvat ja öljyt	Other fats and oils
C0116	Hedelmät	Fruit
C01161ND	Tuottajan hedelmät ja puutarhamarjat	Fruit and garden berries for own use
C01162ND	Tuoreet hedelmät ja puutarhamarjat	Fresh fruit and garden berries
C01163ND	Metsämarjat	Forest berries
C01164ND	Kuivatut hedelmät, pähkinät yms.	Dried fruit, nuts, etc.
C01165ND	Hedelmä- ja marjasäilykkeet ja -valmisteet	Fruit and berry preserves and preparations
C0117	Kasvikset	Vegetables
C01171ND	Sienet	Mushrooms
C01172ND	Tuottajan vihannekset ja juurekset	Vegetables and root crops for own use
C01173ND	Tuoreet vihannekset ja juurekset	Fresh vegetables and root crops
C01174ND	Vihannes- ja juuresvalmisteet	Vegetable and root crop preparations
C01175ND	Tuottajan perunat	Potatoes for own use
C01176ND	Perunat	Potatoes
C01177ND	Perunavalmisteet	Potato preparations
C0118	Sokeri, hillot, hunaja, siirapit, suklaa ja makeiset	Sugar, jams, honey, syrups, chocolate and confectionery
C01181ND	Sokeri	Sugar
C01182ND	Hunaja	Honey
C01183ND	Hillot, siirappi ym.	Jams, syrup, etc.
C01184ND	Makeiset ja suklaa	Confectionery and chocolate
C01185ND	Jäätelö	Ice cream
C0119	Muualla luokittelemattomat elintarvikkeet	Food n.e.c.
C01190ND	01.1.9.1 Mausteet, ravintoainevalmisteet, erittelemätön kulutus	Spices, nutrient preparations, unspecified expenditure
C012	01.2 Alkoholittomat juomat	Non-alcoholic beverages
C0121	Kahvi, tee ja kaakao	Coffee, tea and cocoa
C01211ND	Kahvi	Coffee
C01212ND	Tee	Tea
C01213ND	Kaakao	Cocoa

C0122	Kivennäisvedet, virvoitusjuomat ja mehut	Mineral waters, soft drinks and juices
C01221ND	Kivennäisvedet ja virvoitusjuomat	Mineral waters and soft drinks
C01222ND	Mehut	Juices
C02	ALKOHOLIJUOMAT, TUPAKKA JA HUUMEET	ALCOHOLIC BEVERAGES, TOBACCO AND NARCOTICS
C021	02.1 Alkoholijuomat	Alcoholic beverages
C0211	Väkevät alkoholijuomat	Spirits
C02110ND	Väkevät alkoholijuomat	Spirits
C0212	Viini, siideri, long drinkit	Wine, cider, long drinks
C02120ND	Viini, siideri, long drinkit	Wine, cider, long drinks
C0213	Olut	Beer
C02130ND	Olut	Beer
C022	Tupakka	Tobacco
C0220	Tupakka	Tobacco
C02200ND	Tupakka	Tobacco
C023	Huumeet	Narcotics
C0230	Huumeet	Narcotics
C02300ND	Huumeet	Narcotics
C03	VAATETUS JA JALKINEET	CLOTHING AND FOOTWEAR
C031	Vaatetus	Clothing
C0311	Kankaat	Fabrics
C03110SD	Kankaat	Fabrics
C0312	Vaatteet	Garments
C03121SD	Päällysvaatteet	Outdoor clothing
C03122SD	Alusvaatteet	Underwear
C0313	Asusteet ja pukineet	Accessories and articles of clothing
C03131SD	Lanka ym.	Yarn, etc.
C03132SD	Hatut, solmiot, liinat, käsineet ym.	Hats, ties, scarves, gloves, etc.
C0314	Vaatteiden korjaus ja vuokraus	Garment repair and hire
C03140S	Vaatteiden korjaus ja vuokraus	Garment repair and hire
C032	Jalkineet	Footwear
C0321	Jalkineet ja jalkinetarvikkeet	Footwear and footwear supplies

C03210SD	Jalkineet ja jalkinetarvikkeet	Footwear and footwear supplies
C0322	Jalkineiden korjaus ja vuokraus	Footwear repair and hire
C03220S	Jalkineiden korjaus ja vuokraus	Footwear repair and hire
C04	ASUMINEN, VESI, SÄHKÖ, KAASU JA MUUT POLTTOAINEET	HOUSING, WATER, ELECTRICITY, GAS AND OTHER FUELS
C041	Todelliset asumisvuokrat	Actual rents for housing
C0410	Todelliset asumisvuokrat	Actual rents for housing
C04100S	Todelliset asumisvuokrat	Actual rents for housing
C042	Laskennalliset asumisvuokrat	Imputed rents for housing
C0420	Laskennalliset asumisvuokrat	Imputed rents for housing
C04200S	Laskennalliset asumisvuokrat	Imputed rents for housing
C043	Asunnon ylläpito ja korjaus	Maintenance and repair of dwelling
C0431	Asunnon huoltoon ja korjaukseen liittyvät tuotteet	Materials for maintenance and repair of dwelling
C04310ND	Asunnon huoltoon ja korjaukseen liittyvät tuotteet	Materials for maintenance and repair of dwelling
C0432	Asunnon huoltoon ja korjaukseen liittyvät palvelut	Services for maintenance and repair of dwelling
C04320S	Asunnon huoltoon ja korjaukseen liittyvät palvelut	Services for maintenance and repair of dwelling
C044	Muut asumiseen liittyvät palvelut	Other services relating to housing
C0441	Vesi	Water supply
C04410ND	Vesi	Water supply
C0442	Jätteiden keruu	Waste collection
C04420S	Jätteiden keruu	Waste collection
C0443	Jätevesi	Sewage services
C04430S	Jätevesi	Sewage services
C0444	Muut asumiseen liittyvät palvelut	Other services relating to housing n.e.c.
C04440S	Muut asumiseen liittyvät palvelut	Other services relating to housing n.e.c.
C045	Sähkö, kaasu ja muut polttoaineet	Electricity, gas and other fuels
C0451	Sähkö	Electricity
C04510ND	Sähkö	Electricity
C0452	Kaasu	Gas
C04520ND	Kaasu	Gas
C0453	Nestemäiset polttoaineet	Liquid fuels

C04530ND	Nestemäiset polttoaineet	Liquid fuels
C0454	Kiinteät polttoaineet	Solid fuels
C04540ND	Kiinteät polttoaineet	Solid fuels
C0455	Kuuma vesi, höyry ja jää	Hot water, steam and ice
C04550ND	Kuuma vesi, höyry ja jää	Hot water, steam and ice
C05	SISUSTUS, KOTITALOUSVÄLINEISTÖ JA TAVANOMAINEN KODINHOITO	FURNISHINGS, HOUSEHOLD EQUIPMENT AND ROUTINE HOUSEHOLD MAINTENANCE
C051	Huonekalut, sisusteet, matot ja muut lattiapäällysteet	Furniture, furnishings, carpets and other floor coverings
C0511	Huonekalut ja sisusteet	Furniture and furnishings
C05111D	Huonekalut ja kalusteet	Furniture
C05112D	Puutarha- ym. ulkokalusteet	Garden and other outdoor furniture
C05113D	Valaisimet ja varjostimet	Lamps and shades
C05114D	Taide-esineet	Art objects
C05115D	Koriste- ja sisustusesineet, peilit	Decorations, mirrors
C0512	Matot ja muut lattiapäällysteet	Carpets and other floor coverings
C05120D	Matot ja muut lattiapäällysteet	Carpets and other floor coverings
C0513	Huonekalujen ym. korjaus	Repair of furniture, etc.
C05130S	Huonekalujen ym. korjaus	Repair of furniture, etc.
C052	Kotitaloustekstiilit	Household textiles
C0521	Kotitaloustekstiilit	Household textiles
C05211SD	Tekstiilit	Textiles
C05212SD	Patjat	Mattresses
C05213S	Kotitaloustekstiilien korjaus	Repair of textiles
C053	Kodinkoneet	Household appliances
C0531	Suurehkot kodinkoneet	Major household appliances
C05311D	Uunit, kamiinat, kiukaat	Ovens, stoves, sauna stoves
C05312D	Jää- ja pakastekaapit	Refrigerators and freezers
C05313D	Pesukoneet, astianpesukoneet, kuivausrummut	Washing machines, dishwashers, tumble dryers
C05314D	Ompelukoneet	Sewing machines
C05315D	Sähköliedet, mikroaaltouunit, pölynimurit	Electric cookers, microwave ovens, vacuum cleaners
C0532	Pienet sähkökäyttöiset kodinkoneet	Small electric household appliances



C05320SD	Pienet sähkökäyttöiset kodinkoneet	Small electric household appliances
C0533	Kodinkoneiden korjaus	Repair of household appliances
C05330S	Kodinkoneiden korjaus	Repair of household appliances
C054	Lasiesineet, ruokailuvälineet ja kotitalouden käyttöesineet	Glassware, tableware and household utensils
C0541	Lasiesineet, ruokailuvälineet ja kotitalouden käyttöesineet	Glassware, tableware and household utensils
C05411SD	Ruokailuastiat, ruoanvalmistus- ym. astiat	Dishes, cooking dishes, etc.
C05412SD	Ruokailu- ja ruoanvalmistusvälineet	Table cutlery and cooking utensils
C05413SD	Muu kotitalousvälineistö	Other household articles
C05414S	Kotitalousvälineiden korjaus	Repair of household articles
C055	Työkalut ja laitteet kodin- ja puutarhanhoitoon	Tools and equipment for house and garden
C0551	Puutarhakoneet, muut työkoneet	Garden appliances, other work appliances
C05510D	Puutarhakoneet, muut työkoneet	Garden appliances, other work appliances
C0552	Pientyökalut ja tarvikkeet	Tools and miscellaneous accessories
C05521SD	Kotitalouden käyttöesineet ja työkalut	Household utensils and tools
C05522SD	Pienet sähkötarvikkeet	Small electric accessories
C056	Tavarat ja palvelut tavanomaiseen kodinhoitoon	Goods and services for routine household maintenance
C0561	Kotitalouden lyhytikäiset kulutustavarat	Non-durable household goods
C05611ND	Pesu-, puhdistus- ym. aineet	Cleaning and washing substances
C05612ND	Hyönteis- ym. myrkyt	Insecticides and other pesticides
C05613ND	Paperiset ja muoviset kertakulutustavarat	Disposable paper and plastic goods
C05614ND	Muut kertakulutustavarat	Other non-durable goods
C0562	Kotitalouspalvelut	Household services
C05620S	Kotitalouspalvelut	Household services
C06	TERVEYS	HEALTH
C061	Lääkintätuotteet, -laitteet ja -välineet	Medical products, appliances and equipment
C0611	Lääkkeet	Medicines
C06110ND	Lääkkeet	Medicines
C0612	Muut farmaseuttiset tuotteet	Other pharmaceutical products

C06120ND	Muut farmaseuttiset tuotteet	Other pharmaceutical products
C0613	Terapeuttiset laitteet ja välineet	Therapeutic appliances and equipment
C06131D	Silmä- ja piilolasit, proteesit, kuulokojeet	Glasses, contact lenses, prostheses, hearing aids
C06132D	Muut terapeuttiset laitteet ja välineet	Other therapeutic appliances and equipment
C062	Avohoitopalvelut	Non-hospital medical and paramedical services
C0621	Lääkäripalvelut	Medical services
C06210S	Lääkäripalvelut	Medical services
C0622	Hammaslääkäripalvelut	Dental services
C06220S	Hammaslääkäripalvelut	Dental services
C0623	Muut avohoitopalvelut	Paramedical services
C06230S	Muut avohoitopalvelut	Paramedical services
C063	Sairaalapalvelut	Hospital services
C0630	Sairaalapalvelut	Hospital services
C06300S	Sairaalapalvelut	Hospital services
C07	KULJETUS	TRANSPORT
C071	Kulkuvälineiden hankinnat	Purchase of vehicles
C0711	Autot	Motor cars
C07110D	Autot	Motor cars
C0712	Moottoripyörät ja -kelkat	Motorcycles and snowmobiles
C07120D	Moottoripyörät ja -kelkat	Motorcycles and snowmobiles
C0713	Polkupyörät	Bicycles
C07130D	Polkupyörät	Bicycles
C072	Yksityisten kulkuvälineiden käyttö	Operation of personal transport equipment
C0721	Varaosat ja lisävarusteet	Spare parts and accessories for personal transport equipment
C07211SD	Renkaat	Tyres
C07212SD	Muut varaosat ja lisävarusteet	Other spare parts and accessories
C0722	Poltto- ja voiteluaineet	Fuels and lubricants
C07220ND	Poltto- ja voiteluaineet	Fuels and lubricants
C0723	Yksityisten kulkuvälineiden huolto ja korjaus	Maintenance and repair of personal transport equipment

C07230S	Yksityisten kulkuvälineiden huolto ja korjaus	Maintenance and repair of personal transport equipment
C0724	Muut yksityisiin kulkuvälineisiin liittyvät palvelut	Other services for personal transport equipment
C07241S	Autonvuokraus	Car rentals
C07242S	Autopaikka-, pysäköinti- ja tienhoitomaksut	Parking place, parking and road maintenance charges
C07243S	Ajo-opetus	Driving lessons
C07244S	Katsastus-, kuljettajantutkinto- ja kilpimaksut	Motor vehicle inspection, driving test and number plate charges
C073	Kuljetuspalvelut	Transports services
C0731	Juna-, raitiovaunu- ja metromatkat	Train, tram and underground train travel
C07310S	Juna-, raitiovaunu- ja metromatkat	Train, tram and underground train travel
C0732	Linja-auto- ja taksimatkat	Bus, motor-coach and taxi travel
C07320S	Linja-auto- ja taksimatkat	Bus, motor-coach and taxi travel
C0733	Lentomatkat	Air travel
C07330S	Lentomatkat	Air travel
C0734	Laivamatkat	Sea travel
C07340S	Laivamatkat	Sea travel
C0735	Muut kuljetuspalvelut	Other transport services
C07350S	Muut kuljetuspalvelut	Other transport services
C08	TIETOLIIKENNE	TELECOMMUNICATIONS
C081	Tietoliikenne	Telecommunications
C0811	Postipalvelut	Postal services
C08110S	Postipalvelut	Postal services
C0812	Tietoliikennelaitteet	Telecommunication equipment
C08120D	Tietoliikennelaitteet	Telecommunication equipment
C0813	Tietoliikennepalvelut	Telecommunication services
C08130S	Tietoliikennepalvelut	Telecommunication services
C09	VIRKISTYS JA KULTTUURI	RECREATION AND CULTURE
C091	Audiovisuaaliset, valokuvaus- ja tietojenkäsittelylaitteet	Audio-visual, photographic and data processing equipment
C0911	Äänen ja kuvan vastaanotto-, tallentamis- ja toistolaitteet	Equipment for reception, recording and reproduction sound and images
C09111D	Radiot, äänentoistolaitteet yms.	Radios, sound reproduction equipment, etc.

C09112D	Televisiot ja videonauhurit	Televisions and video recorders
C09113SD	Viihde-elektroniikan osat ja tarvikkeet	Parts and accessories of entertainment electronics
C0912	Valokuvaus-, elokuva- ja optiset laitteet	Photographic and cinematographic equipment and optical instruments
C09121D	Kamerat, kiikarit ym.	Cameras, binoculars, etc.
C09122D	Videokamerat	Videocameras
C0913	Mikrotietokoneet, lasku- ja kirjoituskoneet	Personal computers, calculators and typewriters
C09130D	Mikrotietokoneet, lasku- ja kirjoituskoneet	Personal computers, calculators and typewriters
C0914	Äänen ja kuvan tallennusvälineet	Sound and picture recording equipment
C09141SD	Filmit ja muut valokuvaustarvikkeet	Films and other photographic accessories
C09142SD	Äänilevyt, audio- ja videokasetit	Records, audio and video cassettes
C0915	Audiovisuaalisten, valokuvaus- ja tietojenkäsittelylaitteiden korjaukset	Repair of audio-visual, photographic and data processing equipment
C09150S	Audiovisuaalisten, valokuvaus- ja tietojenkäsittelylaitteiden korjaukset	Repair of audio-visual, photographic and data processing equipment
C092	Muut suurehkot kestopulutusvarat virkistykseen ja kulttuuriin	Other major consumer durables for recreation and culture
C0921	Suurehkot kestopulutusvarat ulkoiluun	Major consumer durables for outdoor recreation
C09210D	Suurehkot kestopulutusvarat ulkoiluun	Major consumer durables for outdoor recreation
C0922	Suurehkot ajanviete- ja virkistystavarat sisäkäyttöön	Major durables for indoor recreation
C09220D	Suurehkot ajanviete- ja virkistystavarat sisäkäyttöön	Major durables for indoor recreation
C0923	Muiden suurehkojen ajanvietevälineiden ylläpito ja korjaus	Maintenance and repair of other major durables for recreation and culture
C09230S	Muiden suurehkojen ajanvietevälineiden ylläpito ja korjaus	Maintenance and repair of other major durables for recreation and culture
C093	Muut tavarat ja laitteet virkistykseen; puutarhatarvikkeet ja lemmikkieläimet	Other recreational items and equipment, garden supplies and pets
C0931	Pelit, lelut ja harrastusvälineet	Games, toys and hobby equipment
C09310SD	Pelit, lelut ja harrastusvälineet	Games, toys and hobby equipment
C0932	Urheilu- ja retkeilyvälineet	Sports and camping equipment
C09320SD	Urheilu- ja retkeilyvälineet	Sports and camping equipment
C0933	Kukat ja puutarhatarvikkeet	Flowers and garden supplies
C09330ND	Kukat ja puutarhatarvikkeet	Flowers and garden supplies

C0934	Lemmikkieläimet ja tarvikkeet	Pets and related products
C09341ND	Lemmikkieläinten ruoka	Pet food
C09342SD	Lemmikkieläimet ja niiden varusteet	Pets and pet supplies
C0935	Lemmikkieläinten lääkintä- ja muut palvelut	Veterinary and other services for pets
C09350S	Lemmikkieläinten lääkintä- ja muut palvelut	Veterinary and other services for pets
C094	Virkistys- ja kulttuuripalvelut	Recreational and cultural services
C0941	Urheilu- ja virkistyspalvelut	Sports and recreational services
C09411S	Urheilu- ja vapaa-ajanvälineiden vuokraus	Sports and leisure-time equipment rentals
C09412S	Muut urheilu- ja virkistyspalvelut	Other sports and recreational services
C0942	Kulttuuripalvelut	Cultural services
C09421S	Televisioiden, videoiden ym. vuokraus	Rentals of television, video, etc.
C09422S	Tv-lupamaksut, kaapeli-tv- ym. maksut	Television licences, cable television fees, etc.
C09423S	Valokuvaamo- ja valokuvien kehityspalvelut	Photographer's services and film development services
C09424S	Muut kulttuuripalvelut	Other cultural services
C0943	Veikkaus, arpajaiset, lotto	Football pools, lottery
C09430S	Veikkaus, arpajaiset, lotto	Football pools, lottery
C095	Sanomalehdet, kirjat ja paperitarvikkeet	Newspapers, books and stationery
C0951	Kirjat	Books
C09510SD	Kirjat	Books
C0952	Sanoma- ja aikakauslehdet	Newspapers and periodicals
C09520ND	Sanoma- ja aikakauslehdet	Newspapers and periodicals
C0953	Kartat, kalenterit, kortit yms. painotuotteet	Maps, calendars, cards and other printed matter, etc.
C09530ND	Kartat, kalenterit, kortit yms. painotuotteet	Maps, calendars, cards and other printed matter, etc.
C0954	Paperitarvikkeet	Stationery
C09540ND	Paperitarvikkeet	Stationery
C096	Valmismatkat	Package tours
C0960	Valmismatkat	Package tours
C09600S	Valmismatkat	Package tours

C10	KOULUTUS	EDUCATION
C100	Koulutus	Educational services
C1000	Koulutus	Educational services
C10000S	Koulutus	Educational services
C11	RAVINTOLAT JA HOTELLIT	HOTELS, CAFES AND RESTAURANTS
C111	Ravitsemispalvelut	Catering services
C1111	Ravintolat ja kahvilat	Restaurants and cafes
C11110S	Ravintolat ja kahvilat	Restaurants and cafes
C1112	Ruokalat	Canteens
C11120S	Ruokalat	Canteens
C112	Majoituspalvelut	Accommodation services
C1120	Majoituspalvelut	Accommodation services
C11200S	Majoituspalvelut	Accommodation services
C12	SEKALAISET TAVARAT JA PALVELUT	MISCELLANEOUS GOODS AND SERVICES
C121	Henkilökohtaisen puhtauden ja kauneuden hoito	Personal hygiene and beauty care
C1211	Kampaamo-, parturi- ym. henkilökohtaiset puhtauspalvelut	Hairdresser, barber and other personal hygiene services
C12110S	Kampaamo-, parturi- ym. henkilökohtaiset puhtauspalvelut	Hairdresser, barber and other personal hygiene services
C1212	Hiustenkuivaajat, sähköparranajokoneet ym. sähkölaitteet	Hairdryers, electric shavers and other electric appliances in kind
C12120D	Hiustenkuivaajat, sähköparranajokoneet ym. sähkölaitteet	Hairdryers, electric shavers and other electric appliances in kind
C1213	Muut henkilökohtaisen puhtauden tavarat	Other appliances, articles and products for personal care
C12131ND	Kosmeettiset ja toalettilmisteet	Cosmetic and toilet articles
C12132ND	WC-paperi, nenäliinat yms.	Toilet paper, handkerchiefs, etc.
C12133ND	Vauvanvaipat, tervessiteet, vanu	Nappies, sanitary towels, cotton wool
C12134SD	Kammat, hiusharjat, parranajovälineet, hammasharjat	Combs, hair brushes, shaving supplies, tooth brushes
C122	Prostituutio	Prostitution
C1220	Prostituutio	Prostitution
C12200S	Prostituutio	Prostitution

C123	Muualla luokittelemattomat henkilökohtaiset tavarat	Personal effects n.e.c.
C1231	Koruesineet ja kellot	Jewellery, clocks and watches
C12311D	Koruesineet	Jewellery
C12312D	Ranne- ja taskukellot, seinä- ym. kellot	Wrist and pocket watches, wall and other clocks
C12313S	Kellojen ja koruesineiden korjaus	Repair of watches, clocks and jewellery
C1232	Muut henkilökohtaiset tavarat	Other personal effects
C12321SD	Laukut, lompakot	Bags and wallets
C12322SD	Lastenvaunut ja –rattaat, turvaistuimet	Prams, pushchairs and child safety seats
C12323SD	Sateenvarjot, aurinkolasit, tupak.välineet	Umbrellas, sunglasses, smoking articles
C124	Sosiaaliturva	Social protection
C1240	Päivähoito-, laitos- ym. sos.palv.maksut	Children's day care, institution and other social service expenses
C12400S	Päivähoito-, laitos- ym. sosiaalipalvelumaksut	Children's day care, institution and other social service expenses
C125	Vakuutus	Insurance
C1250	Vakuutus	Insurance
C12500S	Vakuutus	Insurance
C126	Rahoituspalvelut	Financial services n.e.c.
C1261	Välilliset rahoituspalvelut	FISIM
C12610S	Välilliset rahoituspalvelut	FISIM, loans
C12612S	Välilliset rahoituspalvelut talletuksista	FISIM , deposits
C1262	Todelliset rahoituspalvelut	Actual financial services
C12620S	Todelliset rahoituspalvelut	Actual financial services
C127	Muut muualla luokittelemattomat palvelut	Other services n.e.c.
C1270	Muut muualla luokittelemattomat palvelut	Other services n.e.c.
C12700S	Muut muualla luokittelemattomat palvelut	Other services n.e.c.
C0	KOTITALOUKSIEN KULUTUSMENOT SUOMESSA	CONSUMPTION EXPENDITURE OF HOUSEHOLDS IN FINLAND
CD	KESTOKULUTUSTAVARAT	DURABLE GOODS
CSD	PUOLIKESTÄVÄT KULUTUSTAVARAT	SEMI-DURABLE GOODS
CND	LYHYTIKÄISET TAVARAT	NON-DURABLE GOODS

CS	PALVELUT	SERVICES
TUR	TURISMIMENOT	EXPENDITURE ON TOURISM
P33	Suomalaisten kotitalouksien kulutusmenot ulkomailla	Consumption expenditure of resident households in the rest of the world
P34	Ulkomaalaisten kulutusmenot Suomessa	Consumption expenditure of non-resident households in Finland
P31NC	SUOMALAISTEN KOTITALOUKSIEN KULUTUSMENOT	CONSUMPTION EXPENDITURE OF RESIDENT HOUSEHOLDS
P31	Voittoa tavoittelemattomien yhteisöjen kulutusmenot	Consumption expenditure of non-profit institutions
P31DC	YKSITYISET KULUTUSMENOT SUOMESSA	PRIVATE CONSUMPTION EXPENDITURE IN FINLAND
P31NC	YKSITYISET KULUTUSMENOT	PRIVATE CONSUMPTION EXPENDITURE

### 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.

Table 140. Classification of financial assets according to ESA2010 and FNA2010

EKT 2010	SKT 2010	SKT 2010
	<b>P51 Kiinteän pääoman bruttomuodostus</b>	<b>P51 Gross fixed capital formation</b>
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 kuljetusvä.	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	
	N11322 Muut viestintätekniset laitteet	
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
	<b>P52 Varastojen muutokset</b>	<b>P52 Changes in inventories</b>
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 Keskenenäiset työt	N122 Work-in-progress
AN.1221	N1221 Keskenkasvuiset kasvatettavat biologiset varat	N1221 Work-in-progress on cultivated biological assets
	N1222 Keskenenäiset rakennukset	N1222 Work-in-progress on buildings
	N1223 Keskenenäiset koneet, laitteet ja kuljetusvälineet	N1223 Work-in-progress on machinery, equipment and transport equipment
	N1229 Muut keskenenäiset 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

### 9.3.3 International trade

#### 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.

*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 2014 without repetitions (usually income, expenses, net). Some categories have no data content.

Table 141. International trade classification of the National Accounts

<b>BoPCode</b>	<b>ClaimClass</b>	<b>Item grouping</b>	<b>Item</b>
111100	p61/P71	General merchandise on a balance of payments basis	General merchandise, input
111210	p61/P71		Nonmonetary gold
111251	p61/P71	Classification	Goods produced in seaports
111252	p61/P71	Classification	Goods produced in airports
111221	p61/P71	Classification	Freight transport on sea
111222	p61/P71	Classification	Freight transport by air
111223	p61/P71	Classification	Freight transport on rail
111224	p61/P71	Classification	Freight transport on road
111230	p61/P71	Classification	Import insurance
111241	p61/P71	Classification	Processing in compiling economy
111242	p61/P71	Classification	Processing abroad
111310	p61/P71	Coverage	Smuggling
111320	p61/P71	Coverage	e-Commerce
111330	p61/P71	Coverage	Import of cars by individuals
111410	p61/P71	General merchandise on a balance of payments basis	in seaports
111420	p61/P71	General merchandise on a balance of payments basis	in airports
111430	p61/P71	General merchandise on a balance of payments basis	in other ports
112100	p61/P71	Net exports of goods under merchanting	Goods acquired under merchanting (negative credit)
112200	p61/P71	Net exports of goods under merchanting	Goods sold under merchanting (credit)
113000	p61/P71	Nonmonetary gold	Nonmonetary gold
114000	p61/P71	Branding - Quasi-Transit Trade adjustment	Branding - Quasi-Transit Trade adjustment
121100	p62/P72	Manufacturing services on physical inputs owned by others	Goods for processing in reporting economy, goods returned
121200	p62/P72	Manufacturing services on physical inputs owned by others	Goods for processing abroad, goods sent
121300	p62/P72	Manufacturing services on physical inputs owned by others	Coverage to Processing
122000	p62/P72	Maintenance and repair services n.i.e.	Maintenance and repair services n.i.e.
122200	p62/P72	Factorless production	Goods (services) sold in global production (credit)
123110	p62/P72	Sea transport	Passenger transport on sea

123120	p62/P72	Sea transport	Freight transport on sea
123130	p62/P72	Sea transport	Other sea transport
123210	p62/P72	Air transport	Passenger
123220	p62/P72	Air transport	Freight
123230	p62/P72	Air transport	Other
12330D	p62/P72	Pipeline transport	Pipeline transport
12330E	p62/P72	Electricity transmission	Electricity transmission
12331A	p62/P72	Rail transport	Passenger
12331B	p62/P72	Road transport	Passenger
12331C	p62/P72	Inland waterway transport	Passenger
12332A	p62/P72	Rail transport	Freight
12332B	p62/P72	Road transport	Freight
12332C	p62/P72	Inland waterway transport	Freight
12333A	p62/P72	Rail transport	Other
12333B	p62/P72	Road transport	Other
12333C	p62/P72	Inland waterway transport	Other
123400	p62/P72	Postal and courier services	Postal and courier services
124110	p62/P72	Business	Acquisition of goods and services by border, seasonal, and other short-term workers
124120	p62/P72	Business	Other
124210	p62/P72	Personal	Health-related
124220	p62/P72	Personal	Education-related
124230	p62/P72	Personal	Other
125100	p62/P72	Construction abroad	Construction abroad
125200	p62/P72	Construction in the reporting economy	Construction in the reporting economy
126111	p62/P72	Life insurance	Gross life insurance premiums receivable
126112	p62/P72	Life insurance	Gross life insurance premiums payable
126121	p62/P72	Freight insurance	Gross freight insurance premiums receivable
126122	p62/P72	Freight insurance	Gross freight insurance premiums payable
126131	p62/P72	Other direct Insurance	Gross other direct insurance premiums receivable
126132	p62/P72	Other direct Insurance	Gross other direct insurance premiums payable
126200	p62/P72	Reinsurance	Reinsurance
126300	p62/P72	Auxiliary insurance services	Auxiliary insurance services
126410	p62/P72	Pension services	Pension services
126420	p62/P72	Standardized guarantee services	Standardized guarantee services
127100	p62/P72	Explicitly charged and other financial services	Explicitly charged and other financial services
127210	p62/P72	Financial intermediation services indirectly measured (FISIM)	FISIM on deposits
127220	p62/P72	Financial intermediation services indirectly measured (FISIM)	FISIM on loans
128100	p62/P72	Franchises and trademarks licensing fees	Franchises and trademarks licensing fees
128200	p62/P72	Licenses for the use of outcomes of research and development	Licenses for the use of outcomes of research and development
128300	p62/P72	Licenses to reproduce and/or distribute computer software	Licenses to reproduce and/or distribute computer software

128410	p62/P72	Licenses to reproduce and/or distribute audiovisual and related products	Licenses to reproduce and/or distribute audiovisual products
128420	p62/P72	Licenses to reproduce and/or distribute audiovisual and related products	Licenses to reproduce and/or distribute other products
129100	p62/P72	Telecommunications services	Telecommunications services
129211	p62/P72	Computer services	Software originals
129212	p62/P72	Computer services	Other computer software
129220	p62/P72	Computer services	Other computer services
129310	p62/P72	Information services	News agency services
129320	p62/P72	Information services	Other information services
12A120	p62/P72	Research and development services	Other research and development services
12A1A0	p62/P72	Research and development services	Provision of customised and non customised R&D services
12A1B1	p62/P72	Research and development services	Patents
12A1B2	p62/P72	Research and development services	Copyrights arising from R&D
12A1B3	p62/P72	Research and development services	Industrial processes and designs
12A1B4	p62/P72	Research and development services	Other sale of proprietary rights
12A211	p62/P72	Professional and management consulting services	Legal services
12A212	p62/P72	Professional and management consulting services	Accounting, auditing, bookkeeping and tax consulting services
12A213	p62/P72	Professional and management consulting services	Business and management consulting and public relations services
12A221	p62/P72	Professional and management consulting services	Convention, trade-fair and exhibition organization services
12A222	p62/P72	Professional and management consulting services	Other advertising, market research and public opinion polling
12A311	p62/P72	Technical, trade-related, and other business services	Architectural services
12A312	p62/P72	Technical, trade-related, and other business services	Engineering services
12A313	p62/P72	Technical, trade-related, and other business services	Scientific and other technical services
12A321	p62/P72	Technical, trade-related, and other business services	Waste treatment and de-pollution
12A322	p62/P72	Technical, trade-related, and other business services	Services incidental to agriculture, forestry and fishing
12A323	p62/P72	Technical, trade-related, and other business services	Services incidental to mining, and oil and gas extraction
12A330	p62/P72	Technical, trade-related, and other business services	Operating leasing services
12A340	p62/P72	Technical, trade-related, and other business services	Trade-related services
12A351	p62/P72	Technical, trade-related, and other business services	Employment services i.e. search, placement and supply services of personnel
12A352	p62/P72	Technical, trade-related, and other business services	Other other business services n.i.e.

12B111	p62/P72	Audiovisual and related services	Audiovisual originals
12B112	p62/P72	Audiovisual and related services	Other audiovisual services
12B120	p62/P72	Audiovisual and related services	Artistic related services
12B210	p62/P72	Other personal, cultural, and recreational services	Health services
12B220	p62/P72	Other personal, cultural, and recreational services	Education services
12B230	p62/P72	Other personal, cultural, and recreational services	Heritage and recreational services
12B240	p62/P72	Other personal, cultural, and recreational services	Other personal services
12C100	p62/P72	Embassies and consulates	Embassies and consulates
12C200	p62/P72	Military units and agencies	Military units and agencies
12C300	p62/P72	Other government goods and services	Other government goods and services
12D000	p62/P72	Services not allocated	Services not allocated

## 9.4 Classifications used in the transition from GDP to GNI

See current account classification above and Chapter 8.

# CHAPTER 10 MAIN DATA SOURCES USED

## 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 Register of Enterprises and Establishments. 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 Population Register Centre's Building

and Dwelling Register, Itella Oyj's address data, Fonecta Oy's address and phone number data, Suomen Asiakastieto Oy's enterprise group data, and the employment registers of the State Treasury and the Local Government Pensions Institution.

The Register of Enterprises and Establishment also has its own data collection that annually collects data from all multi-establishment enterprises and single-establishment enterprises with at least 20 employees. Among enterprises employing under 20 persons those whose data have changed based on administrative registers, commercial data or Statistics Finland's other inquiries are approached. Established new enterprises are included in the survey of new enterprises fairly shortly after the start of their operation. The inquiry provides, for example, the number of personnel, turnover, industry and location. Numbers of employees are estimated from data on wages and salaries for enterprises not included in the surveys.

### 10.1.2 Statistics on Finnish enterprises

The Register of Enterprises and Establishment annually publishes statistics that contains data on the number of groups, enterprises and establishments engaged in business activities, number of their personnel and turnover and their changes by industry, region and legal form.

The basic data of the statistics are the enterprises and establishments engaged in business activities belonging to Statistics Finland's Register of Enterprises and Establishments. Of agricultural enterprises include are the ones, whose income from agriculture exceed the statistical threshold of turnover. General government and non-profit institutions are not included. The statistics cover all industries, geographical regions, legal forms and types of owner. Farms, whose income from agriculture exceed the statistical threshold of turnover in the statistical reference year are included. Enterprises and establishments that have operated for more than six months in the reference year and employed more than one-half of a person or had a turnover in excess of an annually specified statistical limit (e.g. EUR 10,595 in 2012) are included in the statistics.

Name of survey: Finnish enterprises
Link to European level surveys: None
Respondent units: All multi-establishment enterprises and single-establishment enterprises employing at least 20 persons. Data are also collected from the Tax Administration's registers and the Board of Patents and Registration.
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 annual Business Register inquiry collects data on all multi-establishment enterprises and single-establishment

enterprises employing at least 20 persons. The period of measurement is the financial period that ended during the statistical reference year. The inquiry is carried out with an Internet form or as a telephone interview.
Population: In 2012, the Business Register data collection included 4,980 multi-establishment and 18,292 single-establishment enterprises.
Sample size: All enterprises covered by the inquiry are included, no separate sample.
Survey response rate: Of multi-establishment enterprises 89.3% responded and of single-establishment enterprises 67.4%.
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: 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 text above.
Main variables collected: Turnover, wage and salary earners, entrepreneurs, industry, the location of activity and establishments.
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: None
Other adjustments of survey data: None

### 10.1.3 Business structural statistics

#### *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 statistical unit of the data is an independent business enterprise and the data do not contain groups or establishments. Central and local government enterprises are included in the data. Excluded from the description of the financial statement statistics are units of public sector authorities, non-profit institutions, financial and insurance activities and those agricultural units that do not act as employers. The identifying code is the enterprise's Business Identity Code, or Business ID. The data are collected once a year.

The data include profit and loss account and balance sheet data, itemised data on income and expenditure, itemised balance sheet data, increases and decreases in fixed assets, the number of personnel, wages and salaries and social costs. Basic data and classification categories on enterprises obtained from Statistics Finland's Business Register are included as well. 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.

The data of the statistics on financial statements are based on the Tax Administration's business taxation data and Statistics Finland's enterprise surveys. 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 replaced or imputed mainly with the data from the previous years and secondly with data from enterprises with similar turnover and number of personnel. The direct inquiry provides itemisation and additional information on the profit and loss account and the balance sheet. The responses to the direct inquiry are combined with the business taxation register data and they are mainly processed manually. For units that are not included in the inquiry, the itemisation of turnover and expenses are imputed. The imputation is carried out by using the industry-specific distribution calculated based on the units that responded to the inquiry. (or description of the method from the quality description of the regional statistics).

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 survey (Table 141). The direct data collection collects data describing enterprises' activities as breakdown of income and expenditure, financial income and expenditure, increases and decreases in tangible assets, and itemised balance sheet data. The data are checked by means of diverse internal logicity and ratio tests. In addition, the data are compared with those from other sources. The electronic photo library of the Board of Patents and Registration is used to check the data.



Table 142. Financial statements inquiry for enterprises

Name of survey: Financial statements inquiry for enterprises
Link to European level surveys: Business structural statistics
Respondent units: The statistical unit used is enterprise. Data contain central and local government enterprises. Excluded from the description are units of public sector authorities, non-profit institutions, financial and insurance activities and those agricultural units that do not act as employers.
Frequency: Annual
Availability time of results: 12-15 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 inquiry includes all enterprises employing more than 50 persons from the target group of the statistics on financial statements. In addition, enterprises employing 10 to 50 persons have been drawn into the inquiry by random sampling. The inquiry also comprises some enterprises employing fewer than ten persons and all local government enterprises. The inquiry is responded to with an electronic questionnaire or a paper questionnaire.
Population: The direct data collection covered around 5,500 enterprises in 2012.
Sample size: All enterprises covered by the inquiry are included, no separate sample.
Survey response rate: 80% in 2012
Calculation method for missing data: The breakdown of turnover 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: 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 text above.
Main variables collected: Profit and loss account and balance sheet, turnover by industry, breakdown of income and expenses, breakdown of the balance sheet, breakdown of fixed assets.
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts: None
Other adjustments of survey data: None

*Establishment level data – Statistics Finland's regional and industrial statistics*

Data produced by Statistics Finland's Regional and industrial statistics on manufacturing, Regional and industrial statistics on construction, and

Regional and industrial statistics on services are used in the calculation of the production accounts of the non-financial corporations and households sector.

The examined variables in the regional and industrial statistics are data on personnel, production, production output and investments. The statistical unit is the establishment of an enterprise or another unit engaged in economic transactions. The identifying code is the establishment code defined by the Register of Enterprises and Establishments. The basic frame of the statistics is formed by Statistics Finland's Business Register. The main classification variables, such as industry, region, and number of personnel derive from the Business Register. The reference period of the statistics is the enterprise's financial period.

The establishments in the regional and industrial statistics have been selected using the same limitations concerning the enterprise's period of operation, personnel and turnover as in the Statistics of Finnish enterprises. The extent of the activities must employ more than one-half of a person or have a turnover in excess of an annually specified statistical limit (EUR 10,595 in 2012) and they must have been operating for more than six months.

The regional and industrial statistics on manufacturing describe the structures in industrial production and changes in the structures by industry and region. Industry covers the entire industry, i.e. the industries of the Standard Industrial Classification, TOL 2008 B (mining and quarrying), C (manufacturing), D (electricity, gas steam and air conditioning supply), and E (water supply, sewerage, waste management and remediation activities). The statistics include the main units of central and local government involved in industrial activities. Primarily these include municipal water and energy plants. The regional and industrial statistics cover nearly all industrial establishments. Data are collected partly in a direct data collection based on a sample (Table 142) and partly by using the Tax Administration's business taxation file and Statistics Finland's Register of Enterprises and Establishments.

Table 143. Regional and industrial statistics on manufacturing

Name of survey: Inquiry for industrial establishments
Link to European level surveys: Business structural statistics
Respondent units: The respondent is the establishment of an enterprise or another industrial unit engaged in economic transactions. Enterprises employing fewer than 20 persons are classified as single-establishment enterprises in the regional and industrial statistics on manufacturing.
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

<p>Main principles of the survey method: As a rule, the inquiry for industrial establishments extends to all industrial establishments of multiple-establishment enterprises employing at least 20 persons. The direct data collection also includes industrial establishments of enterprises with fewer employees than this if the extent of the enterprise's activities corresponds with the extent of the activities of enterprises employing 20 persons, as well as establishments in the investment stage. In addition to the inquiry, the Tax Administration's business tax register and Statistics Finland's Register of Enterprises and Establishments are utilised when producing the data. The reference period of the data collection is the accounting period.</p>
<p>Population: In 2012, the data collection covered 1,917 establishments.</p>
<p>Sample size: All enterprises covered by the inquiry are included, no separate sample.</p>
<p>Survey response rate: 82%</p>
<p>Calculation method for missing data: If the enterprise is not included in the inquiry or its data are not available for some other reason, the data are imputed by using the nearest-neighbour method with the help of the business taxation file and the Register of Enterprises and Establishments and the data of the direct inquiry. The quality of the business taxation file data is examined programmatically with various logicity and ratio tests.</p>
<p>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.</p>
<p>The coverage of the sample in percentages of the variable used in proportioning: See text above.</p>
<p>Main variables collected: Profit and loss account and balance sheet, turnover by industry, breakdown of income and expenses, breakdown of the balance sheet, breakdown of fixed assets, data concerning personnel.</p>
<p>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.</p>
<p>Other adjustments of survey data: None</p>

Regional and industrial statistics on services and Regional and industrial statistics on construction do not have their own data collections. The data sources for the statistics are the enterprise data from the financial statement statistics and the establishment data from the Register of Enterprises and Establishments. The financial statement statistics contain all the data needed in the production of these statistics at enterprise level. Thus, single-establishment enterprises are assigned data direct from the statistics on financial statements. Data for the establishments of multiple-establishment enterprises are produced with statistical methods by exploiting data on enterprises from the statistics on financial statements and data on establishments from the Register of Enterprises and Establishments. The number of personnel and turnover are the establishment-based data from the Register of Enterprises and Establishments.

The division of data from multi-establishment enterprises into establishments takes place as follows. Enterprise level data of the statistics on financial statements is used to select the mirror group. Establishment level data are modelled with the help of the mirror group. Once the mirror groups has been determined, the imputation parameters are calculated. The PNS regression model is used in estimating the parameters. The independent variable in the model is the personnel and turnover from the Register of Enterprises and Establishments. Dependent variables are data that are turned into establishment data, like other operating expenses, purchases of goods, other expenses, etc.

The data of the regional and industrial statistics on services and on construction cover all service industries excluding financing (K) and public administration (O) services.

#### *10.1.4 Business Register / Business taxation data*

The Business taxation register (BTR) contains profit and loss account, balance sheet and fixed assets data of all enterprises liable to pay business tax. The Tax Administration collects the data with forms. The Tax Administration stores the data and delivers them to Statistics Finland electronically. Data concerning a particular tax year become available to Statistics Finland in several batches in the time period between April and November. The data are partially erroneous or otherwise insufficient, which means that the BTR data must be processed at Statistics Finland in order to be able to utilise the data in statistics production and fee-based services. The processing is primarily done automatically but, to some extent, manual revisions must also be made. At Statistics Finland, the Data Collection Department and Business Statistics unit are responsible for the further processing and revisions of the BTR data.

Only the figures already in the data are used in testing and automatic revision, no external calculations or estimates are utilised. This also largely ensures that the revised calculations are relatively correct and that their equivalence with the actual situation is good. The source data for the manual revision of BRT data are the official financial statements from the Board of Patents and Registration.

Corresponding data for balance sheets and profit and loss accounts rejected or missing from BRT data are produced computationally (imputed). The data from the previous year are primarily used in imputing. By utilising the Tax Administration's periodic tax return data, the change in the turnover for each unit to be imputed is calculated and the structural change in the profit and loss account is estimated by industry based on the units for which data for both the statistical reference year and the previous year exist. The balance sheet data are copied directly from the previous year. If there are no data from the previous year, either the turnover data of the Tax Administration's periodic tax return data or the BRT are used in the imputation, and the reference point is the four digit level of the enterprise in question and the magnitude within it based on whose average structure the financial statement and/or balance sheet data of the imputed enterprise are created. Thus, as a result of the imputation, the enterprise data

correspond with the average structure of other enterprises in the same industry and of the same magnitude defined by turnover.

### *10.1.5 Financial statement inquiry of bus and coach transport*

Statistics Finland collects financial statements data on bus and coach enterprises on assignment of the Ministry of Transport and Communications and Linja-autoliitto ry. Within the framework of the statistical system, the Ministry of Transport and Communications receives the detailed data processed by Statistics Finland for its use. Linja-autoliitto, in turn, receives the statistics concerning its member enterprises. Statistics Finland is entitled to use the inquired data to complement its financial statements database (Business structural statistics 10.1.3.).

The target population of the inquiry is formed by enterprises currently engaged in passenger transport that have a valid public transport licence. Their enterprise IDs are picked from a list delivered by the Uusimaa ELY Centre to Statistics Finland that covers around 1,400 enterprises. The inquiry is sent to all enterprises in the population. Due to closures, extensions of accounting periods and other such factors, data are not received from all target enterprises. These factors result in an estimated 40 to 70 per cent non-response in the entire population. As a rule, the biggest enterprises respond, as measured by turnover, the inquiry covers around 70 per cent of the turnover of the industry.

The financial statements inquiry of bus and coach transport asks for profit and loss account and balance sheet data, itemised sales revenue and expenses, breakdown of fixed assets, personnel, vehicles in professional transport (number of buses and coaches, number of seats at the end of the accounting period), driven kilometres and passengers. The last two of these are divided based on various forms of transport; coach and purchased transport, contract transport, service transport and charter transport. Statistics Finland processes the data at enterprise level of the financial statement inquiry by comparing them to the enterprise's official financial statements and the statistical data from the previous year. Errors and shortcomings are revised in cooperation with the enterprise.

### *10.1.6 Statistics on financial leasing*

Statistics Finland has compiled statistics on financial leasing since 1985. The statistics contain data by sector and industry on the financial leasing activities of credit institutions and other lessors. Direct leasing is not included in the statistics.

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 is a total survey whose population is the 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: 27 credit institutions or other enterprises practising financial leasing.
Sample size: The survey is a total survey and not a sample survey.
Survey response rate: 78%
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 text above.
The coverage of the sample in percentages of the variable used in proportioning: See 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

### 10.1.7 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 not a business bookkeeping transaction.

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.

### *10.1.8 Statistics on industrial production (commodity statistics)*

The statistics on industrial production or the statistics on manufacturing commodities describe industrial production by product category or commodity. Value and volume data on the production of enterprises and the materials and supplies used for production are included in statistics. 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.

Commodity statistics (industrial output and industrial materials and supplies) describe the production of commodities based on sold production. 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).

In the statistical reference year 2012, there were 4,084 production headings in use. During the same year, Finland had production in around 2,130 of those product headings. In the statistical reference year 2012, there were 493 Materials and supplies headings in use.

The data are collected from enterprises or their establishments with a questionnaire inquiry.

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).

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 size of the targeted enterprises has been around 3,000 to 3,500 establishments in recent years. The response rate for the inquiry on production has been around 87 to 93 per cent per year.

### 10.1.9 Tax return of associations and foundations

Table 145. Tax return of associations and foundations

Name of survey: Tax return of associations and foundations (6C)
Collector: Tax Administration
Respondent units: Associations and foundations, 20,170 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: Taking the unit from Business Register and formulate output and intermediate consumption by statistical methods.
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: Fifty per cent of the income from ordinary activities and rent income reported in the tax form are considered market output for S15 units. Grants reported in other operating expenses are removed with an automatic method.
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.



## *10.2 Statistical surveys and other data sources used for the income approach*

The main data are the Business Register (Section 10.1.1 and 10.1.2), data on financial statements of the state (Section 10.1.7), statistics on finances of municipalities, and the Labour Force Survey as comparison data.

### *10.2.1 Statistics on finances and activities of municipalities and joint municipal authorities*

The statistics on finances and activities of municipalities and joint municipal authorities 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 finances and activities of municipalities and joint municipal authorities 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 collects statistical data on the participation in work, employment, unemployment and activity of persons outside the labour force among the population aged between 15 and 74. The Labour Force Survey data collection is based on a random sample drawn twice a year from Statistics Finland's population database. The monthly sample consists of some 12,000 persons and the data are collected with computer-assisted telephone interviews. Based on the information provided by the respondents, a picture emerges of the activities of the entire population aged between 15 and 74. A so-called ad hoc module with annually changing topics is also carried out in connection with the Labour Force Survey.

The Labour Force Survey produces monthly, quarterly and annual data on employment, unemployment, different employment relationships, working hours and work input, for example. The activity of the population outside the labour force is also examined. Data are available by gender, level of education, age and area. In addition, the Labour Force Survey contains data reported annually 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 telephone-assisted telephone interview. One respondent is interviewed altogether five times.

Table 146. 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. In consecutive years the overlap is two-fifths. The data are collected from 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 includes also 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 the average, the non-response rate of this survey was 28 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, gender and age. Information from the job seeker register of the Ministry of Employment and the Economy 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: The monthly sample covers 0.3%, the quarterly sample is 0.9% and the annual sample 3.4% of the population.
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 2010=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. Overtime and pay components like holiday bonus do not affect the index. Taxes and employees' social security contributions have not been subtracted from the wages and salaries.

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 or monthly-paid employees. There are a total of 296 average earnings series accordant with the group's earnings concept that are weighted together with the weight ratios based on the wages and salaries sum.

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 or twice per year. They represent the earnings data of around 1.5 million wage and salary earners. In addition, Statistics Finland uses a sample survey. TOL2008 is used as the industrial classification that corresponds with the NACE rev2 classification.

There are four employer sectors in the index of wage and salary earnings: private, central government, municipalities and joint municipal authorities, and others. The sector others includes non-profit institutions. The central government sector only includes units belonging to the budgetary finances. The industries of the index of wage and salary earnings are divided into hourly and monthly paid wage and salary earners that have fixed wage and salary sum weights. 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 basic series containing both sexes.

## 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 2012 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 and 2012.

In the so-called main groups of the 2012 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 147. 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: Around one year after the statistical reference year 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 2012 data collection, 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 2012, there were 2.595 million households.
Sample size: In 2012, the size of the original population was 8,024 persons. In addition, an additional sample of 400 households was picked from households in Åland.
Survey response rate: The final data after non-response covered 3,551 households and the response rate was 43.1 per cent.
Calculation method for missing data:
Variable used to proportion the results to the population:
The coverage of the sample in percentages of the variable used in proportioning:
Main variables collected:
Adjustments that are necessary due to conceptual differences between the data source and the National Accounts:
Other adjustments of survey data:

### 10.3.2 Foreign trade statistics

The foreign trade 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**.

Legislation concerning the compilation of statistics on the EU's internal and external trade ensures that the statistics are based on precisely defined norms that are applied in all EU member states. In addition, uniform definitions and methods for practical application of foreign trade statistics have been given in regulations and decisions of the Commission.

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 internal and external trade are published as one set of statistics of foreign trade. Preliminary data on foreign trade is available around six weeks from the end of the statistical reference month and detailed product statistics within around nine weeks.

Statistics on internal trade 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. The parties responsible for reporting statistical data on internal trade have been defined in Article 20 of the basic Regulation on internal EU trade No 3330/91. 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 2015, the value threshold for the data supply obligation was EUR 500,000 for imports and exports. The total value data of internal 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 internal and external trade. Regional division is determined uniformly based on the concepts of country of origin and country of destination. Foreign trade statistics are very extensive in Finland and include, for example, data on the imports and exports of valuables and on outsourcing.

### *10.3.3 Statistics on international trade in services*

The main source for exports and imports of services is Statistics Finland's enterprise inquiry of the statistics on international trade in services based on which the statistics on international trade in services are also published. The inquiry has been renewed in 2014 to correspond with the new calculation requirements of the National Accounts and balance of payments. In the annual inquiry on international trade in services, enterprises are asked about international trade in services divided by country and service type. The classification used in the compilation of the statistics is the Extended Balance of Payments Services (EBOPS) classification, which is an international classification presented in the Manual on International Trade in Services. The inquiry covers manufacturing services, maintenance and repair services n.e.c., postal and courier services, transport services, construction services, financing services, telecommunication, information technology and information services, royalties and licence fees, other business services, and personal, cultural and recreational services. The inquiry does not include tourism and insurance services.

The frame of the statistical inquiry is formed on the basis of Statistics Finland's Business Register. The basic statistical unit is an enterprise. The data are collected in annual and quarterly inquiries directly from enterprises. The data on international trade in services are collected from all enterprises known to be engaged in international trade in services. In addition to this total survey, data are also collected by random sampling from such enterprises for which it is not known whether they have international trade in services. The distribution of countries and service items are inquired from the enterprises included in the total survey, while only the distribution of service items is inquired from the enterprises included in the random sample.

The response data received from enterprises included in the sample are raised to correspond with the data by industry on all enterprises included in the framework. The data of non-respondent enterprises belonging to the total survey are imputed based on the response or the number of personnel in the year before. The international trade in services data are collected in annual and quarterly inquiries. The annual inquiry usually includes 3,300 enterprises and the quarterly inquiry 300 enterprises.

## *10.4 Statistical surveys and other data sources used for the transition from GDP to GNI*

### *10.4.1 Balance of payment statistics and international investment position*

Statistics on balance of payment and international investment position form the corpus of international statistics that depicts the external balance of the national economy and foreign asset and liability stocks. The statistics can be used when analysing the external balance of the national economy or relationships between assets and liabilities, their structure and development, or when comparing these with other countries.

Balance of payments refers to an accounts composition that systematically describes transactions between the national economy and the rest of the world during a certain time period from the perspectives of both real and financial economy. The balance of payment statistics and international investment position are part of the system of the National Accounts.

The balance of payments covers transactions that are carried out between economic units belonging to the national economy (resident in Finland) and economic units belonging to another country (resident abroad). Balance of payments consists of current account, capital account and financial account.

The international investment position statistics describes the foreign asset and liability stocks generated from financial account capital flows.

The instructions and recommendations of the IMF's Balance of Payments Manual (6th edition, 2009) are applied to the compilation of statistics on balance of payments and international investment position. In Europe,

balance of payments statistics are directed by the European Central Bank (financial account) and Eurostat (current account).

Balance of payments statistics are based on Finland's statutory obligations to produce and report balance of payment statistics to the European Central Bank (ECB) (ECB's guidelines ECB/2011/23) and to Eurostat, the Statistical Office of the European Communities (the European Commission's Regulation No 555/2012), as well as to the International Monetary Fund (IMF).

The balance of payments statistics have been published since 1922, since 1948 the balance of payments has been compiled in accordance with IMF's Balance of Payments Manual.

Direct data collection and data derived from other economic statistics are used to compile the balance of payment statistics. Finnish Customs collects data on foreign trade in goods and publish statistics on foreign trade. Statistics Finland gathers data on foreign trade, secondary income and capital transfers. Statistics Finland collects, in cooperation with the Bank of Finland, data for the statistics on financial account, investment income and international investment position.



## *Annex 1. GNI Process Table*

(a separate Excel-file)

## *Annex 2. Finnish National Accounts product classification (NACP)*

NACP	Heading
011111	Soft wheat and meslin
011120	Maize (corn)
011131	Barley
011132	Rye
011133	Oats
011140	Other cereals
011160	Green leguminous vegetables
011180	Oil seeds and oleaginous fruits
011210	Rice, not husked
011312	Cabbages
011314	Lettuces
011320	Other leafy or stem vegetables, melons
011332	Cucumbers
011334	Tomatoes
011335	Other fruit-bearing vegetables n.e.c.
011341	Carrots and turnips
011350	Potatoes
011355	Other edible roots and tubers; live plants; bulbs
011371	Sugar beet
011379	Sugar beet seeds and seeds of forage plants
011389	Mushrooms, cultivated
011410	Sugar cane
011510	Unmanufactured tobacco
011610	Fibre crops
011900	Straw and forage
011920	Cut flowers and flower buds (including bouquets), wreaths and the like
011925	Flower seeds and fruit seeds
011930	Plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes
012100	Grapes
012200	Bananas, pineapples, coconuts etc
012300	Citrus fruit
012400	Other fruit, locust beans
012500	Cultivated berries
012521	Other fruit, locust beans
012711	Coffee, not roasted, not decaffeinated

012712	Tea leaves
012714	Cocoa beans
012800	Spices, not processed
012910	Natural rubber
012925	Christmas trees, cut
	Planting material: live plants, bulbs, tubers and roots, cuttings and slips;
013000	mushroom spawn
014110	Bovine cattle, live
014120	Raw milk from bovine cattle
014310	Horses. Live
014510	Sheep, live
014511	Reindeer meat and raw hides
014530	Wool and animal hair
014610	Swine, live
014710	Poultry, live
014720	Eggs, in shell
014910	Other live animals
014920	Other farm animal products n.e.c.
014921	Natural honey
014930	Raw furskins and miscellaneous raw hides and skins
016000	Agricultural and animal husbandry services, except veterinary services
017100	Hunting and trapping
017200	Services incidental to hunting
021100	Plants of forest trees
021200	Forest cultivation
021310	Logs of pinewood
021320	Logs of spruce
021330	Logs of non-coniferous wood
021340	Pulpwood, pinewood
021350	Pulpwood, spruce
021360	Pulpwood, non-coniferous wood
021370	Fuel wood and wood chips
021380	Other wood in the rough (special timber assortments)
021385	Other products incidental to forestry and logging
022000	Timber harvesting and short distance haul
023100	Forest berries
023200	Forest mushrooms
023300	Other products of collecting economy
024000	Services incidental to forestry and logging
030010	Fish, live (fry)
030021	Fish, fresh or chilled
030029	Fish, recreational fishing
030080	Other products incidental to fishing
030090	Services incidental to fishing
050000	Coal and lignite
061000	Crude petroleum
062000	Natural gas, liquefied or in gaseous state
071000	Iron ores

072911	Copper ores and concentrates
072912	Nickel ores and concentrates
072915	Lead, zinc and tin ores and concentrates
072920	Other non-ferrous metal ores and concentrates n.e.c.
081090	Quarrying, sorting, grinding etc services of gravel or sand
081110	Ornamental or building stone (marble, granite etc.)
081120	Limestone, gypsum, chalk and slate
081210	Gravel and sand
081220	Clays and kaolin
089100	Chemical and fertiliser minerals
089200	Peat
089300	Salt and pure sodium chloride
089900	Other minerals
099090	Support services to other mining and quarrying n.e.c.
101111	Meat of bovine animals, fresh, chilled or frozen
101112	Meat of swine, fresh, chilled or frozen
101113	Meat of sheep, fresh, chilled or frozen
101114	Meat of goats, horses and other equines, fresh, chilled or frozen
101140	Pulled wool and raw hides and skins of bovine or equine animals, sheep and goats
101150	Fats of bovine animals, sheep, goats or pigs
101160	Raw offal, inedible
101190	Sub-contracted operations as part of manufacturing of processed and preserved meat
101200	Processed and preserved poultry meat
101210	Feathers and skins of birds with feathers
101311	Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal
1013141	Sausages and similar products of meat, offal or blood
1013142	Other prepared and preserved meat, meat offal or blood, except prepared meat and offal dishes
101316	Flours, meals and pellets of meat unfit for human consumption; greaves
101390	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	Fish fillets and other fish meat (whether or not minced), livers, roes, fresh or chilled
102013	Fish fillets and other fish meat (whether or not minced), livers, roes, frozen
102021	Fish fillets, dried, salted or smoked; flours, meals and pellets of fish, fit for human consumption
102025	Fish, otherwise prepared or preserved, except prepared fish dishes
102030	Crustaceans, molluscs and other aquatic invertebrates, frozen, prepared or preserved
102040	Flours, meals and pellets, unfit for human consumption, and other products n.e.c. of fish or of crustaceans, molluscs or other aquatic invertebrates
103100	Processed and preserved potatoes
103200	Fruit and vegetable juices
103910	Processed and preserved vegetables, excluding potatoes
103920	Processed and preserved fruit and nuts

103930	Vegetable materials and vegetable waste, vegetable residues and by-products
	Cooking and other preparation services for the preservation of fruit and vegetables; sub-contracted operations as part of manufacturing of other
103990	processed and preserved fruit and vegetables
104110	Animal oils and fats, their fractions, crude
104120	Vegetable oils, crude; cotton linters
	Oil-cake and other solid residues, of vegetable fats or oils; flours and meals of oil
104140	seeds or oleaginous fruits
104150	Refined oils, except residues
104200	Margarine and similar edible fats
105110	Processed liquid milk and cream
105120	Milk and cream of > 6 % fat, not concentrated or sweetened
105130	Butter and dairy spreads
105140	Cheese and curd
105150	Other dairy products
105200	Ice cream and other edible ice
106110	Rice, semi- or wholly milled, or husked or broken
106120	Cereal and vegetable flour; mixes thereof
106130	Groats, meal and pellets and other cereal grain products
106140	Bran, sharps and other residues from the working of cereals
106200	Starches and starch products
107100	Bread; fresh pastry goods and cakes
107200	Rusks and biscuits; preserved pastry goods and cakes
107300	Macaroni, noodles, couscous and similar farinaceous products
108110	Raw or refined cane or beet sugar; molasses
108120	Beet-pulp, bagasse and other waste of sugar manufacture
108210	Cocoa paste, whether or not defatted, cocoa butter, fat and oil, cocoa powder
108220	Chocolate and sugar confectionery
108300	Processed tea and coffee
108400	Condiments and seasonings
108500	Prepared meals and dishes
108600	Homogenised food preparations and dietetic food
	Soups, eggs, yeasts and other food products; extracts and juices of meat, fish and
108910	aquatic invertebrates
108990	Sub-contracted operations as part of manufacturing of other food products n.e.c.
109100	Prepared feeds for farm animals
109200	Prepared pet foods
110100	Distilled alcoholic beverages
110200	Wine from grape
110300	Cider and other fruit wines
110400	Other non-distilled fermented beverages
110510	Beer
110520	Brewing or distilling dregs
110600	Malt
110700	Soft drinks; mineral waters and other bottled waters
120000	Tobacco products
131000	Textile yarn and thread
132000	Woven textiles

133000	Textile finishing services
139100	Knitted and crocheted fabrics
139210	Made-up textile articles for the household
139221	Sacks and bags, of a kind used for the packing of goods
139222	Tarpaulins, awnings and sunblinds; sails for boats, sailboards or landcraft; tents and camping goods (including pneumatic mattresses)
139224	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	Other made-up textile articles (including floor cloths, dish-cloths, dusters and similar cleaning cloths, life-jackets and life-belts)
139300	Carpets and rugs
139400	Cordage, rope, twine and netting
139500	Non-wovens and articles made from non-wovens, except apparel
139600	Other technical and industrial textiles
139900	Other textiles n.e.c.
141100	Leather clothes
141200	Workwear
141300	Other outerwear
141340	Worn clothing and other worn articles
141400	Underwear
141900	Other wearing apparel and accessories
142000	Articles of fur
143100	Knitted and crocheted hosiery
143900	Other knitted and crocheted apparel
151110	Tanned or dressed fur skins
151130	Leather, of bovine or equine animals, without hair
151190	Sub-contracted operations as part of manufacturing of tanned and dressed leather; dressed and dyed fur
151200	Luggage, handbags and the like, saddlery and harness
152010	Footwear
152040	Parts of footwear of leather; removable insoles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof
152090	Sub-contracted operations as part of manufacturing of footwear
161010	Wood, sawn and planed
161020	Wood continuously shaped along any of its edges or faces; wood wool; wood flour; wood in chips or particles
161030	Wood in the rough; railway or tramway sleepers (cross-ties) of wood, impregnated or otherwise treated
161040	Sawdust, wood in chips or particles, wood waste and scrap
161090	Drying, impregnation or chemical treatment services of timber; sub-contracted operations as part of manufacturing of wood, sawn and planed
162110	Plywood, veneered panels and similar laminated wood; particle boards and similar boards of wood or other ligneous materials
162120	Veneer sheets; sheets for plywood; densified wood
162200	Assembled parquet floors
162311	Windows, French windows and their frames, doors and their frames and thresholds, of wood

162312	Shuttering for concrete constructional work, shingles and shakes, of wood
162319	Builders' joinery and carpentry, of wood, n.e.c.
162320	Other builders' carpentry and joinery
162390	Sub-contracted operations as part of manufacturing of other builders' carpentry and joinery
162400	Wooden containers
162900	Other products of wood; articles of cork, straw and plaiting materials
171100	Pulp
171210	Newsprint, handmade paper and other uncoated paper or paperboard for graphic purposes
171220	Toilet or facial tissue stock, towel or napkin stock, cellulose wadding and webs of cellulose fibres
171230	Containerboard
171240	Uncoated paper
171250	Uncoated paperboard (other than that of a kind used for writing, printing or other graphic purposes)
171260	Vegetable parchment, greaseproof papers, tracing papers and glassine and other glazed transparent or translucent papers
171270	Processed paper and paperboard
171290	Sub-contracted operations as part of manufacturing of paper and paperboard
172100	Corrugated paper and paperboard and containers of paper and paperboard
172200	Household and sanitary goods and toilet requisites
172300	Paper stationery
172400	Wallpaper
172911	Labels of paper or paperboard
172919	Other articles of paper and paperboard
181100	Newspaper printing services
181200	Other printing services
181300	Pre-press and pre-media services
181400	Binding and related services
182000	Reproduction services of recorded media
191000	Coke oven products
192010	Briquettes, ovoids and similar solid fuels
192021	Motor spirit (gasoline), including aviation spirit
192022	Spirit type (gasoline type) jet fuel
192023	Light petroleum oils, light preparations n.e.c.
192024	Kerosene
1920261	Dieseloil
1920269	Light fuel oils
192027	Medium petroleum oils; medium preparations n.e.c.
192028	Fuel oils n.e.c.
192029	Lubricating petroleum oils; heavy preparations n.e.c.
192031	Propane and butane, liquefied
192032	Ethylene, propylene, butylene, butadiene and other petroleum gases or gaseous hydrocarbons, except natural gas
192041	Petroleum jelly; paraffin wax; petroleum and other waxes
192042	Petroleum coke; petroleum bitumen and other residues of petroleum oils

	Sub-contracted operations as part of manufacturing of refined petroleum products
192090	products
201100	Industrial gases
201200	Dyes and pigments
201300	Other inorganic basic chemicals
201314	Fuel elements (cartridges), non-irradiated, for nuclear reactors
201400	Other organic basic chemicals
201500	Fertilisers and nitrogen compounds
201600	Plastics in primary forms
201700	Synthetic rubber in primary forms
202000	Pesticides and other agrochemical products
203010	Paints and varnishes based on polymers
203020	Other paints and varnishes and related products; artists' colour and printing ink
204100	Soap and detergents, cleaning and polishing preparations
204200	Perfumes and toilet preparations
205100	Explosives
205200	Glues
205300	Essential oils
	Photographic plates and film, instant print film; chemical preparations and unmixed products for photographic uses
205910	unmixed products for photographic uses
205940	Lubricating preparations; additives; anti-freezing preparations
	Peptones, modelling pastes, activated carbon, finishing agents, pickling preparations etc.
205951	preparations etc.
	Tecnical and industrial biofuels (substitutes for dieseloil and ethanol for transport fuel)
205955	fuel)
205959	Miscellaneous other chemical products n.e.c.
	Sub-contracted operations as part of manufacturing of other chemical products n.e.c.
205999	n.e.c.
206000	Man-made fibres
211000	Basic pharmaceutical products
212010	Medicaments
212024	Adhesive dressings, catgut and similar materials; first-aid boxes
213000	Drugs
221100	Rubber tyres and tubes; retreading and rebuilding of rubber tyres
221900	Other rubber products
222110	Monofilament > 1 mm, rods, sticks and profile shapes, of plastics
222120	Tubes, pipes and hoses and fittings thereof, of plastics
	Plates, sheets, film, foil and strip, of plastics, not supported or similarly combined with other materials
222130	with other materials
222140	Other plates, sheets, film, foil and strip, of plastics
222200	Plastic packing goods
222300	Builders' ware of plastic
222910	Apparel and clothing accessories (including gloves), of plastics
222920	Other plastic products n.e.c.
	Manufacturing services of other plastic products; sub-contracted operations as part of manufacturing of other plastic products
222990	part of manufacturing of other plastic products
231100	Flat glass
231200	Shaped and processed flat glass

231300	Hollow glass
231400	Glass fibres
231900	Other processed glass, including technical glassware
232000	Refractory products
233000	Clay building materials
234100	Ceramic household and ornamental articles
234200	Ceramic sanitary fixtures
234300	Other technical ceramic products
235100	Cement
235200	Lime and plaster
236100	Concrete products for construction purposes
236200	Plaster products for construction purposes
236300	Ready-mixed concrete
236400	Mortars
236900	Fibre cement and other articles of concrete, plaster and cement
237000	Cut, shaped and finished stone
239100	Abrasive products
239912	Articles of asphalt or of similar material
239919	Non-metallic mineral products n.e.c.
239990	Sub-contracted operations as part of manufacturing of other non-metallic mineral products n.e.c.
241010	Primary materials of iron and steel
241020	Crude steel
241030	Flat rolled products of steel
241060	Hot processed bars and rods of steel
241070	Hot processed open sections of steel, sheet piling of steel and railway or tramway track construction material, of steel
242000	Tubes, pipes, hollow profiles and related fittings, of steel
243000	Other products of the first processing of steel
244100	Precious metals
244210	Aluminium, unwrought; aluminium oxide
244220	Semi-finished products of aluminium or aluminium alloys
244310	Lead, zinc and tin, unwrought
244320	Semi-finished products of lead, zinc and tin or their alloys
244410	Copper, unwrought; copper mattes; cement copper
244420	Semi-finished products of copper or copper alloys
244511	Nickel, unwrought semi-finished products of nickel or nickel alloys
244512	Nickel mattes, nickel oxide sinters and other intermediate products of nickel metallurgy
244530	Other non-ferrous metals and articles thereof; cermets; ash and residues, containing metals or metallic compounds
244600	Processed nuclear fuel
245000	Casting services of metals
249090	Treatment and manufacturing services of base metals (excl. casting services of metals)
251100	Metal structures and parts of structures
251200	Doors and windows of metal
252100	Central heating radiators and boilers



- 252900 Other tanks, reservoirs and containers of metal
- 253011 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 Parts of steam generators
- 253020 Nuclear reactors and parts thereof
- 254011 Military weapons, other than revolvers, pistols and the like
- 254012 Revolvers, pistols, non-military firearms and similar devices
- 254013 Bombs, missiles and similar munitions of war; cartridges, other ammunition and projectiles and parts thereof
- 254014 Parts of military weapons and other arms
- 255000 Forging, pressing, stamping and roll-forming services of metal; powder metallurgy
- 256100 Treatment and coating services of metals
- 256211 Turning services of metal parts for taps and valves etc.
- 256213 Turning services of metal parts for machines and mechanical equipments
- 256215 Turning services of metal parts for transport equipment
- 256219 Turning services of metal parts for electronic, electrical and optical equipments
- 256220 Other machining services
- 257100 Cutlery
- 257200 Locks and hinges
- 257310 Hand tools of a kind used in agriculture, horticulture or forestry
- 257320 Hand saws; blades for saws of all kinds; other hand tools
- 257340 Interchangeable tools for hand tools, whether or not power-operated, or for machine tools
- 257350 Moulds; moulding boxes for metal foundry; mould bases; moulding patterns
- 257360 Other tools
- 259100 Steel drums and similar containers
- 259190 Sub-contracted operations as part of manufacturing of steel drums and similar containers
- 259200 Light metal packaging
- 259300 Wire products, chain and springs
- 259400 Fasteners and screw machine products
- 259911 Sinks, wash-basins, baths and other sanitary ware, and parts thereof, of iron, steel, copper or aluminium
- 259912 Table, kitchen or household articles and parts thereof, of iron, steel, copper or aluminium
- 259920 Other articles of base metal
- 259926 Ships' or boats' propellers and blades thereof
- 259990 Sub-contracted operations as part of manufacturing of other fabricated metal products n.e.c.
- 261100 Electronic components
- 261200 Loaded electronic boards
- 262000 Computers and peripheral equipment
- 262090 Computers and peripheral equipment manufacturing services; sub-contracted operations as part of manufacturing of computers and peripheral equipment
- 263010 Radio or television transmission apparatus; television cameras
- 263021 Line telephone sets with cordless handsets
- 263022 Telephones for cellular networks or for other wireless networks

	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)
263023	
	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
263030	
263050	Burglar or fire alarms and similar apparatus
264010	Radio broadcast receivers
	Television receivers, whether or not combined with radio-broadcast receivers or sound or video recording or reproduction apparatus
264020	
264030	Apparatus for sound and video recording and reproducing
	Microphones, loudspeakers, reception apparatus for radio-telephony or telegraphy
264040	
264050	Parts of sound and video equipment
	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
264060	
264090	Sub-contracted operations as part of manufacturing of consumer electronics
	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
265110	
265140	Instruments for measuring electrical quantities or ionising radiations
265150	Instrument for checking other physical characteristics
265160	Other measuring, checking and testing instruments and appliances
	Thermostats, manostats and other automatic regulating or controlling instruments and apparatus
265170	
265180	Parts and accessories for measuring, testing and navigating equipment
	Sub-contracted operations as part of manufacturing of measuring, testing and navigating equipment
265190	
	Watches and clocks and parts; time registers, time recorders, parking meters; time switches with clock or watch movement
265200	
266000	Irradiation, electromedical and electrotherapeutic equipment
267010	Photographic equipment and parts thereof
267020	Other optical instruments and parts thereof
268000	Magnetic and optical media
	Motors of an output $\leq 37,5$ W; other DC motors; DC generators; universal AC/DC motors of an output $> 37,5$ W; other AC motors; AC generators (alternators)
271110	
271130	Electric generating sets and rotary converters
271140	Electrical transformers
271150	Ballasts for discharge lamps or tubes; static converters; other inductors
271160	Parts of electrical motors, generators and transformers
	Electrical apparatus for switching or protecting electrical circuits, for a voltage $\leq 1000$ V
271210	
271230	Boards
271240	Parts of electricity distribution or control apparatus
272000	Batteries and accumulators
273100	Fibre optic cables
273200	Other electronic and electric wires and cables
273300	Wiring devices

274010	Electric filament or discharge lamps; arc lamps
274200	Lamps and lighting fitting; parts for lamps and lighting equipment
275110	Refrigerators and freezers; washing machines; electric blankets; fans
275121	Electro-mechanical domestic appliances, with self-contained electric motor 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
275122	Electrical instantaneous or storage water heaters and immersion heaters
275125	Electric space heating apparatus and electric soil heating apparatus
275126	Microwave ovens other ovens; cookers, cooking plates, boiling rings; grillers, roasters
275128	Electric heating resistors
275129	Parts of electric domestic appliances
275130	Parts of electric domestic appliances
275210	Domestic cooking and heating equipment, non-electric Parts of stoves, cookers, plate warmers and similar non-electric domestic appliances
275220	Other electrical equipment and parts thereof; indicator panels with liquid crystal devices or light-emitting diodes; electric sound or visual signalling apparatus
279010	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
279031	Parts of other electrical equipment; electrical parts of machinery or apparatus
279033	n.e.c. 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)
279040	Sub-contracted operations as part of manufacturing of other electrical equipment
281111	Outboard motors for marine propulsion
281112	Marine propulsion spark-ignition engines; other engines
281113	Other compression-ignition internal combustion piston engines
281120	Turbines and parts thereof
281140	Parts for engines
281210	Fluid power equipment, except parts
281220	Parts of fluid power equipment Pumps for liquids; liquid elevators; air or vacuum pumps; air or other gas compressors
281310	Parts of pumps and compressors
281330	Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like
281410	Parts of taps and valves and similar articles
281510	Ball or roller bearings; other bearings, gears, gearing and driving elements
281530	Parts of bearings, gearings and driving elements
282100	Ovens, furnaces and furnace burners
282216	Lifts, skip hoists, escalators and moving walkways
282219	Parts of lifting and handling equipment
282250	Other lifting and handling equipment
282300	Office machinery and equipment (except computers and peripheral equipment)
282400	Power-driven hand tools

282511	Heat exchange units and machinery for liquefying air or other gases
282512	Air conditioning machines
282513	Refrigeration and freezing equipment and heat pumps, except household type equipment
282514	Machinery and apparatus for filtering or purifying gases n.e.c.
282530	Fans, other than table, floor, wall, window, ceiling or roof fans; parts of refrigeration and freezing equipment and heat pumps
282910	Gas generators, distilling and filtering apparatus
282921	Machinery for cleaning, filling, packing or wrapping bottles or other containers
282922	Fire extinguishers, spray guns, steam or sand blasting machines and similar mechanical appliances, except for use in agriculture
282923	Gaskets of metal sheeting; mechanical seals
282930	Industrial, household and other weighing and measuring machinery
282940	Centrifuges, calendaring and vending machines
282970	Other general-purpose machinery n.e.c.
282980	Parts of other general-purpose machinery n.e.c.
282990	Sub-contracted operations as part of manufacturing of other general-purpose machinery n.e.c.
283010	Agricultural and forestry machinery
283030	Soil machinery
283040	Mowers for lawns, parks or sports grounds
283050	Harvesting machinery
283090	Parts of agricultural machinery and equipment
283800	Other agricultural machinery
284110	Machine tools for working metal
284140	Parts and accessories for metalworking machine tools
284910	Machine tools for working stone, wood and similar hard materials
284920	Tool holders
289100	Machinery for metallurgy
289210	Machinery for mining
289220	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	Other excavating machinery
289240	Machinery for sorting, grinding, mixing and similar treatment of earth, stone, ores and other mineral substances; track-laying tractors
289260	Parts of machinery for mining, quarrying and construction
289300	Machinery for food, beverage and tobacco processing
289400	Machinery for textile, apparel and leather production
289440	Sewing machines of the household type
289511	Machinery for paper and paperboard production, except parts thereof
289512	Parts of machinery for paper and paperboard production
289600	Plastics and rubber machinery
289910	Printing and bookbinding machinery
289930	Special-purpose machinery n.e.c.

	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
289950	
291010	Internal combustion engines of a kind used for motor vehicles
291020	Passenger cars, new
291025	Passenger cars, used
291030	Motor vehicles for the transport of 10 or more persons
291041	Goods vehicles, new
291042	Goods vehicles, used
291043	Road tractors for semi-trailers
291044	Chassis fitted with engines, for motor vehicles
291050	Special-purpose motor vehicles
	Sub-contracted operations as part of manufacturing of motor vehicles and parts thereof
291090	
292010	Bodies for motor vehicles
292021	Containers specially designed for carriage by one or more modes of transport
292022	Trailers and semi-trailers of the caravan type, for housing or camping
292023	Other trailers and semi-trailers
292030	Fitting out services of trailers, semi-trailers, caravans and mobile homes
292080	Reconditioning, assembly, fitting out and bodywork services of containers
293100	Electrical and electronic equipment for motor vehicles
293200	Other parts and accessories for motor vehicles
301110	Naval ships
	Cruise ships, excursion boats and similar vessels for the transport of persons; ferry-boats of all kinds
301121	
301122	Tankers for the transport of crude oil, oil products, chemicals, liquefied gas
301124	Refrigerated vessels, except tankers; dry cargo ships
301130	Fishing vessels and other special vessels
301140	Offshore vessels and infrastructure
	Other floating structures (including rafts, tanks, coffer-dams, landing stages, buoys and beacons)
301150	
	Conversion, reconstruction and fitting out services of ships, floating platforms and structures; sub-contracted operations as part of manufacturing of ships and floating structures
301190	
301200	Pleasure and sporting boats
	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
302090	
	Rail locomotives and locomotive tenders; parts of railway or tramway locomotives or rolling-stock; fixtures and fittings and parts thereof; mechanical traffic control equipment
302100	
	Motors and engines for aircraft or spacecraft; ground flying trainers, and parts thereof
303010	
303020	Balloons and dirigibles; gliders, hang gliders and other non-powered aircraft
303030	Helicopters and aeroplanes
303050	Other parts of aircraft and spacecraft
303060	Overhaul and conversion services of aircraft and aircraft engines

	Sub-contracted operations as part of manufacturing of air and spacecraft and related machinery
303090	
304000	Military fighting vehicles
309100	Motorcycles and side-cars; parts thereof
309130	Internal combustion engines of a kind used for motorcycles
309200	Bicycles and invalid carriages baby carriages and parts thereof
309900	Other transport equipment n.e.c.
310010	Seats and parts thereof
310020	Parts of furniture
310100	Office and shop furniture
310200	Kitchen furniture
310300	Mattresses
310910	Other furniture
	Finishing services of new furniture; sub-contracted operations as part of manufacturing of other furniture
310990	
321100	Coins
321200	Jewellery and related articles
321300	Imitation jewellery and related articles
322000	Musical instruments
323010	Sports goods
324000	Games and toys
325010	Medical, surgical and dental instruments and appliances
	Therapeutic instruments and appliances; accessories, prostheses and orthopaedic appliances
325020	
	Medical, surgical, dental or veterinary furniture; barbers' chairs and similar chairs and parts thereof
325030	
325040	Spectacles, lenses and parts thereof
325050	Other articles for medical or surgical purposes
329000	Other manufactured goods n.e.c.
	Sub-contracted operations as part of manufacturing of other manufactured goods n.e.c.
329990	
	Repair and maintenance services of fabricated metal products, except weapons and ammunition
331113	
331114	Repair and maintenance services of weapons and ammunition
	Repair and maintenance services of engines, turbines (except aircraft, vehicle and cycle engines) lifting and handling equipment
331211	
	Repair and maintenance services of fluid power equipment, other pumps, compressors, taps and valves
331212	
	Repair and maintenance services of non-domestic cooling and ventilation equipment
331218	
331219	Repair and maintenance services of other general-purpose machinery n.e.c.
331221	Repair and maintenance services of agricultural and forestry machinery
	Repair and maintenance services of metal forming machinery, machine tools, machinery for metallurgy
331222	
	Repair and maintenance services of machinery for mining, quarrying and construction
331224	
	Repair and maintenance services of machinery for food, beverage and tobacco processing
331225	

331226	Repair and maintenance services of machinery for textile, apparel and leather production
331227	Repair and maintenance services of machinery for paper and paperboard production
331228	Repair and maintenance services of machinery for plastics and rubber
331229	Repair and maintenance services of other special-purpose machinery
331300	Repair services of electronic, electrical and optical equipment
331500	Repair and maintenance services of ships and boats
331600	Repair and maintenance services of aircraft and spacecraft
331700	Repair and maintenance services of other transport equipment
331900	Repair and maintenance services of other equipment n.e.c.
332011	Installation services of other fabricated metal products, except machinery and equipment
332020	Installation services of general-purpose machinery
332031	Installation services of industrial machinery and equipment for agriculture
332032	Installation services of metal forming machinery, industrial machinery and equipment for metallurgy
332034	Installation services of industrial machinery and equipment for mining
332035	Installation services of industrial machinery and equipment for food, beverages and tobacco processing
332036	Installation services of industrial machinery and equipment for textiles, apparel and leather production
332037	Installation services of industrial machinery and equipment for paper and paperboard production
332038	Installation services of industrial machinery and equipment for plastic and rubber production
332039	Installation services of other special-purpose machinery
332040	Installation services of electronic and optical equipment
332060	Installation services of industrial process control equipment
332070	Installation services of other goods n.e.c.
351000	Electricity
351200	Transmission and distribution services of electricity
351400	Trade services of electricity
352100	Manufactured gas
352200	Distribution services of gaseous fuels through mains
353100	Steam, hot water and ice
353200	Steam, hot and cooled air water supply services
361000	Water
362000	Treatment and distribution services of water through mains
370000	Sewerage services
381100	Waste collection services
381150	Paper and paperboard waste
381158	Non-hazardous metal waste
381160	Other non-hazardous recyclable waste, n.e.c.
381221	Spent (irradiated) fuel elements (cartridges) of nuclear reactors
382000	Waste treatment and disposal services
383000	Materials recovery services; secondary raw materials
390000	Remediation services and other waste management services

411000	Development of building projects
412110	New construction of residential buildings
412120	Refurbishment of residential buildings
412130	Yearly repairs of residential buildings
412140	New construction of non-residential buildings
412150	Refurbishment of non-residential buildings
412160	Yearly repairs of non-residential buildings
420110	Civil engineering work (excl. yearly repairs)
420120	Civil engineering work, yearly repairs
451000	Trade services of motor vehicles
452000	Maintenance and repair services of motor vehicles
461000	Sales on a fee or contract basis
462000	Wholesale trade services
463000	Wholesale trade services of fuel
471000	Retail trade services
473000	Retail trade services of fuel
491000	Passenger rail transport services, interurban
492000	Freight rail transport services
493110	Urban and suburban railway transport services of passengers
493120	Other urban and suburban passenger land transport services
493200	Taxi operation services
493900	Other passenger land transport services n.e.c.
494000	Freight transport services by road and removal services
495000	Transport services via pipeline
500100	Passenger water transport services
500200	Freight water transport services
500900	Time charter
511000	Passenger air transport services
512000	Freight air transport services
521000	Warehousing and storage services
522100	Services incidental to land transportation
522200	Services incidental to water transportation
522300	Services incidental to air transportation
522400	Cargo handling services
522900	Other transportation support services
531000	Postal services under universal service obligation
532000	Other postal and courier services
551000	Hotel and similar accommodation services
552000	Holiday and other short stay accommodation services, camping ground, recreational vehicle park and trailer park services
561000	Restaurant and mobile food serving services
562000	Event catering services and other food serving services
563000	Beverage serving services
581100	Book publishing services
581200	Publishing directories and mailing lists
581310	Newspapers, journals and periodicals
581320	Newspapers, journals and periodicals, subscribed



581900	Other publishing services
582000	Software publishing services
591100	Motion picture, video and television programme production services and products
591300	Motion picture, video and television programme distribution services
591400	Motion picture projection services
592000	Sound recording and music publishing services
600000	Programming and broadcasting services
611100	Fixed telephony services for wired telecommunications systems
611200	Data transmission services over wired telecommunications networks
611300	Interconnection fees for wired telecommunications
612100	Mobile telecommunications services for wireless telecommunications systems
612200	Data transmission services over wireless telecommunications networks
612300	Interconnection fees for wireless telecommunications
619000	Other telecommunications services
620100	Computer programming services
620200	Computer consultancy services
620300	Computer facilities management services
620900	Other information technology and computer services
631100	Data processing, hosting and related services
631200	Web portal content
639100	News agency services
639900	Other information services n.e.c.
640001	Financial intermediation services
640002	Financial services liable to value added tax (notariate, safekeeping and debt collection services)
641100	Central banking services
641900	Other monetary intermediation services
649100	Financial leasing services
649200	Other credit granting services
649900	Other services auxiliary to financial intermediation
651100	Life insurance services
651210	Motor vehicle insurance services
651220	Credit and suretyship insurance services
651230	Other insurance services
652000	Reinsurance services
653000	Pension funding services
661100	Financial markets administration services
661200	Security broking and fund management services
661900	Other services auxiliary to financial intermediation and insurance
662100	Insurance brokerage and agency services
662900	Other services auxiliary to insurance
682010	Letting of dwellings
682020	Operation of dwellings and residential real estate
682030	Letting of other real estate
683100	Real estate agency services on a fee or contract basis
683200	Management services of real estate on a fee or contract basis
691000	Legal services
692000	Accounting, bookkeeping and auditing services; tax consulting services

701000	Services of head offices
702000	Management consulting services
711100	Architectural services
711210	Town and city planning services
711220	Civil engineering services
711230	Structural engineering services
711240	Heating, plumbing and air-conditioning design
711250	Electrical engineering design
711260	Other construction services
711270	Mechanical and process engineering design
711280	Other architectural and engineering services
712100	Technical testing and analysis services
712200	Technical inspection services of road transport vehicles
720001	Research and development services, service
720002	Research and development services, asset
731100	Services provided by advertising agencies
731200	Media representation services
732000	Market research and public opinion polling services
741000	Specialised design services
742000	Photographic services
743000	Translation and interpretation services
749100	Other professional, scientific and technical services n.e.c.
750000	Veterinary services
771100	Rental and leasing services of cars and light motor vehicles
771200	Rental and leasing services of trucks
772000	Rental and leasing services of personal and household goods
773100	Rental and leasing services of agricultural machinery and equipment
773200	Rental and leasing services of construction and civil engineering machinery and equipment
773300	Rental and leasing services of office machinery and equipment (including computers)
773400	Rental and leasing services of water transport equipment
773500	Rental and leasing services of air transport equipment
773900	Rental and leasing services of other machinery, equipment and tangible goods n.e.c.
774000	Licensing services for the right to use intellectual property and similar products, except copyrighted works
781000	Services provided by employment placement agencies
782100	Temporary employment agency services for the supply of industrial personnel
782200	Temporary employment agency services for the supply of hotels and restaurants personnel
782300	Temporary employment agency services for the supply of medical and social work personnel
782400	Temporary employment agency services for the supply of commercial and trade personnel
782500	Temporary employment agency services for the supply of construction personnel
782600	Temporary employment agency services for the supply of transport, warehousing, logistics or industrial workers

782700	Temporary employment agency services for the supply of other personnel
783000	Other human resources provision services
790000	Travel agency, tour operator and other reservation services and related services
800000	Security and investigation services
811000	Combined facilities support services (of buildings)
812000	Cleaning services
813000	Landscape services
821000	Office administrative and support services
822000	Call centre services
823000	Convention and trade show organisation services
829100	Collection agency and credit bureau services
829200	Packaging services
829900	Other business support services n.e.c.
841100	General public administration services
841200	Administrative services for the regulation of health care, education, cultural services and other social services, excluding social security
841300	Administrative services for more efficient operation of businesses
842100	Foreign affairs services
842200	Defence services
842300	Justice and judicial services
842400	Public order and safety services
842500	Fire brigade services
843000	Compulsory social security services
844000	Defences and servicemen
845000	Railway maintenance
846000	Road maintenance
851000	Education services
855300	Driving school services
855900	Other education services n.e.c.
861000	Hospital services
862100	General medical practice services
862300	Dental practice services
869000	Other human health services
870000	Residential care services
880000	Social work services without accommodation
900100	Services of performing artists
900400	Arts facility operation services
910100	Library and archive services
910200	Museum services
910400	Botanical and zoological garden services and nature reserve services
920000	Gambling and betting services
931000	Sporting services
932000	Amusement and recreation services
941000	Services furnished by business, employers and professional membership organisations
942000	Services furnished by trade unions
949000	Services furnished by other membership organisations
949100	Services furnished by religious organisations

951000	Repair services of computers and communication equipment
952000	Repair services of personal and household goods
960100	Washing and (dry-)cleaning services of textile and fur products
960200	Hairdressing and other beauty treatment services
960300	Funeral and related services
960400	Physical well-being services
960900	Other personal services n.e.c.
970000	Private households with employed persons
990000	Services provided by extra-territorial organizations and bodies
999110	Food products and beverages
999120	Office supplies
999130	Travel expenses
999140	Working clothes
999150	Transportation and storage
999160	Representational expenses
999170	Postal and banking services
999180	Installation and repair services
999190	Services on a fee
999200	Other professional services
999210	Non-specified products
999220	Stamp tax, transfer tax (ownership transfer costs of land etc. )
999230	Final consumption by Finnish households in the rest of the world
999240	Final consumption by non-resident households in Finland
999310	Adjustment for trade on goods
999320	cif/fob-adjustment
999400	Virtual product























































