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FOR

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IN AUSTRIA

ACCORDING TO ESA2010

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Introduction

This document deals with the statistical methods and sources used in Austrian national accounts to calculate gross national product and other aggregates in national accounts and meets the requirement to forward details of the methods used to the European Commission (Eurostat) under provisions to harmonise gross national income at market prices according to ESA 2010.

This publication first gives an overview of the national accounts system in Austria (see chapter 1) and explains the revision national accounts policy (see chapter 2). The subsequent chapters then set out the three approaches to calculating GDP (see chapters 3, 4 and 5). The next chapters deal with technical procedures to ensure the quality of the GDP data, i.e. the balancing procedures and validation of estimates (see chapter 6), allowances for exhaustiveness (see chapter 7) and the transitions from gross domestic product to gross national income (see chapter 8). Finally, the main classifications used (see chapter 9) and the main data sources (see chapter 10) are presented.

In addition to setting out the methods for calculating national accounts this report also contains results of the calculation. The reference year for the descriptions is reporting year 2017 and the figures therefore all refer to this year. Most of the methodological and conceptual explanations however apply to all reporting years.

Wherever the results make for more immediate comprehension, they are presented in the body of the text. Summaries of results and additional information on data records on Austria are given in tables. This is intended to make it easy to identify which parts of the study explain the methodology and which parts provide background information and summaries.

The explanations given apply as at December 2021. Subsequent amendments with regard to the basic principles or the calculation methods cannot be ruled out.

Vienna, December 2021

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List of abbreviations

AK	Chamber of Labour
AKM	State-approved company for authors, composers and music publishers
AMA	Austrian Paying Agency for Agriculture and Rural Development
ASFINAG	National motorway operator
BEA	Bureau of Economic Analysis (USA)
BMF	Federal Ministry of Finance
BMLFUW	Federal Ministry for Agriculture, Forestry, the Environment and Water Management
BoP	Balance of Payments
BStatG	Federal Statistics Act
BUAK	Construction workers' holiday and pension fund
BZ	Non-agricultural business census 1995
CFC	Consumption of Fixed Capital
CIF	Cost Insurance Freight
CN	Combined Nomenclature
COFOG	Classification of the Functions of Governments
COICOP	Classification of Individual Consumption by Purpose for Households
COPNI	Classification of the Purposes of Non-Profit Institutions serving Households
CPA	Classification of Products by Activity in the European Economic Community
CPI	Consumer Price Index
CSDB	Centralised Securities Database
EAA	Economic Accounts for Agriculture
EAF	Economic Accounts for Forestry
EAGF	European Agricultural Guarantee Fund
ECB	European Central Bank
EDP	Excessive Deficit Procedure
EFZG	Continuation of Wage Payments Act
EMU	European Monetary Union
ESA	European System of Accounts
E&M	Estimations and Models
FD	Financial Derivatives
FDI	Foreign Direct Investment
FISIM	Financial Intermediary Services Indirectly Measured
FM	Frascati Manual
FMA	Financial Market supervisory Authority
FOB	Free On Board
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation

GNI	Gross National Income
GVA	Gross Value Added
HBS	Household Budget Survey
HFCE	Household Final Consumption Expenditure
HV	Main Association of Austrian Social Security Organisations
IATA	International Air Transport Association
IC	Intermediate Consumption
IESG	Insolvency Pay Guarantee Act
ILO	International Labour Organisation
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ISIN	International Securities Identification Number
ITGS	International Trade in Goods Statistics
ITSS	International Trade in Services Statistics
KAU	Kind of Activity Unit
KFA	Specific health care institution
KStG	Corporation Tax Act
LCS	Labour Cost Survey
LFS	Labour Force Survey
MFI	Monetary Financial Institutions
NACE	Statistical Classification of Economic Activities in the European Community
NA	National Accounts
n.e.c.	not elsewhere classified
NOE	Non-Exhaustiveness
NPI	Non Profit Institution
NPISH	Non-Profit Institutions Serving Households
NUTS	Nomenclature des Unités Territoriales Statistiques
OECD	Organisation for Economic Cooperation and Development
OeKB	Austrian National Numbering Agency
OeNB	Austrian National Bank
OI	Other Investment
ORF	Austrian Broadcasting Corporation
ÖBB	Austrian Federal Railways
ÖNACE	Austrian version of NACE
PI	Portfolio Investment
PIM	Perpetual Inventory Method
PKG	Pension Fund Act
PRODCOM	Production Communautaire
R&D	Research & Development
RIE	Reinvested Earnings

SME	Small and Medium (-sized) Enterprises
SBS	Structural Business Statistics
SDR	Special Drawing Right
SHF	State Health Funds
EU-SILC	European Union Statistics on Income and Living Conditions
SPE	Special Purpose Entity
STAT	Statistics Austria
STS	Short Term Statistics
UBO	Ultimate Beneficial Owner
VAT	Value Added Tax
VIIES	Value added tax Information Exchange System
UVA	Turnover Tax Advance Returns
WIFO	Austrian Institute of Economic Research
WKO	Austrian Economic Chamber

1. Overview of the system of national accounts in Austria

1.1. Introduction

In Austria, official statistics are largely centralised. The Bundesstatistikgesetz 2000¹ (BStatG – Federal Statistics Act) took the central statistical office out of the Republic of Austria's civil service with effect from 1 January 2000 and set it up as an independent, non-profit-making federal institution under public law - Bundesanstalt öffentlichen Rechts Statistik Österreich – called *Statistics Austria*. It is responsible for performing scientific services in the area of federal statistics.

The Bundesstatistikgesetz defines federal statistics as a (non-personal) information system of the government providing data on the economic, demographic, social, ecological and cultural situation in Austria. This information helps administrative bodies in planning and political decision-making procedures and in controlling the measures they have taken. Moreover, data are made available to the scientific and economic community and to the general public. Its remit is to compile all types of statistics, including the associated analyses, forecasts and statistical models, which are not confined to the interests of a single Land (federal state) (§§1 and 2 BStatG). Statistics are either specified in the Bundesstatistikgesetz or required under the terms of international (EU) legal acts, by federal laws and by regulations.

Since the beginning of the seventies, *Statistics Austria* has assumed increasing responsibility for the production of national accounts. Some projects are handled by other bodies but in close cooperation and coordination with *Statistics Austria*. The quarterly accounts and the first preliminary annual estimate in February are calculated by Statistics Austria from September 2020 onwards (previously prepared by the Österreichisches Institut für Wirtschaftsforschung (WIFO – Austrian Institute of Economic Research) on behalf of *Statistics Austria*). The regional accounts, which were originally the responsibility of the WIFO (NUTS 2) or the Österreichisches Institut für Raumplanung (Austrian Institute for Regional Planning) (NUTS 3), were gradually integrated into *Statistics Austria* from 1993 onwards in connection with Austria's accession to the EU and the resulting coordination of national statistical offices at European level. Since 1996, *Statistics Austria* has therefore published NUTS 2 data and NUTS 3 data since 2001. The Oesterreichische Nationalbank (OeNB – Austrian national bank) is responsible for the compilation of the financial accounts for the institutional sectors S.11 (Non-financial corporations), S.12 (Financial corporations), S.14 (Households) and S.15 (Non-profit institutions serving households), whereas the financial accounts for the government sector S.13 are compiled by *Statistics Austria*.

¹ Bundesgesetz über die Bundesstatistik (Bundesstatistikgesetz 2000) – original version BGBl. (Federal Law Gazette) I No163/1999, as amended in BGBl. I No 136/2001, BGBl. I No 71/2003 ,BGBl. I No 92/2007, BGBl. I No 125/2009, BGBl. I No 111/2010, BGBl. I No 40/2014.

Figure 1.1: Organisational structure *Statistics Austria*

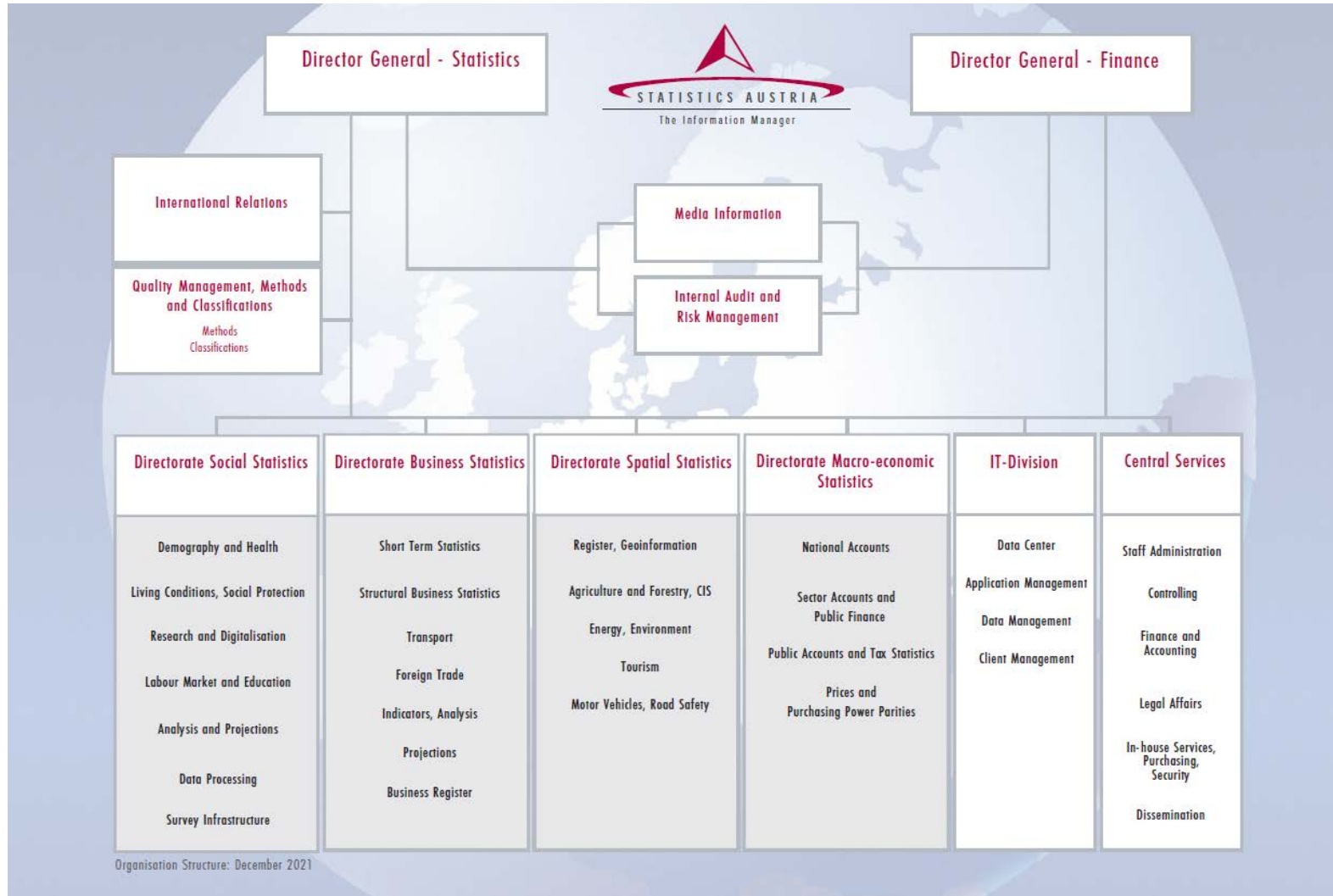
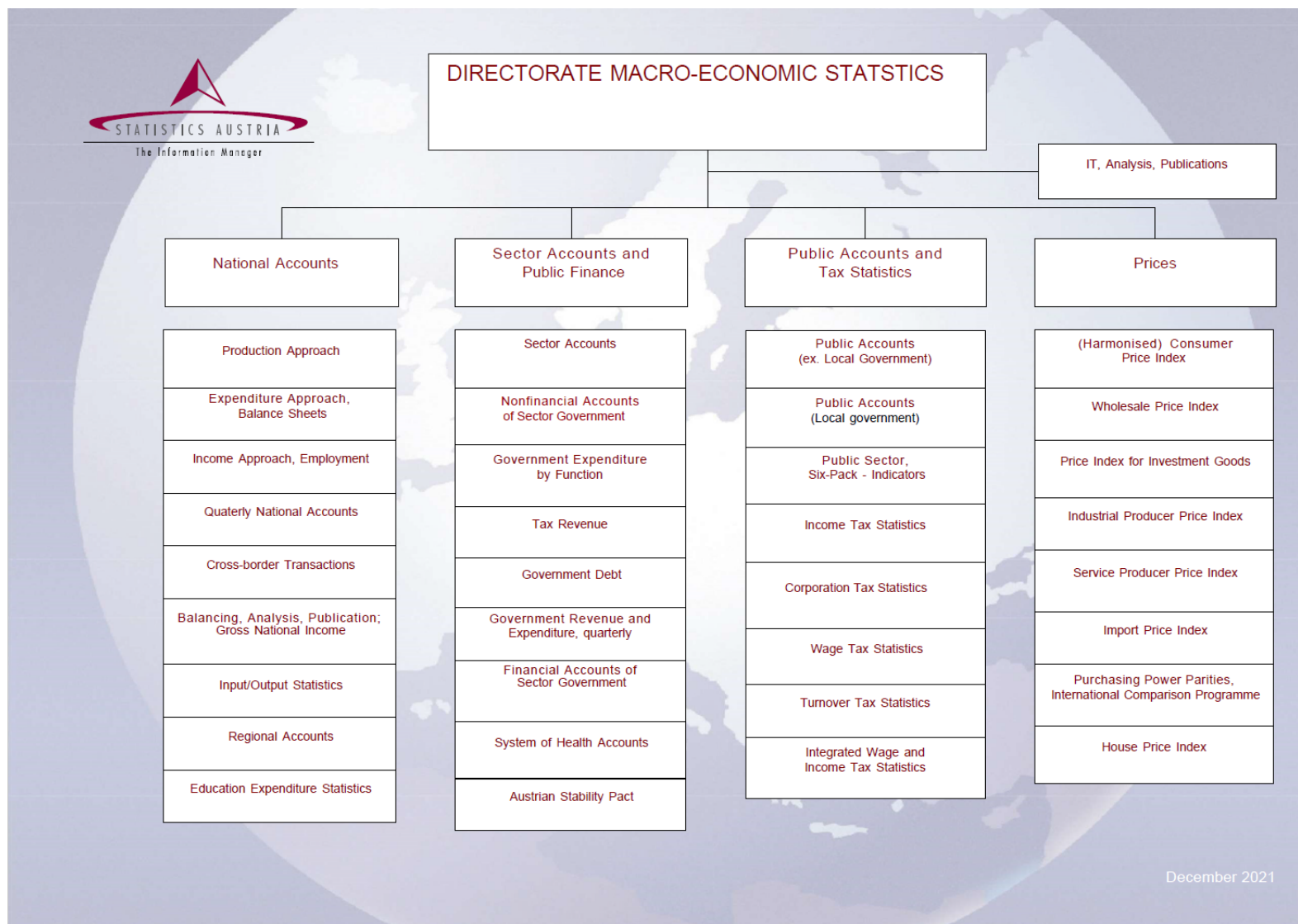


Figure 1.2: Organisational structure of the Directorate for Macro-Economic Statistics



Statistics Austria was reorganised at the beginning of 2001. The eight special statistical departments were regrouped to form four directorates (population, businesses, spatial statistics and macro-economics). Figure 1.1 shows the current organisational structure.

All work in connection with national accounts, except calculations for agriculture and forestry (ÖNACE Section A) and some transactions in foreign trade, is carried out in the Macro-Economics Directorate (see Figure 1.2). Data for agricultural and forestry accounts are compiled by the Spatial Statistics Directorate of *Statistics Austria* or the *Universität für Bodenkultur (University of Natural Resources and Life Sciences)*.

Other projects closely related with annual national accounts are also carried out in the Macro-Economics Directorate: preparation of annual supply and use tables and input-output tables, calculation of non-financial sectoral accounts, comprehensive data on the general government sector and the regional accounts mentioned above.

32 people are working in „national accounts“, and 38 in „sector accounts and public finance“ (70 employees in total, including government finance statistics).

1.1.1. External supervisory bodies

Statistics Council

The Statistics Council (§§ 44 to 47 Federal Statistics Act) of the Statistics Austria Federal Institute comprises 16 members, who are appointed by the Federal Chancellor for a term of office of five years (4 members) or delegated by 12 institutions (one member each). The members of the Statistics Council may not also be members of the Federal Institute management team or servants of the Federal Institute or members of the Economic Council. The Statistics Council imposes upon itself procedural rules, which must be approved by the Federal Chancellor. The Statistics Council holds meetings as required, and not less than once quarterly.

The Statistics Council has the followings tasks:

- Provision of an annual report to satisfy principles in accordance with § 24 Austrian Federal Statistics Act by the Federal Institute to the Federal Chancellor, the Federal Ministers, the Economic Council and the management of the Federal Institute
- Provision of opinions and recommendations regarding the programmes of work and budgets (the Statistics Council shall adjoin to its recommendations regarding the work programmes an appraisal of the anticipated supplementary or reduced costs associated therewith)
- Provision of recommendations (for the organisation of administrative data for use for statistical purposes, for coordinating the Federal Ministries and the federal statistical organs in matters of federal and European Union statistics) and provision of opinions (relating to drafts of legal foundations at national and EU level that concern statistics) to the Federal Chancellor, the competent Federal Minister, the Economic Council and the management of the Federal Institute (the Statistics Council shall adjoin to its recommendations regarding the statistics an appraisal of the anticipated supplementary or reduced costs associated therewith)

- Provision of an annual performance report to the Federal Chancellor, which must be submitted by the Federal Government to the National Assembly

Technical subcommittees

According to § 63 of the Federal Statistics Act Technical subcommittees (TS) for particular statistic domains are installed by the director general for statistics. The task of the TS is to advise Statistics Austria and the competent government bodies and ministries in all scientific and technical matters of statistics. The TS “Macro-economic statistics” is complemented and supported by particular high level expert groups (e.g. on ESA or EDP issues).

Economic Council

The Economic Council (§63 Federal Statistics Act) of the Statistics Austria Federal Institute comprises 12 members, who are responsible for supervising the economic performance of Statistics Austria.

Internal control units

The unit Quality management, Methods and Classification

Besides methodological consulting and the maintenance of classifications quality management is one central part of the unit which consists of planning and coordinating cross sectional projects regarding aspects of quality in official statistics. This task comprises the development of an annual work programme and the implementation of projects according related to the Strategy 2025 (the strategic programme of Statistics Austria) as well as activities related to product quality (standard documentations serving as quality reports, feed-back talks), customer satisfaction (release calendar, user satisfaction surveys) and staff satisfaction (e.g. staff opinion surveys).

Statistics Austria is strongly committed to the principle of possibly highest quality standards. According to the Federal Statistical Act (§ 24) Statistics Austria is obliged to apply statistical methods and techniques that are in line with internationally approved standards, to continuously assess the statistics for quality improvements first of all ensuring timeliness.

Internal audit and risk management unit

The internal audit and risk management unit is directly associated with the directorate-general.

The **internal audit** is designed as an independent revising and consulting function with regard to organisational issues. Its task is to assist the directorate-general in supervising and steering the statistical institute as well as to identify weaknesses and potentials for improvement.

The main fields of activity are:

- Monitoring business risks
- Integrated supervising of processes
- Optimizing processes
- Monitoring customer needs
- Identifying and monitoring immaterial values

The **risk management** closely cooperates with all organisational units of Statistics Austria, especially with the central services unit and the quality management unit.

Risk management is responsible for ensuring that the entire risk management process, including processes of the internal controlling system, is carried out, and is engaged in the realisation and enhancement of the risk management system and the compliance management system, focussing on:

- Reporting requirements
- Risk controlling
- Code of public corporate governance
- Recommendations by the Court of Audits
- Projects and processes for various alternating issues on behalf of the directorate-general

The goals and responsibilities of risk management in official statistics are described by the UNECE guidelines on risk management in statistical organisations.

1.1.2. Geographical coverage

The economic area covered by Austrian national accounts includes:

- the territory within Austrian national borders
- the tax-free area Jungholz (in the NUTS 3 region "Außerfern")
- the tax-free area Kleines Walsertal/Mittelberg (in the NUTS 3 region "Bludenz-Bregenzeralp")
- Austrian diplomatic and consular missions abroad.

Extraterritorial areas within the national borders, i.e. foreign diplomatic and consular missions and international organisations, are not included.

1.2. *The revision policy and timetable for revising and finalising the estimates; Major revisions since the last version of the GNI inventory*

1.2.1. Revision policy

The revision policy of *Statistics Austria* is, of course, closely geared to the deadlines set by the European Union for the transmission of data and aggregates. The requirements of data transmission are usually determined by European law which specifies tables, variables and deadlines. The comments below thus deal with revisions policy in connection with this timetable.

Annual revisions of current national accounts are based on integrating information from individual surveys with differing frequency which may be used to revise preliminary estimates. These include the annual Structural Business Statistics, the five-yearly household budget survey and the turnover tax statistics. Turnover tax data are calculated annually but final data are not available until three years after a reporting year because of the relevant reporting rules for companies.

Major revisions are carried out only when new concepts and methods are to be implemented or when comprehensive new data sources are available. It is part of Statistics Austria's policy not to confuse data users with a large number of major revisions but to identify a body of cases which point to a need for major revisions and to use them as a basis for such revisions. A fundamental major revision took place in 2014, when all the national accounts annual data compiled according to ESA 2010 for the first time. The revision comprised the years from 1995 to 2013. The most recent major revision of the whole national accounts time series was carried out in 2017, starting from 1995 onwards (see chapter 2.1.1.).

1.2.1.1. Timetable for revisions and completion of the final version

The following section explains the revisions of individual data aggregates based on the actual timetable for their calculation. Publications are geared to the ESA transmission programme.

The transmission programme according to ESA 2010 was adopted as Annex B to Regulation (EU) 549/2013 of the European Parliament and of the Council of 21 May 2013² and governs the details of the Member States' obligations to supply data by defining tables, variables and deadlines.

The national publication date for the annual national accounts prepared by *Statistics Austria* is usually the end of September every year so that main aggregates data are consistent with non-financial sector accounts at that time. The quarterly accounts – which are calculated by Statistics Austria from September 2020 onwards (previously prepared by the Austrian Institut für Wirtschaftsforschung (WIFO – Economic Research Institute) on behalf of *Statistics Austria*) – are also adjusted to the new annual benchmarks by end of September. According to the ESA 2010 transmission programme there is consistency with regional accounts by end of December every year.

Times for calculations and revisions are given by means of abbreviations in square brackets [t+...] and [T-...]. T stands for the reporting year and t for the deadline 31.12 of the reporting year. Values after "+" give the number of months after t and thus describe the time lag for producing data. Values after "-" indicate the number of years prior to reporting year t and describe how many years a given reporting year was prior to the current reporting year. Q indicates the reporting quarter.

1.2.1.2. General timetable

Until 2016 *Statistics Austria* used to publish detailed annual national accounts at the beginning of July each year³. To better meet the consistency requirements of the commission implementing regulation (EU) 2016/2304 the publication was moved to end of September in 2017. At the same time, statistical revisions are carried out covering the three years preceding the published year ([T-1], [T-2], [T-3]). New national accounts data are therefore presented over a period of four years with the year [T-3] always being the final version.

² Council Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union (OJ L 174/1 of 26.6.2013).

³ In fact, there have been two deviations from that schedule since 2005: the detailed annual national accounts were published in September of both 2011 (implementation of NACE Rev. 2) and 2014 (implementation of ESA 2010)

Non-financial sector accounts (non-financial/financial corporations, private households, non-profit institutions serving households (NPISH), general government, rest of the world) are supplied at [t+9] and are consistent with the annual main aggregates published at [t+9].

The quarterly accounts of the main aggregates have a time lag of t+2. Moreover, the quarters are reconciled with the revised annual accounts at the end of September every year, so that the four quarters of the year T are harmonised with the corresponding annual accounts. At the same time as the fourth quarter is published (i.e. end of February), the first annual estimate is produced by aggregating the quarterly accounts

Supply and use tables are now produced every year and, hence, integrated into the annual national accounts time series. Meanwhile, provisionally balanced supply and use tables are available for the year T-2. Final supply and use tables (to be transmitted at t+36 according to the ESA 2010 transmission programme) can be implemented for the year T-3.

For the production of general government data the deadlines are [t+3] and [t+9] for the supply of annual data and [T-1] to [T-3] for the revision of past years. General government data as at [t+3] and [t+9] for the year T-1] are also used to compile annual national accounts in September.

Calculations of government data depend, of course, strongly on corresponding basic statistics being available. A new legal basis for the transmission of data for producing statistics on accounting in the public sector to *Statistics Austria* was created with the *Gebärungsstatistik-Verordnung 2014* (Regulation on Public Accounts Statistics, BGBl. II No 345/2013, replacing BGBl. II No 361/2002 and its amendments), in which the transmission deadlines for the units in the general government sector are laid down.

OeNB balance of payments data are subject to the following revision cycle: the monthly balance sheet is used to assess trends, is broken down very roughly and is published in a press release approximately eight weeks after the reporting month. The data are forwarded to the ECB after six weeks (Euro zone aggregate). The ECB expects monthly series which are consistent with the quarter. This makes it imperative for the months to be revised at least when the quarterly balance sheet is forwarded.

The quarterly balance of payments data is available in greater detail and regional breakdown for all current and capital account items. Quarterly data are normally revised after publication of the results of a new quarter in the same reporting year. The first three quarters of a reporting year are, for example, revised at the same time as the data for the fourth quarter are published at T+3 (reporting year plus calendar months). These revisions of the quarterly and annual data are provisionally completed in September at T+9. The final revision of the quarterly and annual data takes place 33 months after the end of the reporting year (T+33). The data then have the status of final results.

1.2.2. Major revisions since the last version of the GNI inventory other than due to conceptual changes in ESA 2010

1.2.2.1. Benchmark revision 2017

Major changes and improvements to sources and methods of national accounts were caused by a major revision in 2017 of the whole national accounts time series (1995-2016) which covered following items:

- Further implementation of the 2014/2015 Household Budget Survey
- Integrating new estimates for NPISH, stemming from a thorough analysis to meet the requirements of providing separate data for S.14 and S.15 according to the ESA 2010 TP (derogation expiring in 2017)
- Recording of public broadcasting as non-market production in S.13
- Estimates for digital imports to resident households and digital exports to non-resident households based on data from the Mini One Stop Shop (MOSS) for VAT.
- New estimates for imports and exports in the course of cross border processing of goods without physical cross border movement based on the reconciliation of detailed data on unit level.
- Correction for recently detected misreporting in SBS for units classified in energy supply

1.3. *The production approach*

In Austria, the production approach constitutes the basis for calculating GDP. It measures GDP as the difference between value of output less value of goods and services used in producing this output during an accounting period. Detailed production accounts are made for all ÖNACE sections. The calculations are based on the ÖNACE classification, which is the national version of NACE Rev.2 in Austria. The work levels are the level of ÖNACE sections (two-digit code) or further disaggregated levels, and are chosen in a way that the construction of meaningful aggregations for price and volume measures and for the compilation of supply and use tables is feasible.

In ESA 2010 a distinction is made between institutional units, which are grouped together to form the five institutional sectors, and local activity units, which are intended to represent technical and economic circumstances. The economic unit best suited to depict the production process is, according to ESA 2010, the "local kind of activity unit". The kind of activity unit, which is generally called a "Betrieb" (establishment) in Austria, covers all the parts within an institutional unit which contribute to exercising a productive activity at class level (four digits) of the ÖNACE Rev.2. The local kind of activity unit is a part of an activity unit which is found at the local level (local unit).

Within the economic divisions, kind of activity units are differentiated according to their purpose – the distinction between market producers, producers for own final use and non-market producers according to ESA 2010 is strictly complied with.

Output and intermediate consumption are valued in accordance with ESA 2010 rules. Total **market output (P.11)** is valued at basic prices. As enterprises report producers' prices and not basic prices in the sources used, output is first calculated at producers' prices. The transition to basic prices is done in a second step on ÖNACE two-digit level by adjusting the output for precisely determined taxes and subsidies on products. **Output produced for own final use (P.12)** has to be valued either at the basic prices of similar products sold on the market, or, if such prices are not available, at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income. The **total output of a non-market producer** (a local KAU) is by definition valued at the total costs of production, i.e. the sum of intermediate consumption, compensation of employees, consumption of fixed capital, other taxes on production less other subsidies on production. If total output of a non-market local KAU covers market, non-market and own final use output, **non-market output (P.13)** is obtained residually as the difference between the value of its total output and the sum of its market output. **Intermediate consumption (P.2)** is valued at purchasers' prices. Detailed information is directly available from the sources used.

1.3.1. Business register

The basis for calculating production accounts is a reliable business register. It plays an essential role in the construction and maintenance of an integrated economic information system, serving multiple purposes. The business register is of vital importance for national accounts. It is the sampling frame for many of the surveys which are integrated into national accounts. Furthermore it is crucial for the purpose of analyses during the compilation process.

The business register represents the statistical evidence of all economically active enterprises located in Austria with at least one employee or more than EUR 10,000 annual turnover. For enterprises to be registered there has to be available information from at least two administrative data sources. It covers all industries with the exception of Agriculture, forestry and fishing (ÖNACE A) and Activities of households as employers (ÖNACE T), investment and real estate funds (ÖNACE 64.30-1) renting out of private accommodations and renting of real estate by households.

The following units are included in the register:

- Legal entities
- Enterprises
- Establishments
- Local units
- Units of government sector
- Non-profit organisations

The timeliness of the data in the business register depends on the timeliness of data in the secondary sources. Most of the administrative data are updated monthly, some are updated daily (register of companies). The update of the data is mostly automated, but there is also a manual maintenance.

Units that are not obliged to register are of course still included in national accounts. Units in agriculture, forestry and fishing (ÖNACE A) are recorded in a separate register (the Agricultural and

Forestry Register). The calculation of the renting out of private rooms is described in chapter 3.15 and in chapter 5. Calculations of the renting out of dwellings by private households use data from the Buildings and Dwellings Register (see chapter 3.18).

1.3.2. Main data sources and adaption for ESA 2010 purposes

Annual national accounts use a large number of data sources. Basically, a distinction between surveys – usually carried out by *Statistics Austria* – and administrative data or a combination of both has to be made. Information from business reports completes the data. The following paragraphs describe the data sources which form the statistical basis for national accounts.

- In the wake of Austria's accession to the EU in 1995, the EU statistical system was adopted, as was the survey design for economic units in accordance with the requirements of the corresponding EU regulations on **Structural Business Statistics**. The first survey under the new survey design was carried out for reporting year 1995 and was a full-scale survey (Non-agricultural business census 1995). The annual Structural Business Statistics carried out since 1997 were conducted as sample surveys until the reporting year 2001. Starting with the reporting year 2002 the method was changed to a full-scale survey with thresholds, amended by estimates for units below the thresholds on the basis of administrative data.
- The **Non-agricultural business census (BZ 95)** constituted the most comprehensive and important source for calculating gross domestic product. It was a full survey of all areas of industry except agriculture and forestry and non-market producers (general government, and NPISH). The activities of freelancers (lawyers, auditors, etc.) were included in the 1995 census for the first time (with the exception of free-lance artists). The non-agricultural business census 1995 provided detailed information on production, earnings and costs, gross capital formation, inventories, number of employees, expenditure on personnel and consumption of fixed capital.
- The **Structural Business Statistics (SBS)** is specified as a full-scale survey with recording thresholds to reduce the response burden. At the same time the use of administrative sources, the application of statistical model calculations and the use of synergies between surveys according to the Federal Statistics Act 2000 (*Bundesstatistikgesetz* 2000) are increased. Data of SBS are collected annually and cover ÖNACE sections B-N. Only market producers are included into the survey. The SBS is carried out by *Statistics Austria's* Business Directorate and provides detailed information on production and intermediate consumption, number of employees, gross capital formation etc. The survey units are enterprises, their establishments and local units.
- The monthly **Short Term Statistics in industry and construction** is a full-scale survey with cut-off limits and covers ÖNACE sections B (Mining and quarrying), C (Manufacturing), D (Electricity, gas, steam and air conditioning supply), E (water supply, sewerage, waste management) and F (Construction). The survey units are enterprises and establishments. The **Short Term Statistics in trade and services** provide information on turnover and employees for ÖNACE sections G-N. They are compiled monthly for ÖNACE G (Wholesale and retail trade;

repair of motor vehicles and personal and household goods) and quarterly for the other services sector.

- The annual **Turnover Tax Statistics** is an important basic set of statistics for checking the exhaustiveness of economic surveys. Moreover, together with income tax statistics, it forms an additional source of data for the production of services, particularly those industries not covered by the SBS.
- The **Microcensus** is a primary survey, which deals with employment and housing in Austria. For the production approach especially the **Microcensus Housing Survey** is of importance. Based on the Buildings and Dwellings Register, the microcensus housing survey is carried out. The sample is stratified by federal states (Bundesländer) in Austria and comprises approximately 23,000 dwellings (definition of an occupied dwelling = main residence) per quarter throughout Austria. The microcensus covers almost all dwelling specific questions (gross rent, useful area, number of rooms, legal relationship to the apartment, time of construction, operating costs, basic equipment of the apartment, etc.) Questions concerning the heating of the apartment, the presence of passenger cars, garages or parking lots are now integrated in the survey and regularly queried.
- For units which are identified in the general government sector for ESA purposes the **closed accounts** of federal government, Länder and municipalities and public accounts statistics of other units of the government sector are analysed by macroeconomic criteria.
- The **NPO survey** covers non-profit institutions from the welfare, research and development sectors which are deemed to be market producers and are therefore assigned to institutional sector S.11, as well as almost all other non-profit institutions classified in institutional sector S.15. It was carried out for the reporting years 2005 and 2013 by *Statistics Austria* and the *Institut für Sozialpolitik der Wirtschaftsuniversität Wien*.
- In agriculture and forestry, the *quantity x price approach* predominates. Production quantities derived from harvest, slaughter and timber felling statistics etc. are valued at producers' prices and intermediate consumption is calculated partly on the basis of products and partly via surveys at establishments which are obliged to keep accounts.
- For some branches of services there are special **supervisory authorities statistics** (banks and insurances, etc.) and **annual reports** produced by large enterprises (such as the railways, post office, air transport, lotteries, etc.) are available as well as turnover tax statistics.

1.3.2.1. Adjustments for exhaustiveness

The sources used to calculate GDP are checked for statistical non-reporting or under-reporting and are supplemented where necessary. The adjustments for exhaustiveness can mainly be classified in accordance with the following aspects:

- adjustments for under-recording in economic statistical surveys (particularly small units which are not in the survey's sampling frame) → N4 & N5
- adjustments for units that report data for a business year different from the calendar year → N7
- adjustments for deliberately incomplete data reported for output and income (e.g. revenues off the books) → N6

- supplementary estimates for producers who deliberately refrain from registering (e.g. non observed work) → N1
- supplementary estimates for units which are not obliged to register (e.g. households) → N3
- estimates on the extent of illegal activities in accordance with Eurostat Task Force recommendations → N2
- tips not covered in income statistics → N7
- own account production by market producers → N7

1.3.2.2. **Transition from private accounting and administrative concepts to ESA 2010 national accounting concepts**

Most of the data for enterprises used in the production approach are obtained from statistical surveys specifically designed for this purpose. Consequently the survey questions and the corresponding explanation notes are mainly in line with the requirements of ESA 2010. However, STAT has to balance between what businesses understand and are able to provide with the needs of statistics for national accounts.

The following **adjustments** are made in all industries:

- ESA 2010 is quite vague in its definition of **small tools**, so *Statistics Austria* has decided to interpret ESA 2010 3.89f literally. Goods that are listed in this paragraph were identified at the basis of ÖCPA 6 digit in the commodity supply. Private consumption of small tools is fixed on the basis of HBS updated by trade statistics, whereas intermediate consumption is calculated as residual.
- The insurance premiums treated in company accounts as operating expenditure and reported in statistical surveys as other operating expenditure are reduced to the **service charge concept**. At first a global calculation is carried out with final consumption of insurance services being deducted from total insurance services and the remaining insurance services assigned to producers. Allocation to individual industries is based on information from the most recent supply and use table. Since other operating expenditure includes the gross premiums paid, any claims for which payments are received are deducted so that only the net amount paid for insurance services remains.
- Some components of the variable "**Other operating expenditures**" contain parts that are not treated as intermediate consumption according to ESA 2010. These adjustments are checked in the balancing process with the supply and use tables and reduce intermediate consumption. Value added increases by the same amount.
- Furthermore, changes in inventories were adjusted for **holding gains and losses**. In order to prevent any distortion due to prices, changes in inventories at book values were replaced by changes in inventories at current prices.
- **Financial intermediary services indirectly measured (FISIM)** is a national accounts concept derived to measure production of financial intermediation services that is not paid for directly by

users but is charged for indirectly by financial institutions by demanding a higher interest rate on loans and paying out a lower interest rate on deposits than they could.

- Financial services consisting of acquiring and disposing of financial assets and liabilities in financial markets (short: **Market Making Services**) is a national accounts concept that measures production of financial services that occurs when financial institutions buy or sell securities (or equities, investment fund share and foreign currencies) and indirectly levy a service charge by applying a margin to the market value of the security.
- As output according to ESA 2010 includes non-market production for own use as well as market production, estimates were made for self-produced additions to fixed assets.

The contents of national accounts are determined not only by the conceptual framework, definitions and classification of the system but also by the ways in which they are interpreted and implemented in practice. Although simple and precise concepts and classifications may appear in principle, there are inevitably difficult borderline cases which cannot easily be fitted into predetermined categories. Borderline cases in production and intermediate consumption are described in detail in chapter 3.2.

1.4. *Income approach*

When calculating GDP in the Austrian national accounts system, the emphasis is on the output and expenditure approaches. The income approach is partly a residual method and not a fully independent estimate on the basis of surveyed income. Wage tax statistics serve as the main source of determining the sum of gross wages and salaries. Social contributions (actual and imputed) are taken from additional sources. The Structural Business Statistics (SBS) are used for allocating compensation of employees to industries. Operating surplus is determined residually together with mixed income.

1.4.1. Data sources

The data sources for the income approach are shown in the following table:

Table 1.1: Data sources for the income approach

Source	Data determined
Annual wage tax statistics	Gross wages and salaries including taxed salaries in kind and stock options, employees' contributions to social insurance
Structural Business Statistics (SBS)	Calculation of compensation of employees by industry (excluding agriculture and NACE sections O to T)
Income and financial statistics of the <i>Umbrella Organisation of Austrian Social Security Institutions (Dachverband der österreichischen Sozialversicherungsträger)</i>	Employees' and employers' contributions to social insurance
Closed accounts of public authorities and the financial management statistics of other public legal entities	Imputed social contributions
Annual reports, individual information	Income by industry: compensation of employees in sections not covered by SBS and in NPISH
Wage class statistics of the <i>Umbrella Organisation of Austrian Social Security Institutions (Dachverband der österreichischen Sozialversicherungsträger)</i>	This source is used for plausibility testing of income by economic activity
Labour cost survey (LCS)	This source is used to allocate D.12 to NACE sections not covered by SBS and to estimate the untaxed salaries and wages.

1.4.2. Calculation methods

1.4.2.1. Gross wages and salaries

The data for forming the total sum of gross wages and salaries of all dependent employees come mainly from the Wage Tax Statistics. These contain also low pay income and taxed wages and salaries in kind. Supplementary estimates for untaxed tips and untaxed wages and salaries in kind are made.

The wage tax statistics are based on "pay slips" or forms which must be issued for all employees and pensioners. They are proof of the income and pension received over the whole year for each employment or pension relationship.

Total gross wages and salaries are the sum of the following remuneration:

- current – i.e. regular – remuneration from an employment relationship, including holiday and Christmas bonuses
- holiday and Christmas bonuses for construction workers⁴
- redundancy pay
- other remuneration subject to regular tax (bonuses, commission based on turnover, etc.).
- taxed salaries in kind, like company cars or stock options

⁴ These are paid not by the employer but by the construction workers' holiday fund and details are given on separate pay slips.

To break down income by economic activities all of the above mentioned sources of the income approach are taken into account, mainly the SBS and the closed accounts of the public authorities and NPISH.

1.4.2.2. **Actual social contributions**

The employers' actual social contributions (D.121) consist of the payments made by employers for the benefit of their employees to insurers (social security and other employment-related social insurance schemes). Such payments cover **compulsory** and **voluntary** contributions.

The basis for determining total **actual compulsory social contributions (D.121)** is the closed accounts of the *Umbrella Organisation of Austrian Social Security Institutions*.

Employment-related **voluntary social insurance** schemes comprise pension funds ("Pensionskassen"), staff provisions funds ("Mitarbeiterversorgungskassen"), occupational group insurance ("Betriebliche Kollektivversicherung") and defined benefit pension schemes managed by the employers in Austria. The employers' voluntary actual social contributions secure social benefits for their employees.

The data from the Structural Business Statistics (SBS) is used to determine actual social contributions by industry. The NACE sections which are not covered by SBS are calculated by means of the Labour cost survey (LCS). The voluntary social contributions are calculated in a similar way to compulsory contributions.

The sum of the compulsory contributions and voluntary contributions produces the actual **total social contributions** (D.121).

1.4.2.3. **Imputed social contributions**

The imputed social contributions consist fully of imputed pension contributions in Austria. A fixed percentage of wages is used for the calculation of the imputed pension contributions until 2004. In 2005 the pension harmonisation act became effective for central government "Beamte" (civil servants with a special employment status) born after 1955. In 2005 the pension harmonisation act became effective for central government "Beamte" (civil servants with a special employment status), therefore lower percentages are used based on the pension law from 2005 onwards.

1.4.3. **Other taxes on production**

Other taxes on production, i.e. taxes which are levied independently of the quantity or value of the goods produced or traded, are paid by companies on land, fixed assets and workforce or specific activities or transactions.

Other taxes on production are also allocated to individual ÖNACE two-digit codes following the same procedure as for taxes on products. Additional information is provided by annual reports and the closed accounts of public authorities (to determine, for example, the government sector's share of employers' contributions to the equalization fund for family allowances).

1.4.4. Other subsidies

Other subsidies, i.e. subsidies which are paid to local production units and do not count as subsidies on products, are paid in respect of the production activities of companies independently of the quantity or value of the products manufactured or sold. They mainly comprise subsidies for the wage bill or the workforce and interest rate subsidies.

Calculations of subsidies are based on analysis of individual items of the respective accounts. *Other subsidies* are allocated to individual industries (ÖNACE two-digit codes) by means of allocation formulas in accordance with the recipient principle in the same way as for *other subsidies on products*. Information on the breakdown by industries is provided by the explanatory notes on the Federal Finance Act, the Federal Government's report on subsidies, financial management plans and the labour market statistics of the *Arbeitsmarktservice* (Austrian labour market service).

1.4.5. Consumption of fixed capital

In Austria, consumption of fixed capital (CFC) is calculated for all producers by applying the Perpetual Inventory Method (PIM). A geometric depreciation function with a constant annual depreciation rate is used for all capital goods.

The data basis for applying the PIM is investment time series (at current and previous year prices) – broken down by market and non-market producers, types of assets (e.g. buildings, machinery, vehicles, etc.), activities (ÖNACE two-digit codes) and sectors – which are generally available from 1976 onwards. The estimate of an initial capital stock for 1975 is based on relevant studies from the seventies.

As capital stock is valued at replacement prices and not historical purchasers' prices in national accounts – unlike in companies accounts – and consumption of fixed capital on this basis is purely a change in volume which must be kept separate from a change in price or revaluation, the actual calculation (PIM) is carried out at constant prices (base year currently 2010).

When applying a geometrical depreciation model, the only parameter which needs to be determined for the PIM is the annual depreciation rate (r). Here, Austria largely follows international practice – in the absence of sufficient direct information – taking the US Bureau of Economic Analysis (BEA) in particular as a reference. Generally, the depreciation rates – and hence the implicit assumptions on average service lives – vary depending on the type of asset and also on the activity.

1.5. Expenditure approach

In calculating GDP, which is primarily based on the production accounts, the expenditure approach constitutes a separate method.

In the expenditure approach GDP is calculated by adding final consumption, gross capital formation, and net exports (exports – imports) of goods and services.

Final consumption represents consumption expenditure of resident households (including persons living in institutional households), non-profit institutions serving households (NPISH) and government. Consumption expenditure of government can be broken down into individual and collective consumption.

Gross capital formation is made up of acquisitions less disposals of fixed assets (including transfer costs), improvements to non-produced non-financial assets, changes in inventories and acquisitions less disposables of valuables.

Exports comprise goods and services transactions of residents to non-residents. **Imports** comprise goods and services transactions of non-residents to residents.

Use of goods is **valued** at purchasers' prices. Imports and exports are valued FOB (free on board), i.e. at the values on the export borders.

1.5.1. Final consumption of private households

ESA 2010 describes final consumption as expenditure of resident institutional units on goods and services which are used for direct satisfaction of individual needs and wants or collective needs of the members of the community. This expenditure can take place on national territory or abroad.

Domestic final consumption of private households is first calculated at a detailed product level in accordance with the ÖCPA classification. After the aggregation to final consumption expenditure following the resident principle, consumption of non-residents on national territory is deducted and overall consumption of residents abroad (not broken down by products⁵) is added, in order to achieve HFCE following the national concept. A number of very different methods are used to calculate final consumption of private households with suitable sources being sought for each product, the main one being the Commodity Flow approach.

The main sources used for calculating private consumption of households are production statistics, international trade in goods statistics (ITGS), household budget surveys, structural business statistics (SBS), and administrative data like tax statistics and public accounts.

The values for consumption of domestic households abroad and for consumption of non-domestic households on national territory are taken from the items *Travel* and *International passenger transport* in the balance of payments statistics. The two main adjustments made for both imports (consumption of residents abroad) and exports (consumption of non-residents on national territory) are the correction for expenditure on business trips (= intermediate consumption of producers) and expenditure on package tours (which are regarded as intermediate consumption of resident travel agencies or travel organisers).

⁵ A product breakdown model for the consumption of non-residents was developed for internal use.

1.5.2. Final consumption of non-profit institutions serving households

The sector of non-profit institutions serving households (NPISH, S.15) comprises organisations constituting separate legal entities that provide goods and services for households that are not sold at market prices. In Austria this sector includes mainly the following organisations: hospitals and human health care, nurseries and schools, residential care (except old people's homes), social work, sports and membership organisations (drivers' clubs, religious communities, political parties, trade unions, environmental protection organisations, organisations of development cooperation and other associations).

Final consumption of non-profit institutions serving households (NPISH) equals the value of the goods and services produced by these units, excluding own-account capital formation and expenditure of households and other units on these goods. It is derived from the sector's production account by subtracting revenues from production and output resulting from own-account production from the corresponding output value. Output itself is calculated as the sum of expenditure components of the production account.

Since there is no systematic surveying in this sector the survey on the non-profit sector carried out in the year 2005 is used as a basis for calculation. In addition, however, information from major organisations, statistics on expenditure on education and wage tax statistics are constantly being incorporated.

1.5.3. Final consumption expenditure of government

The data for the ESA 2010 transactions of the government sector are derived from the economic breakdown of the closed accounts or are the result of processing of public accounts statistics of other units of general government. This is laid down in the relevant account coding rules – Classification of accounts for public authorities (*KoG – Kontenpläne für Gebietskörperschaften*) or the Regulation on budget estimates and closed accounts (*VRV – Voranschlags- und Rechnungsabschlussverordnung*). According to ESA 2010, government final consumption expenditure comprises the following:

Table 1.2: Calculation method: government final consumption expenditure

CODE	Designation
P.13	Non-market output
D.632	+ Social transfers in kind — market production purchased by general government and NPISHs
P.131	- Payments for non-market output
P.3/S.13	= Government final consumption expenditure

Non-market output is determined from gross value added and intermediate consumption less production for own final use of *non-market producers*. Expenditure on goods which are supplied by market producers directly to households comprises school books and free school trips (Bund), measures for social welfare in general, for care and for services for the disabled (Länder, Social Fund

Vienna and other institutions on state and government level) and expenditure on medical products, equipment and apparatus or for in- and out-patient treatment (social insurance schemes).

1.5.4. Gross fixed capital formation

Gross fixed capital formation comprises capital formation in **tangible fixed assets** (buildings, equipment and cultivated assets) and **intangible fixed assets** (research and development, computer programs and entertainment, artistic and literary originals), **improvements** to non-produced non-financial assets and **transfer costs**. Gross fixed capital formation is defined as acquisitions less disposals of fixed assets. Used non-financial assets are entered as the difference between sales and purchases. Improvements to fixed assets (major repairs and conversions) which go far beyond normal maintenance and repair and self-produced assets are also included in capital formation. Military equipment is also treated as capital formation.

The **commodity flow method** is also the standard method for calculating capital formation, as it is for calculating household consumption expenditure.

Non-financial assets are valued at purchasers' prices, including assembly costs or costs for transfer of ownership and assets produced on own-account at basic prices for comparable goods. As a net operating surplus or self-employed income must be taken into account in connection with this type of production, a supplementary estimate must be made in respect to own-account output.

Every year an **investor account** is prepared as an independent method for calculating capital formation by industry. It describes capital formation by branch and category of assets. For this purpose, the results of economic surveys are supplemented by the capital formation of those industries which are not covered (such as NPISH, general government, agriculture and forestry). These values come from closed accounts, individual surveys, information from economic research institutes on agricultural and forestry accounts, the housing investment account and other sources. The investor related business accounts data is mainly used for plausibility checks and to structure GFCF by industries. GFCF data by product is joined with investor data and adjusted in a balancing process.

1.5.4.1. Construction

Table 1.3 shows, how **gross fixed capital formation in construction** is derived in the supply and use tables.

Table 1.3: Calculation method for capital formation in construction

Components	Designation
1.	Domestic output at basic prices (characteristic and non-characteristic output) by the construction industry at basic prices
2.	+ Non-deductible VAT
3.	+ Other taxes on products less subsidies on products
4.	+ Imports of construction services
5.	- Exports of construction services
	= Supply for domestic use
6.	- Changes in inventories
7.	- Household consumption expenditure for housing maintenance
8.	- Construction services which are recorded as intermediate consumption
	= Supply allocated to gross fixed capital formation
9.	+ Material and architectural services provided
10.	+ Transaction costs (for ownership transfer)
Total	= Total gross fixed capital formation in construction

The data sources for the first component are the production accounts of the construction industry. These include output by the construction industry divisions, output of construction by other industries, revenues off the books, output by interest groups, own-account construction and underground production of dwellings.

The next component, "Supply for domestic use" is obtained after adding non-deductible VAT and product taxes less product subsidies. The items "Imports" and "Exports" are based on the balance of payments statistics.

Then adjustments for changes in inventories are made. Furthermore, the items housing maintenance (private consumption) and construction work (intermediate consumption) are deducted. The latter comprises, for example, repairs to structures which are cleared within the construction industry.

The ninth item comprises material and architectural services provided. Additions are made for materials used in the course of own-account housing construction and for structures which are not part of intermediate consumption in the building industry but are built directly, such as prefabricated houses or metal structures for bridges. After adding the transaction costs, the total sum of capital formation in construction is obtained.

Information from the housing construction statistics on completed dwellings and prices per square metre and data from the Vienna closed account are used to calculate **capital formation in dwellings** and the value added tax levied on it. Capital formation in dwellings is calculated after the supplementary estimates for refurbishing of old buildings and transaction costs are added. The balance remaining represents the **other buildings and structures**.

1.5.4.2. **Equipment**

The net increase in **machinery, equipment and vehicles** which are used repeatedly or continuously in the production process for longer than one year is recorded under capital formation in equipment. In addition, goods such as bed and table linen, cutlery and crockery which are used in large quantities in hotels are partly regarded as capital formation (when they comprise the initial stock).

Also machinery components are classified as capital formation if they account for a large proportion of the total structure, such as turbines or stationary engines.

Installation work is partly recorded as capital formation as the installed object is sometimes also included in companies' reports.

Gross fixed capital formation in vehicles includes the items in ÖCPA divisions 29 and 30. Also included are tractors just as in the agricultural accounts. Special tyres are also counted as capital formation in vehicles if the values are high enough.

Purchases of cars, caravans, trailers and similar vehicles which are purchased and used by households are not recorded as gross fixed capital formation.

Estimates for goods used as gross fixed capital formation in equipment are made together with estimates for goods used for private consumption on the basis of the commodity flow model. This is dealt with in more detail in chapter 5.7.

1.5.4.3. **Cultivated assets**

Cultivated assets (plants and animals) are also to be recorded as gross fixed capital formation under ESA 2010 rules.

Capital formation in planting are calculated for the agricultural industry and include capital formation in orchards and vineyards.

No capital formation in plants is recorded in Austria for the forestry industry. According to the Manual on the economic accounts for agriculture and forestry (EEA/EAF 97 Rev.1.1), section 2.60.2 and 2.61.6, capital formation in afforestation and reforestation are to include only trees planted for repeated production of forestry products (such as cork, resin, etc.). Trees which are planted for wood and Christmas trees plantations (which produce only a final product a single time) are not fixed assets (cf. Manual EEA/EAF 97 Rev.1.1, 2.60.3).

Planting which is for the repeated production of forestry goods (such as cork) plays virtually no role in Austrian forestry. In practice this item includes, at most, seed orchards for forest trees, which, however, are on a small scale and of little economic significance and are not documented either.

1.5.4.4. **Research and development (R&D)**

GFCF in R&D consists of own account produced R&D and purchased R&D. Basically all R&D is included in GFCF. This also includes government expenditure on freely available R&D. The only exceptions to the treatment of R&D as GFCF are market producers in industry 72 (scientific research

and development). It is assumed that all R&D produced by market producers in industry 72 is sold in the market. Therefore, R&D produced by market producers in industry 72 is not classified as GFCF. Additionally, R&D purchased by market producers in industry 72 is classified as intermediate consumption with the exception of imported patents. Purchases of imported patents are assumed to be used for several years by the purchasing unit and not sold in the market. Consequently, the determined patents are classified as capital formation. BoP Statistics contain information on imported patents. The main sources are R&D statistics, SBS, BoP Statistics and Short Term Statistics. Purchased R&D is valued at purchasers' prices when purchased on the market according to SBS. Own account investment in R&D, for which no such prices are available, are valued at the cost of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.

1.5.4.5. **Computer software and databases**

This item includes major expenditure for software and databases which are purchased or produced on own account and are used for longer than a year (see chapter 5.10.3.7). In the inventory the term **software** is used as an abbreviation for **computer software and databases**.

Capital formation in software is calculated centrally in Austrian national accounts for all ÖNACE divisions and sectors. In order to ensure that the information is recorded correctly in the individual accounts, it is necessary to distinguish between the two categories

- **purchased** software and
- **own account** production of software

Software purchased on the market is valued at purchasers' prices and software produced for own final use on the basis of production costs.

The estimation of GFCF of purchased software is derived from supply and use tables based mainly on SBS and an estimation of the secondary production of software by non-software industries.

The estimation of GFCF in own account produced software is based on employment statistics by means of a supply side approach according to the OECD Handbook on Deriving Capital Measures of Intellectual Property Products 2010 (see chapter 5.10.3.7).

1.5.4.6. **Entertainment, literary and artistic originals**

In Austria, entertainment, literary and artistic originals are regulated by the "Urheberrechtsgesetz" (Copyright Act) which stipulates in §1(1) that works which are protected by the act are "original intellectual creations in the fields of literature, music, the fine arts and film".

Statistics Austria includes in originals the following categories: Literature, TV, films, as well as works by composers and musicians. Radio plays, photographs, images and maps and the fine arts are not included.

The items considered for GFCF in entertainment, literary or artistic originals meet the following general criteria:

- Coverage by copyright
- Original being the end product (primary artistic intent)
- Compliance with capitalisation criteria (life length of more than 1 year)
- Not covered elsewhere in national accounts (e.g. as software originals or valuables)

ESA 2010 proposes the use of the following methods to value originals:

- The price paid by the purchaser when it is sold,
- At a basic price for similar originals if it is not sold,
- The sum of its production costs plus a mark-up (except for non-market producers) for net operating surplus if it is not sold,
- The discounted value of expected receipts

This means that it is primarily the sales price of the original (if it is sold) which is to be used for the purposes of valuation. However, under the economic conditions in this branch it is by no means clear what is to be interpreted as the sale of an original. In accordance with §23(3) "*Urheberrechtsgesetz*" (copyright law), the rights cannot be transferred (only bequeathed). This regulation refers to personal copyright. However, material copyright certainly can be transferred and comprises rights of reproduction, distribution rights, broadcasting rights, performance rights and the, economically less important, rights to payments such as the blank tape levy and payment for retransmission on cable networks.

Sale of the original comes closest to the sale of all exploitation rights (i.e. the granting of exclusive rights) both in economic terms and certainly for the purposes of the new ESA provisions. If the method of assessing sales proceeds is totally unsuitable, the second method for valuing the original, using comparable basic prices, can be applied. However, this approach can only be used for the industrial production of works of art (such as feature films and radio productions) because individual artists have no bookkeeping system by which basic prices could be determined.

The third assessment method, using the production cost, has the same weaknesses as the basic prices approach. Here again, bookkeeping data or similar methods of recording costs are required. In Austria TV and film originals are measured by production costs.

The majority of works of art can thus only be valued by the final method proposed by ESA 2010, namely valuation on the basis of the discounted net present value of future receipts from the economic exploitation of the original. This method is used in all cases where art is produced in non-industrial form and where the original is not sold for a single payment. However, future receipts have to be determined by means of estimates. In Austria this method is used in measuring of the values of literature and music (composers and musicians).

To summarise therefore, where book-keeping records are available on the production of entertainment, literary and artistic originals, they are used. This is the case in, for example, determining basic prices or production costs for film production and TV. In all other cases of artistic

production where this cannot be determined because there are no book-keeping records, the discounted net present value of future receipts is used as a means of valuing the originals produced.

1.5.4.7. Transfer costs and addition to the value of non-produced non-financial assets

In order to meet the requirements of ESA 2010, a separate estimate for transfer costs is made and recorded as capital formation. The estimate is based on the assumption that the costs of land transfer are approximately 10% of the total value of transferred land, which is derived by transaction cost rates as shown in

Table 5.66. The value is shown in the derivation of capital formation in construction in Table 5.63.

The data for the underlying transfers can be taken from the items acquisitions of land and buildings from the Structural Business Statistics.

Table 1.4: Transaction cost rates for land transfers

	Category	Value in percent	
		Minimum	Maximum
1	Broker's fee Maximum of 3% per party (for real estate with a higher current value lower charges are customary)	2 x 2% = 4%	2 x 3% = 6%
2	Land acquisition tax	3.5%	3.5%
3	Charge for registration of title to land	1%	1%
4	Charge for drawing up the contract It is difficult to indicate a percentage for this item since the tariff for notaries ¹⁾ depends on the contract value and is different for rural and urban areas. Examples: Town Country up to approximately 5 million 1.3% 1.2% 5 to 10 million 0.88% 0.86% 10 to 50 million 0.35% 0.35%	0.35%	1.3%
	Total	8.85%	11.8%

¹⁾ See Austrian Notaries Tariff Act, page 21ff.

1.5.5. Changes in inventories

In accordance with ESA 2010 (paragraph 3.146) **changes in inventories** record the value of the entries into inventories less the value of withdrawals (including recurrent losses). For most industries the data available for a reporting year are the book values for the stock of inventories at the end of the current year and the stock of inventories at the end of the previous year (= the stock of inventories at the beginning of the current year). In order to determine changes in inventories the difference between the book values of the opening and the final stock of inventories is adjusted for holding gains/losses.

The Austrian business accounting rules require either a physical stock-taking of inventories or the application of statistical methods the results of which are equivalent to physical stock-taking. The statistical methods applied have to be assessed regularly by actual physical stock-taking. Thus, the survey data based on enterprise book-keeping information take into account recurrent losses.

The main sources of data for estimating changes in inventories are the 1995 Non-agricultural business census and annual Structural Business Statistics. The inventories at the end of the reporting year and at the end of the previous year are surveyed, the ending stock for the previous year being recorded as the opening stock of the reporting year. A distinction is made between five different types of inventories:

- Fuels
- Raw and auxiliary materials
- Goods for resale
- Work in progress
- Finished products (own production)

1.5.6. Acquisitions less disposals of valuables

Valuables are non-financial goods that are not used primarily for production or consumption, do not deteriorate (physically) over time under normal conditions and are acquired and held primarily as stores of value. These include precious stones and metals such as gold and silver bars and coins, antiques and other art objects, such as paintings, sculptures and other valuables (see ESA 2010, Annex 7.1).

Valuables are calculated on the basis of goods, since there is no information of sector classification and activity of the units involved in acquisition or disposal of these goods. For publication purposes such a breakdown is not necessary.

The estimation of gold and silver bars and coins, gold jewellery and pearl jewellery or pearls is based on the Commodity Flow approach and calculated with the Commodity Flow application described in chapter 5.7.3.2. The Commodity Flow calculation also contains acquisitions less disposals of museum collections, which mainly consist of restitutions. For acquisitions less disposals of works of art and antiques short term statistics, Structural Business Statistics, turnover Tax Statistics and ITGS are used as data sources.

1.5.7. Foreign trade

Information on imports and exports of goods and services are being taken from the balance of payments statistics of the Austrian National Bank. Regarding cross-border exports and imports of services the *OeNB* is responsible for calculating cross-border trade in services in the financial sector and *Statistics Austria* (on behalf of the *OeNB*) for calculations in the other sectors.

1.5.7.1. Imports and exports of goods

The main data source for compiling the item imports and exports of goods is the ITGS (Intrastat and Extrastat). The ITGS is described in detail in chapter 10.3.2. In order to obtain imports and exports of goods according to ESA 2010 rules several additions and adjustments to the ITGS have to be made. Under ESA 2010 rules transactions involving processing as well as maintenance and repair work are no longer part of imports or exports of goods. Additional corrections of ITGS concerning non-resident units (VAT-traders) and imports and exports of goods without crossing the border are necessary.

1.5.7.2. Imports and exports of services

Imports and exports of services are calculated essentially on the basis of the respective values taken from the balance of payments statistics⁶. The balance of payments distinguishes between the following cross-border services:

- Processing services on physical inputs owned by others
- Maintenance and repair services not included elsewhere
- Transport
- Travel
- Construction
- Insurance and pension services
- Financial services
- Charges for the use of intellectual property not included elsewhere
- Telecommunications, computer, and information services
- Other business services
- Personal, cultural, and recreational services
- Government goods and services not included elsewhere

1.6. *The balancing or integration procedures and main approaches to validation*

Supply and use tables are used to validate the results of the national accounts. These tables are produced – in accordance with the reporting provisions of ESA 2010 – for the **reporting year [T-3]**, with the values for the reporting year only being reconciled each year. Values and structures from previous years are used for the purposes of comparison and plausibility checking.

The production and goods and services accounts breakdown covers 277 goods and services and 137 activities and it is at this level that the goods and services accounts are balanced. However, some of the supply and use information on goods and services is available at a considerably more detailed level.

It is compulsory for the supply and use tables to be produced at purchasers' price valuations. Another version is also published at basic prices. The original data on the use side are already valued at purchasers' prices but a comparable valuation basis needs to be created on the supply side. Supply and use tables are published at **current** and **previous year's** prices

⁶ The Austrian balance of payments was prepared up to 31 December 2005 by the Austrian National Bank (*OeNB*) under a settlement system (bank transfer statistics). On 1 January 2006 this method of indirect recording of data on flows of payments was replaced by a system of direct surveying at the originators (see Chapter 10.3.2.2).

The balancing procedure is intended to detect and correct any possible inconsistencies. Where necessary, departures from the original data, even substantial ones, are permissible. Major corrections are made in close coordination with the annual national accounts experts responsible for the preliminary calculations.

1.6.1. Classifications and original data

Production accounts are prepared and goods and services accounts balanced at a classification level covering 277 goods and services and 137 activities. The products and activities classifications are presented in detail in chapter 9.4.

The original data for preparing the supply and use tables are the results of the annual production, expenditure and income approaches. Some of this data are already available at the level of breakdown required for balancing but for most of them this product dimension has to be added.

1.6.2. Supply of goods and services

Supply of goods and services is made up of domestic production and imports. A series of steps is required to estimate all its components, broken down by goods and services. A further key stage is valuing supply at purchasers' prices, i.e. estimating the margins and net taxes on individual products.

1.6.2.1. Domestic production

Data on the **production of goods and services** come from the annual production approach. They are initially valued at market prices and are generally not available at the required level of breakdown. Output is, however, already broken down into large categories of goods and services. These large categories of goods and services are surveyed in primary surveys or – where necessary – introduced in the course of the preliminary calculations. Which of these items are actually surveyed for the respective activities is determined by basic technical considerations.

While some of these codes can be allocated clearly to specific goods and services in the balancing classification, additional information is required for them to be assigned correctly in many other cases. This information can be taken from short term statistics (PRODCOM; breakdown of output by product in the manufacturing sector), the general accounts of the Federal State and the *Länder* and the annual reports of large companies (breakdown of output by product in selected industries or firms) Any codes which cannot be clearly allocated using exogenous information are assigned using breakdowns by product from the most recent supply and use table.

In order to ensure that the valuation at purchasers' prices on the expenditure side is consistent with the supply side, the **trade and transport margins** and the **taxes and subsidies on products** must be estimated for each product.

1.6.2.2. Imports

The original value for imports is based on the ITGS for goods and ITSS for services as well as data provided by the Austrian National Bank. All flows are broken down into imports from EU respectively non-EU countries. For the former, a distinction is made between imports from the EURO and non-EURO zones.

The structure of **foreign trade of goods** is surveyed in extremely detailed form (CN⁷ eight-digit codes). This classification can be transferred to the ÖCPA classification and hence to the classification used for balancing. The import values are available at the CIF valuation required for supply and use tables. It is more difficult to break down the imports of **services**. ITSS provides an initial framework, since it is divided up into EPOS items.

1.6.2.3. Taxes and subsidies on products

These are also broken down by product (in most cases on the basis of their designation). In a few cases, the description does not enable an item to be clearly allocated. However, since these taxes/subsidies are already assigned to specific activities during detailed calculation of production taxes and subsidies, it is assumed that these items match the product which is characteristic of the activity.

1.6.3. Use of goods and services

1.6.3.1. Intermediate consumption

The framework values for **intermediate consumption** come from the annual national accounts. Some of these categories can clearly be allocated to specific products. In order to classify the others, information is used from material input statistics, the closed accounts of the Federal State and the *Länder*, annual reports and breakdowns used in the previous year's supply and use tables.

For the other components of intermediate consumption, structures from other sources must be used to classify products. These sometimes come from the commodity flow account (where, for example, "cotton" is recorded in the textile industry) but they are mostly based on the results of last years' balancing process. These provided a valuable source of information, especially for the breakdown of other operating expenditure, and also identified some components of companies' accounts incorrectly reported as part of intermediate consumption, which are no longer recorded as such in national accounts.

1.6.3.2. Final use

Consumption of private households is estimated in very detailed form by product in national accounts in the course of preparing the commodity flow account and other approaches. The results of this account are fed into the balancing process without any further adjustment. Balancing is carried out

⁷ Combined Nomenclature

on the basis of consumption of private households in accordance with the "domestic concept". Conversion to the national concept follows only at a later date.

Final consumption expenditure of general government and private non-profit institutions are primarily calculated as the balance of the non-market production account on the supply side, which also determines how they are allocated in terms of goods.

In the presentation of consumption in accordance with the expenditure method, goods purchased by government on the market which are made available to private households as social transfers in kind are recorded as final consumption expenditure by government. The sources of this information are the closed accounts and the social security statistics. Expenditure for free school books and school trips is, for example, taken from the closed accounts of the Federal Government. The social insurance statistics also provide valuable information on the composition in terms of products of these social transfers in kind.

Reference values for gross fixed capital formation are available by investor branch and various categories from Structural Business Statistics. The following gross fixed capital formation categories are portrayed:

- machinery and equipment
- other civil engineering and construction
- housing construction
- means of transport
- cultivated assets
- purchased and own account software
- entertainment, literary and artistic originals
- purchased and own account research and development

The total volume of gross fixed capital formation per category is determined by the results of the commodity flow account. In the categories *cultivated assets*, *own account software*, *own account R&D and entertainment, literary and artistic originals*, the values calculated in the production approach are used. The breakdown by products is already determined by this source. The other categories are structured on the basis of other sources of information in terms of products. *Self-produced additions to fixed assets* for an activity are booked in the corresponding investment category of the same activity. Results of the commodity flow account are, where possible and suitable, entered directly (such as machinery for producing food in capital formation in equipment for the food industry). In some cases annual reports also provide information on the structure of capital formation products.

Where gross fixed capital formation components cannot be broken down on the basis of other sources, products structures from previous years are used for an initial breakdown. Because they have been checked several times in previous coordination processes, these structures provide a serviceable basis for an initial estimate.

Acquisitions less disposables of valuables are estimated separately for the individual components (art, gold, jewellery and pearls) which also has the effect of determining the relevant products.

Inventories for each activity are broken down in the same way as the associated output or use components (e.g. the energy input inventory is based on the energy purchasing structure etc.).

The same procedure as for imports is also used for **exports**: ITGS and ITSS provide the data with the same adjustments being made as for imports.

1.6.4. Balancing

The above methods provide a supply and use value for each of the products which are compared in the product accounts. At this stage, the two sides are not entirely comparable in terms of value since use is still valued at purchasers' prices including VAT. In order to balance them properly, the non-deductible VAT is subtracted from the values for use using a detailed set of assumptions, after which valuations on the supply and use sides are fully comparable.

A **basic check** of the data for each goods and services account is carried out – irrespective of the size of the difference between supply and use – with specific characteristic figures of the new table being compared with the final results of the last supply and use tables published and with the preliminary tables for the most recent years. This general check covers both the goods and services accounts and the production accounts.

If any implausible structures and developments are ascertained, a more detailed check is carried out on the data on which they are based. Wherever an account is not in balance, an attempt is made to devise a theory for or explanation of the type of discrepancy, which will serve as a basis for further investigation.

During the checking process, it is assumed that some data are more reliable than others. As a rule, supply data are generally regarded to be "harder" than use data, information from primary annual surveys more reliable than information transferred from previous years, etc. The check itself is carried out in several stages:

First of all, the "hard" information from the annual surveys is checked once again, going back to the original sources of information to examine, for example, the production reports from the short term statistics, the raw, auxiliary and operating materials input from the material input statistics or final consumption expenditure of households from the commodity flow account, if necessary at a very detailed level.

If there are still substantial differences once this check has been carried out, not only the structures but also the basic values from the annual national accounts, which were originally regarded as fixed, are checked. In-depth discussions are conducted with the experts to decide how reliable the basic values are and detailed documentation – often at as detailed as unit level – is compiled, which collates the data reported from various surveys with administrative data (turnover tax statistics) and other information which has been obtained by research and offers solutions on this basis.

In the final stage, the focus shifts to the "soft" factors, which include incorrect assumptions on margins and trade channels in the commodity flow account, implausible export quotas, flawed assumptions on

VAT, classification errors, etc. This group also includes errors resulting from transferring previous structures which have to be corrected because, for example, input coefficients change over time.

All these corrections are carried out for each individual goods and services account and differences between goods and services accounts are not, as a rule, eliminated on a *pro rata* basis. Any corrections made are documented and transferred into the system in a form which enables each processing stage to be reconstructed at any time.

1.7. Overview of the allowances for exhaustiveness

The general approach to exhaustiveness can be described as assessing all available sources for the compilation of national accounts against the requirements of the ESA 2010 framework to identify shortcomings of surveys and administrative sources. The aim is to detect possible gaps between what can be directly observed from the statistical sources and what should be measured according to the ESA rules. Since the issues referring to non-observed economy are manifold, there is no general or unique method that can be applied to ensure exhaustiveness of the national accounts aggregates. Therefore, for each particular gap detected the best possible solutions are investigated and implemented. As usual, practicability is an important criterion when choosing amongst theoretically best practices.

As the production approach is the main approach in Austrian national accounts, all steps taken towards exhaustiveness of the estimates focus on that approach. All adjustments made for the production approach are, of course, mirrored in the expenditure and income approach.

Table 1.5: Overview of the allowances for exhaustiveness in the production approach 2017*

N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4: Registered legal person is not included in statistics	N5: Registered entrepreneur is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	TOTAL
Adjustment of output							
in million EUR							
3,235	636	1,964	1,999	335	6,142	2,047	16,357
% of total output (before adjustments)							
0.5	0.1	0.3	0.3	0.0	0.9	0.3	2.4
Adjustment of intermediate consumption							
in million EUR							
0	200	0	1,162	127	1,293	219	3,002
% of total intermediate consumption (before adjustments)							
0.0	0.1	0.0	0.3	0.0	0.4	0.1	0.8
Adjustment of gross value added							
in million EUR							
3,235	436	1,964	837	208	4,849	1,828	13,355
% of GDP (before adjustments)							
0.9	0.1	0.5	0.2	0.1	1.3	0.5	3.7

* including rounding errors

The particular adjustments by type of non-exhaustiveness (N1 to N7) are outlined below.

N1: Producer should have registered (underground producer):

The adjustments made for N1 refer to producers that fail to register because they want to avoid tax and social security obligations or because they are not licenced to carry out a particular activity. The additional estimates are made for the construction of dwellings, for motor vehicle repair, for hairdressers, beauticians and pedicurists, for private tuition and for cleaning services for households.

N2: Illegal producer

In accordance with the requirements of ESA 2010 and Eurostat's recommendations, estimates were made of the extent of drugs trading, illegal prostitution and cigarette smuggling which led to an increase in GDP of around 0.2% for the year 2017.

N3: Producer not obliged to register

This exhaustiveness adjustment comprises estimates for own account construction of both non-agricultural dwellings (one and two family houses) and agricultural dwellings. The first is derived from a representative survey amongst builder owners of one and two family houses, the latter stems from the test network of agricultural units keeping business accounts voluntarily.

N4+5: Registered legal person/entrepreneur not included in statistics

Supplementary estimates are made for companies supplying no information. These are mostly small units not included in the sampling frame for statistical surveys because there was a delay in entering them in the register. The estimates are calculated on the basis of the "VAT test", which compares turnover according to the Structural Business Statistics (BZ 95, SBS) with taxable turnover according to the VAT statistics broken down by industry (ÖNACE two-digit code) and categories (turnover size class). For the industries not covered by the SBS this test was carried out most recently when the non-agricultural business census (BZ 95) was processed. However, data from VAT statistics are the major source for these activities.

N6: Misreporting by the producer:

This adjustment refers to gross output under-reported, intermediate consumption over-reported in order to evade or reduce income tax, VAT or social security contributions. This often involves the maintenance of two sets of books. Undeclared income from non-observed economic activity, especially of small companies was estimated by analysing the data from the 1995 non-agricultural business census. The underlying method was based on a detailed comparison of the income of employees and self-employed and the assumption that any shortfall of the income of self-employed is compensated for by revenues off the books. These estimates represent a significant addition to the basic statistics for the purposes of national accounts.

N7: Statistical deficiencies in the data:

Adjustments for N7 are meant to take into account the fact that the observed data might be incomplete, not (directly) collected or incorrectly handled. In Austrian national accounts they are made for three reasons. Firstly, the data for companies which do not report their data for the entire reporting period (= calendar year) because their fiscal year differs from the calendar year, were extrapolated for the calendar year. Secondly, estimates are made for non-taxed tips for the following activities: accommodation and restaurant services, taxi services and services provided by hairdressers, beauticians and pedicurists. Thirdly, an adjustment is made for own account construction of agricultural buildings.

As a result of the specific approach to surveying data and measures taken to ensure exhaustiveness comparisons of employment are in fact irrelevant in Austria, as all income is already contained in the primary data and the exhaustiveness estimates for national accounts.

According to the Austrian tax regulations, most wages and salaries in kind are liable to both VAT and wage tax, and are, hence, recorded as output and as compensation of employees. However, there are some minor exceptions regarding the liability to wage tax. Therefore compensation of employees is adjusted for non-taxed wages and salaries based on information from the labour cost survey.

Explicit adjustments of national accounts data based on information from tax audits cannot be used to ensure that national accounts calculations are exhaustive, since the audited units are not selected at random and the only characteristic which could be used would be the amount of additional tax paid.

To cover VAT evasion, a Commission decision requires the proportion of the discrepancies between theoretical and actual VAT receipts to be calculated which results from VAT evasion "without complicity". Theoretical VAT is calculated from the input-output statistics, i.e. on the basis of around 250 categories of goods and services both for private consumption and for capital formation and intermediate consumption of companies and activities not entitled to deduct VAT. Actual VAT receipts are ascertained from the receipts of the Federal State, adjusted for the time lag between when the tax debt is incurred and when payment is due.

Evasion of VAT "without complicity" is implicated into GDP in Austrian national accounts under the adjustments for revenues off the books. Austria implements the Commission decision on VAT fraud⁸ (and GNIC/451 Rev.2) by estimating VAT evasion "without complicity" not as a residual but in connection with estimates for revenues off the books, since more accurate assumptions can be made than in the case of VAT evasion "with complicity".

1.8. Transition from gross domestic product to gross national income (GNI)

The definitions in ESA 2010 are used to make the transition from gross domestic product to gross national income. Gross national income is obtained by deducting primary income paid to the rest of the world (compensation of employees, property income, rents, taxes on production and imports) from GDP and adding primary income received from the rest of the world (compensation of employees, property income, rents and subsidies). Table 1.6 shows the transition from GDP to GNI in accordance with ESA 2010.

Table 1.6: Transition from GDP to GNI in accordance with ESA 2010

ESA Code	Transactions and balances
B.1	Gross domestic product at market prices
D.1	- Compensation of employees paid to the rest of the world
D.4	- Property income paid to the rest of the world
D.2	- Paid taxes on production and imports to the rest of the world
D.1	+ Compensation of employees received from the rest of the world
D.4	+ Property income received from the rest of the world
D.3	+ Received and subsidies from the rest of the world
B.5	= Gross national income

Primary income values (compensation of employees, property income as well as paid production and import taxes and received subsidies) are being compiled by the Oesterreichische Nationalbank (OeNB) and taken from the balance of payments statistics⁹.

⁸ Commission Decision of 24 July 1998 on the treatment of VAT fraud for national accounts purposes (and GNIC/451 Rev.2)

⁹ Chapter 10.3.2 provides an overview of the balance of payments statistics.

1.8.1. Compensation of employees

1.8.1.1. Compensation of employees to the rest of the world

All information on compensation of employees to the rest of the world is taken from the balance of payments statistics, where the relevant figures are being collected as follows:

All compensations of non-resident employees (daily commuters) and of persons residing in Austria for less than one year (seasonal workers) are recorded on the debit side of primary income. The compensation is recorded on a gross basis including social contributions paid by the employer. The data sources for identifying non-resident employees and their corresponding compensation, social security contributions and wage tax payments are the wage tax statistics and data from the Umbrella Organisation of Austrian Social Security Institutions.

1.8.1.2. Compensation of employees from the rest of the world

All information on compensation of employees from the rest of the world is taken from the balance of payments statistics, where the relevant figures are being collected as follows:

Based on annual bilateral data exchanges as well as data from Eurostat's annual BOP bilateral asymmetry exercises information about the compensation of Austrian residents that work abroad as daily commuters or seasonal workers is obtained. The annual bilateral data exchange encompasses all neighbouring countries. The compensation of Austrian employees abroad is recorded on the credit side on a gross basis that includes the social contributions paid by the foreign employer.

The facilities of international organizations are treated as extraterritorial entities. Therefore, residents in Austria employed by international organizations like UN or OPEC are treated the same way as border workers in the balance of payments. Vienna Municipal Department 5 provides annual data on compensation of employees of the international organizations located in Austria. As this income is not subject to taxation in Austria, the compensation payments are recorded only on the credit side.

1.8.2. Taxes on production and imports paid to the institutions of the European Union and received subsidies

1.8.2.1. Paid taxes on imports and products to the EU

Austria has to pay to the EU the collected customs duties on products from trade with non-member countries as well as sugar levies. and levies for agricultural products (milk quota). Levies for agricultural products (milk quota) were abolished on April 1, 2015. 25% of the collected customs duties are being reimbursed from the EU to Austria as expense allowances. These values are recorded as exports of government services¹⁰. The Austrian federal ministry of finance provides monthly information regarding these transactions.

¹⁰ According to ESA 2010 rules Austria's payments to the EU regarding value added tax receipts have to be recorded under secondary income.

1.8.2.2. Paid taxes on imports at EU external borders

As the internal European market constitutes a customs union paid import duties also include taxes on imported goods to Austria which are levied at the non-Austrian external border of the EU internal market. Therefore, customs fees on imports from non-EU countries may be charged by the Member State at the EU external border or by the Member State of destination. Hence, it is necessary to estimate the value of customs fees levied at the non-Austrian external border of the EU which is carried by Austrian importers, and to deduct this amount from the imports recorded in the ITGS. For this purpose, the volume of domestic imports is divided into direct imports and imports via another EU country. In the case of direct imports, all customs fees are paid directly in Austria. In the case of imports via another EU country, customs fees are paid on declaration at the EU external border in the other Member State. The amount of paid taxes on imports is being paid to the EU and is recorded on the debit side of primary income under taxes on products.

1.8.3. Received subsidies from the rest of the world

Austria receives payments from the European Agricultural Guarantee Fund (EAGF). Information about EAGF payments are taken from the final budget accounts and are recorded on the credit side either under subsidies on products or other subsidies on production. EAGF payments that are considered as miscellaneous current transfers are recorded under secondary income and EAGF payments that are considered as investment subsidies are part of the capital account and not of the current account.

1.8.4. Cross-border property income

1.8.4.1. Interest

Interest payments on deposits and loans are recorded via monthly direct-reports from domestic entities. There is no threshold applied. The functional classification (direct investment vs. other investment) is derived from master-data (e.g. if a direct investment relationship exists the interest payments is classified as such).

For Portfolio Investment (short-term and long-term debt securities) cross-border flows of interest are identified by the related stocks and flows, which are reported on a security-by-security basis. Interest rate flows are not reported, but calculated on a security-by-security basis.

Concerning financial derivatives, payments resulting from any kind of swap arrangement or transactions under forward rate agreements are recorded as transactions in financial derivatives in the financial account. In the case of Reserve Assets, income is reported by the Accounting and Cash Audit Division of the OeNB. This income is recorded unchanged as investment income of reserve assets. Accrued interest on debt securities are calculated on a security-by-security basis using the monthly security reports that include stock data and the OeNB local securities master database.

The nominal interest rate ("debtor approach calculation") is the main input variable to calculate accruals from the outstanding stocks broken down for each security and each issuer (in case of

liabilities) or each holder sector (in case of assets). Issue and redemption prices are considered in this accruals calculation in order to cover also zero bonds, deep discounted papers and bonds issued at a premium correctly.

Concerning the creditor or debtor approach to calculate cross border flows of accrued interest on debt securities, the debtor approach is used in the case of accrued interest on debt securities.

Regarding the recording of interest with respect to taxes levied on it and with respect to grants for interest, interest is recorded before the deduction of taxes levied on it in the case of Portfolio Investment and Reserve Assets.

Financial services that are paid for indirectly (FISIM) are domestically produced as well as imported and exported. The calculation is done by *Statistics Austria* using mostly data provided by the Austrian National Bank (for a detailed description see chapter 3.17.1.4).

1.8.4.2. Distributed income of corporations

1.8.4.2.1. Dividends

Dividends of direct investment enterprises are reported on a monthly basis by the resident counterpart of the direct investment relationship. For each direct investment relationship, a separate report is compulsory, the threshold applied is EUR 500,000. Dividends paid or received for portfolio investment shares are not collected from respondents, but derived from the securities database in a similar way as accrued interest is derived for debt instruments. The main source for dividends of shares is the Centralised Securities Database (CSDB) operated by the ECB.

Dividends above a threshold of EUR 50 million are examined in cooperation with the respective respondent if they are possible super dividends. If dividend payments (or parts) are not sourced by operational profits, for example, one-off-effects (such as a sale of participation) and large profits carried forward from previous years, they are classified as super dividends. Subsequently they are excluded from income and reallocated to "withdrawal of equity".

For Portfolio Investment - due to the lack of information in terms of disbursement dates for securities - dividends paid or received for portfolio investment shares cannot be exactly recorded at the point in time at which the share price starts to be quoted on an ex-dividend basis, but in conformity with the reported "date of distribution".

1.8.4.2.2. Withdrawals from the income of quasi-corporations

The only form of quasi-corporation is private ownership of real estate abroad (both directions). Income is estimated at a level of 3% p.a. according to the corresponding stock values. Real estate contributes only 1 to 2 percent of FDI-stocks, therefore a cost effective estimation approach is considered appropriate. Concerning recording of the rental value of owner-occupied dwellings abroad and the rental value of owner-occupied dwellings belonging to non-residents the corresponding direct investment incomes on owner-occupied dwellings have to be differentiated from travel. In travel, overnight stays of Austrian residents abroad in secondary residences and vice versa are recognized.

Information on the number of dwellings is gathered from the central register of residents as well as from mirror data. As no information is available a medium exploitation is assumed based on actual overnight stays statistics. Based on the consumption survey medium expenditures are estimated.

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

Reinvested earnings are defined as operating profit minus taxes minus dividends paid. A direct investment enterprise disposes at least 10% ownership of voting capital. For periods where profit and loss accounts are not yet available, provisional forecasts based on a "return to equity ratio" are made: Direct investment abroad profits are estimated by regions, inward direct investment profits are estimated on expectations by industry. Outward indirect links within multinationals are captured via the FDI-survey when above the threshold (for the controlling unit +20 employees and a balance sheet total of at least EUR +1 million). Inward indirect links within multinationals are established via the national business register. Only indirect controlled public limited companies inquired via FDI survey.

By eliminating "extraordinary profits/losses", which are recorded directly in the annual FDI survey, an approximation to the required current operating profit concept is being made. No further information on holding gains and losses is available. Financial and non-financial corporations are treated in the same way.

Reporting of dividends and reporting of the profit and loss account are individually identified so that consistency is ensured between the data source for profits and the data source for distributed earnings. The set of direct investment enterprises is identical in both data sources.

1.8.4.4. Other investment income

As a general remark reference is made to the "BPM6 Compilation Guide" of the International Monetary Fund where Austria has published a case study on insurance, pension schemes, and standardized guarantee schemes.

1.8.4.4.1. Investment income attributable to insurance policy holders

The OeNB uses various methods and data sources capturing cross-border flows of investment income attributable to insurance policy holders. This information mainly is derived from administrative data sources or from the National Accounts.

One of the main data sources is the collection of data on insurance services exports by the Financial Market Authority (FMA) on the basis of EU regulation 1225/1999 regarding the statistics of insurance services within the EU or EFTA area.

The OeNB runs also a survey system among enterprises to compile trade in services. To cover information on imports of life insurance held by households mirror data from other financial market authorities within the EU to cover imports of life insurance are used.

For the compilation of insurance data, information from the national accounts is used as well.

Basically two different types of data sources are used to distinguish resident and non-resident insurance policy holders. In each case – as policy holders are individual households – only the sum of insurance technical reserves attributable either to resident or non-resident households is known:

Non-resident insurance policy holders and cross-border liabilities of resident insurance enterprises are identified by using administrative data from the Financial Market Authority. Resident insurance policy holders or cross border assets of resident households are identified by using mirror data from other financial market authorities in the EU.

The recording of investment income attributable to insurance policy holders follows the lines of compiling reinvested earnings: Premium supplements are recorded in the primary income account as receivable by policyholders. As this is only a hypothetical booking, the same amount enters the calculation of the insurance service charge as premium supplements payable to the insurance company by the policyholder as counter-entry in the services account.

1.8.4.4.2. Investment income payable on pension entitlements

Due to the lack of information (according to the information derived from the Financial Market Authority) there are no data available for the identification and coverage of cross-border flows of investment income payable on pension entitlements.

1.8.4.4.3. Investment income attributable to collective investment fund shareholders

Income earned by domestic shareholders of foreign collective investment funds' equity capital is treated on an accruals basis – regardless of whether it is a distributing or non-distributing fund. Unlike other accruals calculations, this is not implemented as an automated security-by-security approach, but as a yearly estimate per fund category. The income is distributed on a monthly basis. Input parameters are domestic holdings of foreign collective investment funds, coupon payments and rates of return of these institutions. Coupon payments are recorded the same way as dividend payments of shares – on a security-by-security basis (see chapter 8.3.2.1).

1.8.4.5. Rent on land and sub-soil assets

To cover data on cross-border rents paid by the state, information from the final budget account is used. So far no cross-border transactions have been recognized. For covering transactions by private persons a questionnaire is run by the Central Bank on a monthly or occasional basis concerning all types of transactions related to properties and real assets. A threshold of EUR 100,000 is applied.

1.9. Main classifications used

Statistics Austria uses a range of national and international classifications. The main classifications are:

- ÖNACE 2008, the Austrian Version of NACE Rev. 2 (production approach, income approach, input-output statistics)

- ÖCPA 2008, the Austrian Version of CPA 2008 (expenditure approach, input-output statistics)
- COFOG (expenditure approach)
- COICOP (expenditure approach)
- COPNI (expenditure approach)
- Classification of the balance of payments statistics for primary income (transition of GDP to GNI)

The internal working levels, i.e. the respective aggregate levels, are chosen as required.

1.10. Main data sources used

For compilation of National Accounts a huge number of data sources are used. Some sources are used for production, income and expenditure approach as well. As sampling frame of many surveys and as source for plausibility checks one of the main data sources is the **Business register of Statistics Austria**. Also for further enquiries the **Firmenbuch (Commercial register)** is used. Generally used data sources are the **Statistics on Research and Experimental Development**, the **Economic Accounts for Agriculture and Forestry**, the **NPO survey** and the **Material input statistics survey in industry and construction**.

1.10.1. Statistical surveys and other data sources used for the production approach

The most important data source is the **Business Statistics**. The full-scale survey of Non-agricultural business census 1995 was replaced by Structural Business Statistics. The SBS cover enterprises, establishments and local units of ÖNACE 2008 B to N (and S 95). It is a full-scale survey with recording thresholds. The units above the thresholds are surveyed primarily; for the units under the thresholds some values are surveyed secondarily and some are estimated. Another main data source are the Short term statistics for industry and construction for ÖNACE B to F and Short term statistics for trade and services for ÖNACE G to N (excluding certain divisions and groups).

Other important **surveys** used for production approach are the following:

- Microcensus Housing Survey
- Statistics on dwellings and buildings respectively Statistics on building activities.
- Survey of aquaculture production
- Accommodation statistics
- Survey about private educational institutions, kindergartens and universities

There are also many **administrative data and other secondary sources** used:

- Turnover tax statistics
- Turnover tax advance return
- Closed accounts of the Bund, the Länder and the municipalities and public accounts statistics of other units of government sector
- Wage tax statistics
- For FISIM many sources mostly provided by Austrian National Bank and Austrian Treasury are used.
- For the calculation of the Market Making Services data from the balance of payments statistics and monthly reports on investment funds are used
- Data from the Supervisory authority statistics for banks and insurances are provided by the Austrian Financial Market Authority.

1.10.2. Statistical surveys and other data sources used for the income approach

The main data sources for the income approach are **administrative data**:

- Wage tax statistics
- Data from the Umbrella Organisation of Austrian Social Security Institutions
- Income tax statistics
- Registers of public servants of the federation and the federal states (Personalinformationssystem des Bundes PIS, MIS)
- Closed accounts of the Bund, the Länder and the municipalities and public accounts statistics on other units of government sector
- Register-based census

Also **statistical surveys** are integrated:

- Microcensus Labour Force
- Structural business statistics
- Short term statistics

1.10.3. Statistical surveys and other data sources used for the expenditure approach

The main **survey data sources** for expenditure approach are the following:

- Household Budget Survey
- Austrian balance of payments

ITGS

For calculation of exports and imports of services various data sources for cross-border services, travels etc. are used.

- Short term statistics
- Economic Accounts for Agriculture and Forestry
- Statistics on dwellings and buildings
- Price statistics for motor vehicles

The **administrative and other data sources** for expenditure approach are the following:

- Data from the Umbrella Organisation of Austrian Social Security Institutions
- Motor vehicle statistics (registrations)
- Statistics of Austrian leasing associations
- Statistics of Austrian insurance associations
- Closed accounts of the *Bund*, the *Länder* and the municipalities and public accounts statistics on other units of government sector
- Digital communication services (MOSS)

1.10.4. Statistical surveys and other data sources used for the transition from GDP to GNI

The following data sources are used for the transition from GDP to GNI:

- Wage tax statistics
- Income tax statistics
- Data from the Umbrella Organisation of Austrian Social Security Institutions
- Bilateral data exchange of national statistical institutes
- Austrian balance of payments
- Data on sugar levies and levies for agricultural products from the Austrian Federal Ministry of Finance
- Data on payments from the European Agricultural Guarantee Fund (EAGF) from the final budget accounts

2. Revisions policy and timetable for revising and finalising the estimates; Major revisions since the last version of the GNI inventory

2.0. Revision policy and timetable for revising and finalising the estimates

The revision policy of *Statistics Austria* is, of course, closely geared to the deadlines set by the European Union for the transmission of data and aggregates. The requirements of data transmission are usually determined by European law which specifies tables, variables and deadlines. The comments below thus deal with revisions policy in connection with this timetable.

Annual revisions of current national accounts are based on integrating information from individual surveys with differing frequency which may be used to revise preliminary estimates. These include the annual Structural Business Statistics, the five-yearly Household Budget Survey and the Turnover Tax Statistics. Turnover tax data are calculated annually but are not available until three years after a reporting year because of the relevant reporting rules for companies.

Major revisions are carried out only when new concepts and methods are to be implemented or when comprehensive new data sources are available. It is part of *Statistics Austria's* policy not to confuse data users with a large number of major revisions but to identify a body of cases which point to a need for major revisions and to use them as a basis for such revision. A fundamental major revision took place in 2014, when all the national accounts annual data compiled according to ESA 2010 for the first time. The revision comprised the years from 1995 to 2013. The most recent major revision of the whole national accounts time series was carried out in 2017, starting from 1995 onwards (see chapter 2.1.).

2.0.1. General timetable

The following chapter explains the revisions of individual data aggregates based on the actual timetable for their calculation. Publications are geared to the ESA transmission programme.

The transmission programme according to ESA 2010 was adopted as Annex B to Regulation (EU) 549/2013 of the European Parliament and of the Council of 21 May 2013¹¹ and governs the details of the Member States' obligations to supply data by defining tables, variables and deadlines.

The national publication date for the annual national accounts prepared by *Statistics Austria* is usually the end of September every year so that main aggregates data are consistent with non-financial sector

¹¹ Council Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union (OJ L 174/1 of 26.6.2013)

accounts at that time. The quarterly accounts – which are calculated by Statistics Austria from September 2020 onwards (previously prepared by the Austrian Institut für Wirtschaftsforschung (WIFO – Institute of Economic Research) on behalf of *Statistics Austria*) – also adjusted to the annual benchmarks by end of September. According to the ESA 2010 transmission programme there is consistency with regional accounts by end of December every year.

Times for calculations and revisions are given by means of abbreviations in square brackets [t+...] and [T-...]. T stands for the reporting year and t for the deadline 31 December of the reporting year. Values after "+" give the number of months after t and thus describe the time lag for producing data. Values after "-" indicate the number of years prior to reporting year t and describe how many years a given reporting year was prior to the current reporting year. Q indicates the reporting quarter.

Table 2.1: ESA 2010 transmission programme¹²

Table No.	Subject of the tables	Deadline t + months [1]
1	Main aggregates, quarterly	2
1	Main aggregates, annual	2 / 9
2	Main aggregates general government, annual	3 / 9
3	Tables by industry - annual	9 / 21
5	Household final consumption expenditure by purpose - annual	9
6	Financial accounts by sector (transactions) - annual	9
7	Balance sheets for financial assets and liabilities - annual	9
8	Non-financial accounts by sector - annual	9
801	Non-financial accounts by sector - quarterly	85 days
9	Detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including list of taxes and social contributions according to national classifications - annual	9
10	Tables by industry and by region, NUTS level 2 - annual	12 / 24
11	General government expenditure by function - annual	12
12	Tables by industry and by region, NUTS level 3 - annual	24
13	Household accounts by region, NUTS level 2 - annual	24
15	Supply table at basic prices incl. transformation into purchasers' prices - annual	36
16	Use table at purchasers' prices - annual	36
17	Symmetric input-output table at basic prices - five yearly	36
20	Cross-classification of fixed assets by industry and by asset - annual	24
22	Cross-classification of gross fixed capital formation by industry and by asset - annual	24
26	Balance sheets for non-financial assets - annual	24
27	Financial accounts of general government - quarterly	85 days
28	Government debt of general government - quarterly	3
29	Accrued-to-date pension entitlements in social insurance – three yearly	24

in accordance with Regulation (EU) 549/2013 of the European Parliament and of the Council of 21 May 2013

[1] t = Reference period (year or quarter).

¹² The detailed ESA 2010 transmission programme is added as Annex 1 to the inventory.

Statistics Austria publishes **detailed annual national accounts** (main aggregates) at the end of September each year. At the same time, statistical revisions are carried out covering the three years preceding the published year ([T-1], [T-2], [T-3]). New national accounts data are therefore presented over a period of four years with the year [T-3] always being the final version.

Non-financial sector accounts (non-financial/financial corporations, private households, non-profit institutions serving households (NPISH), general government, rest of the world) are supplied at [t+9] and are consistent with the annual main aggregates published at [t+9].

The quarterly accounts have a time lag of t+2 months. Moreover, the quarters are reconciled with the revised annual accounts at the end of September every year, so that the four quarters of the year T are harmonised with the corresponding annual accounts. At the same time as the fourth quarter is published (i.e. end of February), the first annual estimate is produced by aggregating the quarterly accounts prepared by Statistics Austria.

Supply and use tables are produced every year and, hence, integrated into the annual national accounts time series. Provisionally balanced supply and use tables are available for the year T-2. Final supply and use tables (to be transmitted at t+36 according to the ESA 2010 transmission programme) can be implemented for the year T-3.

For the production of **general government data** the deadlines are [t+3] and [t+9] for the supply of **annual data** and [T-1] to [T-3] for the revision of past years. General government data as at [t+3] and [t+9] for the year T-1] are also used to compile annual national accounts in September.

Calculations of government data depend strongly on the corresponding basic statistics being available. A new legal basis for the transmission of data for producing statistics on public accounts to *Statistics Austria* was created with the *Gebarungsstatistik-Verordnung 2014* (Public Accounts Statistics Regulation) (*BGBI. II No 345/2013*, replacing *BGBI. II No 361/2002* and its amendments) in which the transmission deadlines for the units in the general government sector are laid down.

OeNB balance of payments data are subject to the following revision cycle: the monthly balance sheet is used to assess trends, is broken down very roughly and is published in a press release approximately eight weeks after the reporting month. The data are forwarded to the ECB after six weeks (Euro zone aggregate). The ECB expects monthly series which are consistent with the quarter. This makes it imperative for the months to be revised at least when the quarterly balance sheet is forwarded.

The quarterly balance of payment data is available in greater detail and regional breakdown for all current and capital account items. Quarterly data are normally revised after publication of the results of a new quarter in the same reporting year. The first three quarters of a reporting year are, for example, revised at the same time as the data for the fourth quarter are published at T+3 (reporting year plus calendar months). These revisions of the quarterly and annual data are provisionally completed in September at T+9. The final revision of the quarterly and annual data takes place 33 months after the end of the reporting year (T+33). The data then have the status of final results.

2.1. Major revisions since the last version of the GNI inventory other than due to conceptual changes in ESA 2010

2.1.1. Benchmark revision 2017

Major changes and improvements to sources and methods of national accounts were caused by a major revision in 2017 of the whole national accounts time series (1995-2016) which covered following items:

- Further implementation of the 2014/2015 Household Budget Survey
- Integrating new estimates for NPISH, stemming from a thorough analysis to meet the requirements of providing separate data for S.14 and S.15 according to the ESA 2010 TP (derogation expiring in 2017)
- Recording of public broadcasting as non-market production in S.13
- Estimates for digital imports to resident households and digital exports to non-resident households based on data from the Mini One Stop Shop (MOSS) for VAT.
- New estimates for imports and exports in the course of cross border processing of goods without physical cross border movement based on the reconciliation of detailed data on unit level.
- Correction for recently detected misreporting in SBS for units classified in energy supply

Table 2.2: Effect of major revisions on GNI, in million EUR; 2010-2015

	2010	2011	2012	2013	2014	2015
Household Budget Survey	-19	-109	-126	-188	-40	-119
Integrating new estimates for NPISH	556	639	691	763	715	983
Public broadcasting as non-market production	7	69	10	11	-3	25
MOSS	35	53	80	93	136	156
Cross border processing of goods	444	778	657	398	367	510
Correction misreporting in SBS	0	0	0	0	0	0
Total effect on GNI	1,022	1,430	1,311	1,076	1,174	1,553
% of GNI	0.3	0.5	0.4	0.3	0.4	0.5

2.1.1.1. Further implementation of HBS

The Household Budget Survey (HBS) provides information about consumption expenditure, household income and consumer durables held by resident private households. Household Budget Surveys in Austria are implemented as random sample surveys every five years (till 1993/94 every ten years), the current survey for the reporting year 2015 took place from the end of October 2014 until the beginning of November 2015 and was carried out in all nine Austrian regions (NUTS II). The current revision offered the opportunity to analyse the development of several bundles of goods that took place between the previous HBS (2009/10) and the current version; to compare it to national accounts

figures; and to adjust the time series of national accounts consumption of households when it was necessary.

Additionally, in the 2014/15 HBS questionnaire an additional question was newly introduced to acquire information on consumption of health services abroad, with an emphasis on dental services. This has been a major issue for several years, as the opening of the eastern borders in the early 1990s has brought about a kind of “health tourism” that has been hard to capture in the accounts due to data constraints. The newly received information resulted in an adjustment of health travel imports and thus consumption expenditures of households.

The main other changes regard the maintenance and repair of dwellings, electricity, solid fuels, telephone equipment, tools and equipment, household appliances and glasses.

Table 2.3: Household Budget Survey, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)						
Intermediate consumption (at purchasers' prices)	18,81	109.03	126.04	188.29	39.61	118.53
Gross value added (at basic prices)	-18.81	-109.03	-126.04	-188.29	-39.61	-118.53
Taxes on products						
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	259.83	151.40	132.15	- 30.80	368.79	282.30
Final consumption expenditure by households	398.50	330.74	369.93	174.18	587.71	507.61
Final consumption expenditure by NPISH						
Final consumption expenditure by government	-138.67	-179.34	-237.78	-204.98	-218.92	-225.31
Gross capital formation	-278.64	-260.43	-258.18	-157.49	-408.40	-400.83
Gross fixed capital formation	-278.64	-260.43	-258.18	-157.49	-408.40	-400.83
Change in inventories						
Acquisition less disposals of valuables						
Exports						
Imports						
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income	-18.81	-109.03	-126.04	-188.29	-39.61	-118.53
Taxes on production						
Subsidies						
GDP	-18.81	-109.03	-126.04	-188.29	-39.61	-118.53
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	-18.81	-109.03	-126.4	-188.29	-39.61	-118.53

The corresponding counter booking depends on the nature of the good and resulted in revisions of gross fixed capital formation, intermediate consumption and social transfer in kind.

2.1.1.2. Integration of new estimates for NPISH

In the course of the national accounts revision some necessary updates in the field of non-profit institutions (NPI) were also carried out. New NPIs that had been detected by the business register during the last few years were integrated into national accounts calculations (in total 1.163 new units, 441 of which are classified in S.11 and 722 in S.15). Also, sectoral classification of all NPIs according to ESA 2010 rules was reviewed. Sectoral classification was carried out on unit level by taking into account the 50% criterion (total production costs versus sales revenues) and the fact whether an NPI serves private households or financial or non-financial corporations, by using data from sales tax statistics and information from the most recent NPI survey for determining intermediate consumption, personnel expenditures, depreciation of capital and sales revenues. As sales revenues have increased at a significantly faster pace than total production costs for many NPIs during the last years, 775 NPIs had to be reclassified from the institutional sector of non-profit institutions serving households (NPISH, S.15) to the institutional sector non-financial corporations (S.11) because of fulfilling the 50% criteria rule. This leads to decreased output, intermediate consumption, and gross value added for NPISH and correspondingly to increased output, intermediate consumption, and gross value added for NPIs classified as non-financial corporations (S.11). In total, output and gross value added increased for all NPIs (S.11 and S.15) because of the integration of newly detected NPIs from the business register into national accounts estimates.

Since many NPIs with very high sales revenues were reclassified from institutional sector S.15 to institutional sector S.11, and many newly detected NPISH that are characterized by a very low production cost/sales revenue ratio were incorporated, NPISH final consumption expenditure actually increased significantly despite lower output values during the whole reporting period from 2010 to 2015.

The rather large upward revision of output (EUR +983m) in the reporting year 2015 is not only due to the benchmark revision, but partly caused by a routine revision based on information on hospitals, schools and kindergartens (EUR +110m) that has recently become available. Moreover, updated and more complete figures from sales tax statistics for all NPIs classified as non-financial corporations (EUR +30m) were included.

Table 2.4: Integrating new estimates for NPISH, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)	555.57	639.17	690.76	763.11	714.66	982.61
Intermediate consumption (at purchasers' prices)						
Gross value added (at basic prices)	555.57	639.17	690.76	763.11	714.66	982.61
Taxes on products						
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	555.57	639.17	690.76	763.11	714.66	982.61
Final consumption expenditure by households	80.25	85.41	187.61	48.79	-228.84	-391.53
Final consumption expenditure by NPISH	475.32	553.76	503.15	714.32	943.50	1,374.14
Final consumption expenditure by government						
Gross capital formation						
Gross fixed capital formation						
Change in inventories						
Acquisition less disposals of valuables						
Exports						
Imports						
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income	555.57	639.17	690.76	763.11	714.66	982.61
Taxes on production						
Subsidies						
GDP	555.57	639.17	690.76	763.11	714.66	982.61
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	555.57	639.17	690.76	763.11	714.66	982.61

2.1.1.3. Recording of public broadcasting as non-market production in S.13

The treatment of public broadcasting as a non-market producer has various impacts on the recording of its transactions. First of all, the production account is estimated by the sum of cost method and the fees paid for the broadcasting service are no longer recorded as revenue, but as tax instead. The fees formerly allocated to household consumption expenditure are now recorded as D.59; the fees formerly

allocated to intermediate consumption are now recorded as D.29. As there can be no VAT on taxes, the VAT levied on the fees in the case of household consumption expenditure is also recorded as D.59. The figures for VAT and, consequently, for taxes on products are reduced by the same amount.

The total impact on GDP and GNI is shown in the following table for the different approaches, based on detailed unit data from government finance statistics.

Table 2.5: Recording of public broadcasting as non-market production, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)	33.14	96.61	39.37	41.41	22.58	50.57
Intermediate consumption (at purchasers' prices)	-24.00	-23.05	-24.41	-25.25	-30.33	-30.54
Gross value added (at basic prices)	57.15	119.66	63.77	66.66	52.91	81.10
Taxes on products	-50.62	-51.11	-54.11	-55.98	-55.91	-56.31
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	6.53	68.55	9.66	10.68	-3.01	24.80
Final consumption expenditure by households	-556.82	-562.25	-595.21	-615.81	-615.06	-619.37
Final consumption expenditure by NPISH						
Final consumption expenditure by government	563.35	630.80	604.87	626.49	612.05	644.17
Gross capital formation						
Gross fixed capital formation						
Change in inventories						
Acquisition less disposals of valuables						
Exports						
Imports						
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income	33.14	96.61	39.37	41.41	22.58	50.57
Taxes on production	-26.62	-28.06	-29.70	-30.73	-25.59	-25.77
Subsidies						
GDP	6.53	68.55	9.66	10.68	-3.01	24.80
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	6.53	68.55	9.66	10.68	-3.01	24.80

For the year 2015 the table is to be read as follows:

Due to the application of the sum of cost method, output of public broadcasting increased by EUR 51m. Since the fees formerly recorded as intermediate consumption are now shifted to D.29, intermediate consumption is reduced by EUR 31m, resulting in a total effect on gross value added of EUR 81m. Finally, since VAT on the fees paid by households as consumers is shifted to D.59, taxes on products are reduced by EUR 56m, leaving a total impact on GDP of EUR 25m on the production side.

On the expenditure side the amount of EUR 619m for the fees formerly recorded as household consumption are deducted from total final consumption expenditure by households. On the other hand, final consumption expenditure by government of EUR 644m is entered into the account. Hence, the effect on the expenditure side is also EUR 25m.

Finally, on the income side taxes on production are decreased by the amount of VAT shifted to D.59 (EUR 56m) and increased by the amount of intermediate consumption shifted to D.29 (EUR 31m), leading to a total deduction of EUR 26m. Since GDP raised by EUR 25m, residual gross operating surplus raised by EUR 51m, which corresponds with the negative operating surplus under the treatment as market producer.

2.1.1.4. Inclusion of estimates for digital imports to resident households and digital exports to non-resident households based on data from the Mini One Stop Shop (MOSS) for VAT

On January 1st, 2015, the VAT rules for sales of digital services from businesses to consumers changed in the EU. As of that date VAT for cross border supplies of digital services have to be charged in the consumer's country. To ensure cross border data and VAT transfer the EU implemented a web-portal called Mini One Stop Shop (MOSS) as a clearing system that enables taxable persons to make a single tax registration in the state of their head office and to avoid registering in each member state where consumption is taking place. So far the MOSS scheme covers fields of telecommunications, broadcasting, and electronic services (e.g., supply of websites, software, databases, films, music, distant teaching, web-hosting). For statistical purposes the respective VAT data has become available from the national tax authority on unit level starting with the year 2015. They were back casted and implemented in the time series of the rest of the world accounts and private consumption of households.

The implementation of digital telecommunication services due to the first time availability of MOSS figures results in a shift of imports and exports as well as a shift in private consumption of households. Before the implementation of MOSS figures, the volume of the products which are now registered as exported was part of intermediate consumption or gross fixed capital formation, depending on the nature of the underlying products. Thus intermediate consumption and gross fixed capital formation (purchased software) have been reduced by the amount of exports. Net taxes on products have been adjusted accordingly.

Imports are valued at cif whereas private consumption expenditures are valued at purchaser`s prices. Thus, non-deductible taxes on products had to be shifted from intermediate consumption to consumption of private households.

Table 2.6: MOSS, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)						
Intermediate consumption (at purchasers' prices)	-35.15	-53.07	-79.86	-93.02	-135.55	-155.50
Gross value added (at basic prices)	35.15	53.07	79.86	93.02	135.55	155.50
Taxes on products						
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	124.72	168.24	229.67	269.77	333.75	427.78
Final consumption expenditure by households	124.72	168.24	229.67	269.77	333.75	427.78
Final consumption expenditure by NPISH						
Final consumption expenditure by government						
Gross capital formation						
Gross fixed capital formation	-0.51	-0.77	-1.16	-1.35	-1.97	-2.26
Change in inventories						
Acquisition less disposals of valuables						
Exports	15.00	26.01	43.05	49.84	82.18	87.54
Imports	104.06	140.41	191.69	225.24	278.41	357.56
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income	35.15	53.07	79.86	93.02	135.55	155.50
Taxes on production						
Subsidies						
GDP	35.15	53.07	79.86	93.02	135.55	155.50
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	35.15	53.07	79.86	93.02	135.55	155.50

2.1.1.5. Inclusion of new estimates for imports and exports related to cross border processing of goods without physical cross border movement based on the reconciliation of detailed data on unit level

Based on business reports, information from supply and use tables, ITGS and the quarterly survey regarding exports and imports of services, two more Austrian companies were identified that buy unfinished goods from non-resident companies and sell finished goods to other non-resident companies after they have been processed by non-resident companies. As there is no actual physical movement across Austrian borders of the unfinished respectively finished goods, these transactions are not included in ITGS. However, since a change of economic ownership does take place, these imports (buying unfinished products from non-resident companies) and exports (selling finished products to other non-resident companies) have to be captured for national accounts and balance of payments purposes as exports and imports of goods. The inclusion of the newly identified Austrian companies and the implementation of a revised and more elaborated method to estimate these exports and imports for a third Austrian company resulted in an upward revision of goods exports in reporting year 2010 of EUR 943m (2011: EUR 1,198m; 2012: EUR 992m; 2013: EUR 738m; 2014: EUR 682m and 2015: EUR 514m) and also in a corresponding increase in goods imports in reporting year 2010 of EUR 500m (2011: EUR 420m; 2012: EUR 336m; 2013: EUR 340m; 2014: EUR 315m and 2015: EUR 5m). As a result of the revised exports and imports figures, GNI increases by the annual change in net exports.

Table 2.7: Cross border processing of goods, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)						
Intermediate consumption (at purchasers' prices)	-443.74	-778.40	-656.74	-397.83	-366.50	-509.55
Gross value added (at basic prices)	443.74	778.40	656.74	397.83	366.50	509.55
Taxes on products						
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Final consumption expenditure by households						
Final consumption expenditure by NPISH						
Final consumption expenditure by government						
Gross capital formation						
Gross fixed capital formation						
Change in inventories						
Acquisition less disposals of valuables						
Exports	943.28	1,198.35	992.38	738.12	681.71	514.05
Imports	499.54	419.95	335.64	340.29	315.20	4.51
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income	443.74	778.40	656.74	397.83	366.50	509.55
Taxes on production						
Subsidies						
GDP	443.74	778.40	656.74	397.83	366.50	509.55
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	443.74	778.40	656.74	397.83	366.50	509.55

2.1.1.6. Correction for recently detected misreporting in SBS for units classified in energy supply

The entire time series in the section concerning electricity, gas, steam and air conditioning supply (ÖNACE D) was affected by revisions caused by changes in structural business statistics.

Starting with the reporting year 2013, the reports to structural business statistics of some units in ÖNACE D changed. These units reported taxes on products, which had previously not been included in their output. In cooperation with the Directorate Business Statistics, the relevant units were identified and the reports of other respondents were also examined. It turned out that a number of energy suppliers had not been reporting any taxes on products. After they had been contacted by Statistics Austria they corrected their reports to structural business statistics.

In national accounts, taxes on products are part of the output when compiling production accounts at producer`s prices. The latter correspond to basic prices plus other taxes on products less subsidies on products. The transition to basic prices (as demanded by ESA 2010) is carried out by explicitly correcting output by balanced taxes on products and subsidies on products, as shown in the expenditures and revenues of government. However, taxes on products are included in GDP at market prices.

An instant integration of the described modified reporting behaviour would have had a direct impact on value added in ÖNACE 35, which would have increased strongly in 2013, distorting the economic development of the energy sector. In order to present the correct economic development, it would have been necessary to adapt the entire time series according to ESA 2010 by the corrected taxes on products. Thus, the implementation of the new results did not make sense in the usual revision cycle and was therefore postponed.

Now, within the scope of the revision 2017, it could be done: The missing taxes on products in the SBS survey were adjusted by the values of taxes on products from government tax statistics for the entire time series. This led to an increase of output at producer prices in all reporting years, but did not affect economic development.

As shown in the table below, output at basic prices of section D (electricity, gas, steam and air conditioning supply) increased by the newly reported taxes on products from EUR 295m in 2010 up to EUR 513m in reporting year 2015. Although the correction of taxes on products led to a significant increase in value added in the energy supply sector, this had no effect on GDP and GNI since, mirroring the increased energy supply in ÖNACE 35, also intermediate consumption on the supply side increased across all economic sections.

Table 2.8: Correction misreporting in SBS, effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)	294.86	394.70	458.35	514.21	468.80	513.33
Intermediate consumption (at purchasers' prices)	294.86	394.70	458.35	514.21	468.80	513.33
Gross value added (at basic prices)	0	0	0	0	0	0
Taxes on products						
Subsidies on products						
EXPENDITURE APPROACH						
Total final consumption expenditure	0	0	0	0	0	0
Final consumption expenditure by households						
Final consumption expenditure by NPISH						
Final consumption expenditure by government						
Gross capital formation						
Gross fixed capital formation						
Change in inventories						
Acquisition less disposals of valuables						
Exports						
Imports						
INCOME APPROACH						
Compensation of employees						
Operating surplus and Mixed income						
Taxes on production						
Subsidies						
GDP	0	0	0	0	0	0
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	0	0	0	0	0	0

The total impact of the revision items on GDP and GNI is shown in the following table:

Table 2.9: Total effect on GDP and GNI, in million EUR

	2010	2011	2012	2013	2014	2015
OUTPUT APPROACH						
Output (at basic prices)	884	1,130	1,188	1,319	1,206	1,547
Intermediate consumption (at purchasers' prices)	-189	-351	-177	186	-24	-64
Gross value added (at basic prices)	1,073	1,481	1,365	1,132	1,230	1,610
Taxes on products	-51	-51	-54	-56	-56	-56
Subsidies on products	0	0	0	0	0	0
	1,022	1,430	1,311	1,076	1,174	1,554
EXPENDITURE APPROACH						
Total final consumption expenditure	947	1,027	1,062	1,013	1,414	1,717
Final consumption expenditure by households	47	22	192	-123	78	-76
Final consumption expenditure by NPISH	475	554	503	714	944	1,374
Final consumption expenditure by government	425	451	367	422	393	419
Gross capital formation	-279	-260	-258	-157	-408	-401
Gross fixed capital formation	-279	-261	-259	-159	-410	-403
Change in inventories	0	0	0	0	0	0
Acquisition less disposals of valuables	0	0	0	0	0	0
Exports	958	1,224	1,035	788	764	602
Imports	604	560	527	566	594	362
	1,022	1,430	1,311	1,076	1,174	1,554
INCOME APPROACH						
Compensation of employees	0	0	0	0	0	0
Operating surplus and Mixed income	1,049	1,458	1,341	1,107	1,200	1,580
Taxes on production	-27	-28	-30	-31	-26	-26
Subsidies	0	0	0	0	0	0
	1,022	1,430	1,311	1,076	1,174	1,554
GDP	1,022	1,430	1,311	1,076	1,174	1,554
Compensation of employees receivable from the rest of the world						
Compensation of employees payable to the rest of the world						
Taxes on production payable to the institutions of the EU						
Subsidies receivable from the institutions of the EU						
Property income receivable from the rest of the world						
Property income payable to the rest of the world						
GNI	1,022	1,430	1,311	1,076	1,174	1,554

2.2. *Planned actions for improvement*

2.2.1. Implementation of FRIBS/EBS

With the implementation of FRIBS/EBS the coverage of the Structural Business Statistics will be extended to ÖNACE sections P, Q, R and S96 of ÖNACE 2008. This means that data from SBS will be available for all ÖNACE sections with the exception of Agriculture, forestry and fishing (ÖNACE A) and Public administration and defence; compulsory social security (ÖNACE O) starting with the reporting year 2021.

2.2.2. Review of PIM assumptions

At present Austria is participating in the “Task Force on Fixed Assets and Estimation of Consumption of Fixed Capital Under ESA 2010”. It is planned that new evidence from this Task Force that would require adaptations of the current PIM model (described in chapter 4.12) is implemented in the course of the next benchmark revision.

3. The production approach

3.0. GDP according to the production approach

In Austria, the production approach constitutes the basis for calculating GDP. It measures GDP as the difference between value of output less value of goods and services used in producing this output during an accounting period. Detailed production accounts are made for all ÖNACE sections. The calculations are based on the ÖNACE classification, which is the national version of NACE Rev. 2 in Austria. The work levels are the level of ÖNACE sections (two-digit code) or further disaggregated levels, and are chosen in a way that the construction of meaningful aggregations for price and volume measures and for the compilation of supply and use tables is feasible. Within the economic divisions, kind of activity units are differentiated according to their purpose – the distinction between market producers, producers for own final use and non-market producers according to ESA 2010 is strictly complied with.

Table 3.1: Production account total economy (ESA 2010)

Use		Supply	
P.2	Intermediate consumption	P.1	Production
		P.11	Market production
		P.12	Production for own final use
		P.13	Non-market production
		D.21 - D.31	Taxes on products less other subsidies on products
B.1*g	Gross domestic product		
P.51c	CFC		
B.1*n	Net domestic product		

The first of the following tables provides a detailed overview of the breakdown of output, intermediate consumption and gross value added by ÖNACE sections, including a separate row for imputed rents of owner occupied dwellings as a part ÖNACE L as well as the transition from GVA to GDP. The second table shows the same breakdown of output, intermediate consumption and gross value added by ÖNACE sections according to institutional sectors (S.11-S.15).

Table 3.2: Breakdown of output, IC and GVA by ÖNACE sections, in million EUR, year 2017*

ÖNACE Section	Output at basic prices	Intermediate consumption	Gross value added at basic prices	Other taxes on products D214	VAT** D214	Taxes and duties on imports (excl.VAT)** D212	Subsidies on products D31	GDP
A	9,877	5,406	4,471	22			9	
B	2,713	1,525	1,188	1			0	
C	189,614	127,403	62,211	2,211			6	
D	29,674	23,783	5,89	927			0	
E	8,151	4,726	3,424	64			0	
F	54,428	33,279	21,148	10			0	
G	67,967	30,099	37,867	4,858			0	
H	35,737	17,156	18,581	123			679	
I	27,533	10,307	17,225	135			0	
J	25,026	13,303	11,723	65			15	
K	27,14	13,395	13,744	1,386			0	
L	49,203	16,513	32,691	1,11			0	
L_°	23,699	5,813	17,886					
M	34,664	17,015	17,65	58			0	
N	22,058	7,448	14,61	4			0	
O	24,959	8,315	16,644	0			0	
P	21,629	3,831	17,798	0			0	
Q	34,51	11,314	23,196	3			0	
R	6,502	2,318	4,184	605			0	
S	7,881	2,884	4,996	1			0	
T	173	0	173	0			0	
Total	679,436	350,02	329,417	11,581	28,304	769	709	369,362

* including rounding errors

**cannot be split into NACE sections

° Imputed rents of owner-occupied dwellings

Table 3.3: Breakdown of output, IC and GVA by institutional sectors, in million EUR, year 2017*

ÖNACE Section	Output at basic prices				Intermediate consumption				Gross value added at basic prices			
	S.11 + S.14	S.12	S.13	S.15	S.11 + S.14	S.12	S.13	S.15	S.11 + S.14	S.12	S.13	S.15
A	9,859		18		5,391		15		4,468		3	
B	2,713		-		1,525		-		1,188		-	
C	189,613		0		127,403		0		62,211		0	
D	29,674		-		23,783		-		5,890		-	
E	7,927		224		4,573		153		3,353		71	
F	54,428		-		33,279		-		21,148		-	
G	67,967		-		30,099		-		37,867		-	
H	29,678		6,059		14,579		2,577		15,099		3,482	
I	27,506		26		10,284		23		17,222		3	
J	23,754		1,272		12,662		640		11,092		632	
K		27,064	76			13,323	72			13,741	3	
L	47,369		1,834		15,631		881		31,738		953	
L_°	23,699		-		5,813		-		17,886		-	
M	33,426		1,195	43	16,647		343	25	16,779		852	19
N	21,217		842	-	6,993		455	-	14,224		386	-
O			24,959	-			8,315	-			16,644	-
P	1,296		18,336	1,998	511		2,854	466	785		15,482	1,531
Q	10,833		14,939	8,739	3,451		5,160	2,703	7,382		9,779	6,036
R	4,394		1,722	386	1,630		632	55	2,764		1,090	330
S	3,573		1,781	2,526	1,123		847	915	2,450		934	1,611
T	173				-				173			
Total	565,399	27,064	73,282	13,692	309,566	13,323	22,967	4,164	255,833	13,741	50,315	9,528

* including rounding errors

° Imputed rents of owner-occupied dwellings

3.1. Reference framework

The production aggregates are compiled by the team "Production Approach", which is part of the national accounts division (see Figure 1.2).

Output is on the supply side of the production account and represents the value of all goods and services produced during the accounting period (ESA 3.14). According to ESA 2010 three types of output are distinguished in Austrian calculations, market production (P.11), production of goods and services for own final use (P.12) and non-market production (P.13). The distinction determines the valuation principles to be applied to output. Market output and output produced for own final use are valued at basic prices unlike output of non-market producers is valued by summing up the costs of production.

Market production covers the production of goods and services that are sold or shall be sold on the market (ESA 3.1) and is calculated in the simplest case as sales plus changes in output inventories.

Production for own final use includes self-produced goods and services that are used by an institutional unit for its own final consumption (e.g. dwelling services produced by owner occupiers) or for capital formation (e.g. own account R&D and software). Products retained for own final consumption can only be produced by the household sector, while products used for own capital formation can be produced by any sector. Non market output is output, that is provided to other units for free or at prices that are not economically significant. It is produced only in the government sector and private non-profit sector.

Intermediate consumption is on the use side of the production accounts and measures the value of goods and services consumed, processed or transformed in the production process (ESA3.88). IC is valued at purchasers' prices.

The variables used to calculate output and intermediate consumption are listed in the respective chapters 3.7-3.26.

The basis for calculating production accounts is a reliable business register. It plays an essential role in the construction and maintenance of an integrated economic information system, serving multiple purposes. One important purpose is to provide high quality data needed for the compilation of national accounts. It is the sampling frame for many of the surveys which are integrated into national accounts. Furthermore it is crucial for the purpose of analyses during the compilation process.

Generally the business register includes – with the exception of Agriculture, forestry and fishing (ÖNACE A) and Activities of household employers (ÖNACE T), investment and real estate funds (ÖNACE 64.30-1), renting out of private accommodations and renting of real estate by private households – all economic divisions. It covers active enterprises above a certain threshold (either employment of at least one employee or annual sales of over EUR 10.000) and the information is based on at least two administrative sources.

The following units are included in the register:

- Legal entities
- Enterprises
- Establishments
- Local units
- Units of government sector
- Private non-profit organisations
- Non-profit institutions serving businesses
- Unincorporated enterprises

Their allocation to institutional sectors is in line with the requirements of ESA 2010.

Units identified as unincorporated enterprises are partnerships (“Personengesellschaften”) and sole proprietorships (“Einzelunternehmen”). Partnerships are allocated as quasi-corporations to sector 11 (non-financial corporations), sole proprietorships usually to sector 14 (households). In Austrian national accounting it is ensured that branches (unincorporated enterprises belonging to a non-resident unit) are included and branches abroad are excluded, as this is already taken into account in the SBS, the

main data source of national accounts. Branches (unincorporated enterprises belonging to a non-resident unit) are identified by the Austrian Business Register on the basis of information from company register and reported to EGR. Branches abroad are generally not included in the SBS, as it is pointed out that the reporting units have to exclude them. In addition, Business Statistics (SBS...) identify branches abroad in the process of plausibility checks. In the case of about 80 large and complex cases that are scrutinized by the profiling team, information exchange with partner countries is operated via partner exercises in the Interactive Profiling Tool IPT, which is part of the European Profiling Programme.

Special Purpose Entities (SPEs) are identified by the classification department of Statistics Austria. However, in order to identify SPEs Statistics Austria collaborates closely with the Austrian National Bank, that calculates financial accounts in Austria. Most of the SPEs are identified in the first place by the National Bank based on significant cross-border financial transactions being reported by very small units and a qualitative analysis of these units implementing the recommendations of the final report of the IMF Task Force on SPEs. In addition, the classification department of Statistics Austria takes into consideration all available information like information from administrative registers as tax register or social insurance register. The SPE's from business register are submitted to the Euro Group Register (EGR).

The classification of a unit as SPE and the further classification of the SPE as a certain type (non-financial, financial) is based on a discussion involving experts from Financial Accounts, National Accounts, Business Statistics and the classification department. The type of SPE is decided based on the EUROSTAT Template on the typology of SPEs presented in the Final report of the IMF Task Force on SPEs (p 25 - 28)

As SPEs being part of foreign Multinational Enterprise Groups must not be consolidated with the parent company and have to be treated as institutional units according to SNA 2008 and BPM 6, output of SPEs is in general valued like the output of any other institutional unit according to SNA 2008. This is also the case in relation to the ownership of assets.

When SPEs are involved in the economic activity of leasing of ships or aircrafts the question of ownership of the assets will be treated according to the recommendations of the Final Report of the EUROSTAT taskforce on Ships and Aircrafts (2017).

Austrian Business Register identifies resident units belonging to foreign Multi National Enterprise groups (MNE) on the basis of information on ownership relations and residency from company register, FATS, EGR and data from the National Bank. The Austrian Business Register reports information on ownership relations within enterprise groups to the EGR and in return gets information on these issues from EGR in order to facilitate a coherent presentation of enterprise groups and the related ownership relations. Whereas ownership relations are identified on an automated basis in most of the cases, the profiling team of Statistics Austria works manually on the consistent presentation of about 80 very large and complex enterprise groups. In addition to information from company register, FATS and EGR the profiling team takes into consideration information from company reports, group reports and from partner exercises in the Interactive Profiling Tool IPT which is part of the European

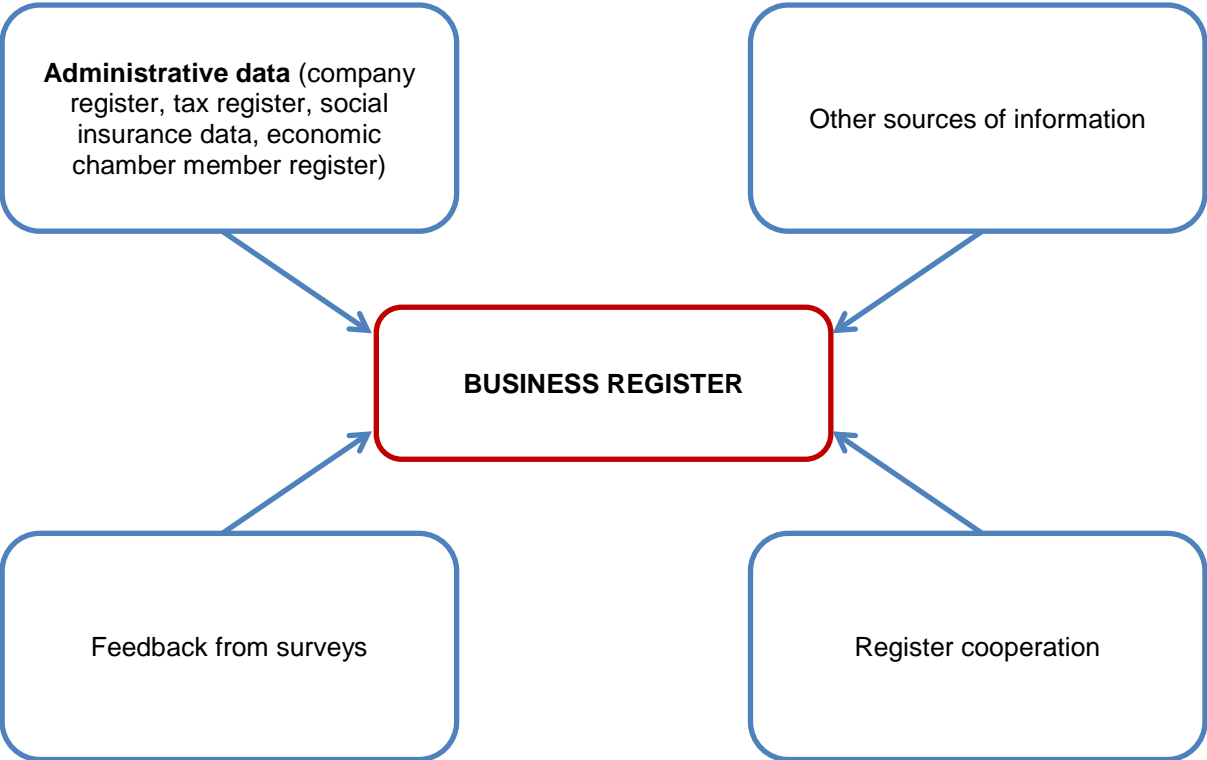
Profiling Programme. The results are reported to EGR and information from EGR is used in profiling with the aim of a coherent presentation of the group in EGR across countries.

To ensure exhaustiveness in national accounts, units that are not represented in the business register have to be estimated. In this context the VAT test is the appropriate tool as it compares turnover according to the business surveys with the taxable turnover in VAT statistics broken down by industry (ÖNACE two-digit-level) and size classes (turnover strata). The VAT test is specified in chapter 7.1.3.4.

The primary intention of the business register is to provide all necessary information on enterprises for the implementation of surveys (name, address, type of economic activity, size of the enterprise, etc.). This information is taken from different administrative sources. The business register is continuously serviced - new units are recorded, existing units are reviewed and no-longer-active units are deleted. In the corporate sector new listings and deletions are carried out on a monthly basis, in the non-profit sector the updating of institutional units is done on a quarterly basis. The public sector is constantly maintained and coordinated with national accounts.

The main sources of the business register are shown in the following figure:

Figure 3.1: Sources of the business register



The assignment of the economic activity classification ÖNACE is relevant for all statistics of *Statistics Austria*. The same assignments are used by all other producers of statistics and by all administrative registers.

Units that are not obliged to register are of course still included in national accounts. Units in agriculture, forestry and fishing (ÖNACE A) are recorded in a separate register (the Agricultural and Forestry Register). The calculation of the renting out of private rooms is described in chapter 3.15 and in chapter 7.1.3.4. Calculations of the renting out of dwellings by private households use data from the Buildings and Dwellings Register (see chapter 3.18).

Estimations for hidden and illegal production are described in chapter 7.

In ESA 2010 a distinction is made between institutional units, which are grouped together to form the five institutional sectors, and local activity units, which are intended to represent technical and economic circumstances. The economic unit best suited to depict the production process is, according to ESA 2010, the "local kind of activity unit". The kind of activity unit, which is generally called a "Betrieb" (establishment) in Austria, covers all the parts within an institutional unit which contribute to exercising a productive activity at class level (four digits) of the NACE Rev.2. The local kind of activity unit is the part of a kind of activity unit which is found at the local level (local unit).

The kind of activity units which must be available for statistical information in order to produce production and income generation accounts (output, intermediate consumption, compensation of employees, etc.) are classified according to their economic activity and are grouped to form industries. The classification used (ÖNACE 2008) is a slightly more detailed version of NACE Rev. 2 (see also chapter 9.1). All production accounts are produced on the basis of ÖNACE either at division level (two-digit code) or at a more detailed level.

Annual national accounts use a large number of data sources. Basically, a distinction between surveys – usually carried out by *Statistics Austria* – and administrative data or a combination of both has to be made. Information from business reports completes the data. The main data sources for national accounts are the Structural Business Statistics (SBS), Short Term Statistics, Turnover Tax Statistics, Microcensus, ITGS etc. Their coverage, periodicity and theoretical background are described in detail in chapter 9.

The Statistical Business Register (URS) is basically filled with information from the Business Register for Administrative Purposes (URV), which is updated daily for some sources and weekly for others (see below).

Table 3.4: Schedule updates

Sources for Register for Administrative Purposes	Update
Register of companies	daily
Register of associations	weekly
Austrian Chambers of Professionals	weekly/daily
Austrian Economic Chambers	weekly
Tax information system	daily
Agriculture and Forestry Holding Information System	daily

There is a daily update of the URS with data from the URV. Additional input for the URS is gained from the Umbrella Organisation of Austrian Social Security Institutions, from administrative registers

for schools and kindergartens, from survey feedback, from register cooperation with the Austrian National Bank as well as from particular research (e.g. internet search).

3.2. The borderline cases

The contents of national accounts are determined not only by the conceptual framework, definitions and classification of the system but also by the ways in which they are interpreted and implemented in practice. Although simple and precise concepts and classifications may appear in principle, there are inevitably difficult borderline cases which cannot easily be fitted into predetermined categories.

The following borderline cases in **production** are treated as follows:

- Rough estimates of mineral exploration in section B suggest that expenditures are insignificant. Since no existing data sources provide further information on expenditures for mineral exploration activities, there is no separate calculation for mineral exploration.
- The income statements of engineering enterprises record self-produced machine tools as own-account production. This accounting position is surveyed in the Structural Business Statistics (SBS) and hence used as input for the production accounts.
- Production also includes own-account construction of dwellings by households and communal construction undertaken by groups of household as described in chapter 3.12.1.
- The production of entertainment, literary and artistic originals is recorded in ÖNACE J (see chapter 3.16) and ÖNACE R (see chapter 3.24).
- Own-account software and own-account research and development are estimated in separate calculations and afterwards added in the production accounts (see also chapters 5.10.3.6 and 5.10.3.7)
- Production of vegetables and fruits in private domestic gardens is not included in the economic accounts for agriculture (EAA) and therefore needs to be added for purposes of national accounts (see chapter 3.7.1).
- Dwelling services produced by owner-occupiers are part of housing in Austrian national accounts and included in production as imputed rents (see chapter 3.18.1)
- Household services produced by employment of paid domestic staff are recorded in ÖNACE T (see chapter 3.26) and cleaning services provided as non-observed activity are booked in ÖNACE 81.2 (see chapter 3.20).
- There is evidence to suggest that volunteer activities that result in goods do not have any economic relevance in Austria. For this reason volunteer activities are not included.
- Products used for payment in kind are not recorded separately, they are part of the normal economic cycle and therefore recorded in the industry in which they are produced.
- The same applies to products bartered.
- Concerning products supplied by one local KAU (kind of activity unit) to another within the same institutional unit a supplement is made. These consistency checks are based on information of SBS, the production of local KAUs within the institutional unit is compared to the production of

the institutional unit. If production of local KAUs is above production of the institutional unit an adjustment is made.

- In general changes in the inventories of finished products and work in progress are included in market output (see chapter 5.11). The same applies to the economic accounts for agriculture: Work in progress comprises wine, livestock for slaughter, all poultry and other animals, with the exception of fixed asset animals.

Borderline cases included in intermediate consumption:

- Operating leasing costs are part of the income statement of enterprises, surveyed by the SBS and therefore included in intermediate consumption in production accounts.
- Use of small tools must either be recorded as private consumption, or intermediate consumption. ESA 2010 is quite vague in its definition of small tools, so *Statistics Austria* has decided to interpret ESA 2010 3.89f literally. Goods that are listed in this paragraph were identified at the basis of ÖCPA 6 digit in the commodity supply. Private consumption of small tools is determined on the basis of HBS updated by trade statistics, whereas intermediate consumption is calculated as residual.
- Non-profit institutions serving businesses are a special case. According to ESA 2010 §3.35 they are usually financed by contributions or subscriptions from the group of the businesses concerned. The subscriptions are treated not as transfers but as payments for services rendered, i.e. as sales. These NPIs (non profit institutions) are therefore market producers and are classified as non-financial corporations or in the financial corporations sector. As these subscriptions are booked as production of the non-profit business associations, they are also included in intermediate consumption of the enterprises that paid the subscriptions.
- As mentioned above, consistency checks are made concerning products received from another local KAU of the same institutional units. Intermediate consumption of local KAUs is compared to intermediate consumption of the institutional unit. If the IC of the local KAUs is above IC of the institutional unit an adjustment is made.
- The treatment of non-life insurance service charges is described in chapter 3.17.2.3 in detail.
- The allocation of FISIM among resident producers is in line with ESA 2010 §14.15. In Austria information based on stocks of loans and deposits among user industries is not reliable, so the allocation is based on the output of each industry.
- It is assumed, that R&D purchased by market producers in industry 72 is used in the production of further R&D services within the same year. R&D purchased by market producers in industry 72 is classified as intermediate consumption with the exception of imported patents. Purchases of imported patents are assumed to be used for several years by the purchasing unit. Therefore these patents are classified as investment. BoP statistics contains information of imported patents.
- Expenditure by employees, reimbursed by the employer, on items necessary for the employers' production (e.g. business trips) are within the coverage of business statistics as well as goods and services used as inputs into ancillary activities and therefore part of intermediate consumption in the production account.

The following borderline cases are excluded from intermediate consumption:

- Valuables are non-financial assets which primarily serve as a store of value (not for production or consumption) and normally retain their physical value over time. These include precious metals and stones including jewellery, antiques and works of art and other valuables. Acquisitions less disposables of valuables are part of gross capital formation. Chapter 5.12 gives more details.
- Purchased and own-account software and purchased and own-account research and development (R&D) are part of production and gross fixed capital formation (GFCF). Purchased R&D is deducted from intermediate consumption to be in line with ESA 2010.
- The explanations referring to capital formation in SBS include remarks that major repairs and improvements have to be included in gross fixed capital formation (GFCF) and not in intermediate consumption which is in line with national accounts requirements.
- Expenditures to be treated as purchase of non-produced assets, e.g. long-term contracts, leases and licenses are not transactions in products and therefore not included in intermediate consumption.
- In the SBS the following explanation notes appear in connection with expenditures by employers to be treated as wages and salaries in kind: "*Wages and salaries in kind have to be included in the category "gross wages and salaries". These benefits in kind include all goods, services and other benefits that are provided to the employees free of charge or at a reduced price, such as e.g. meal vouchers, privately used company cars a.s.o.*"

These instructions also meet the requirements of national accounts, which say that these expenditures by employers shall not be included in intermediate consumption.
- Production of collective services is recorded on the output as well as on the consumption side and not included in intermediate consumption.
- Goods and services produced and consumed within the same accounting period and within the same local KAU are not recorded in the business statistics and therefore not included in calculations of production and intermediate consumption.
- Payments for government licenses and fees are part of the "government tax list" provided by STAT and treated in national accounts as other taxes on production.
- Intermediate consumption includes transactions in products. Rents ("Pacht") of using natural resources are part of property income and not part of the intermediate consumption recorded in the SBS.
- The occurrence of terminal costs of considerable size can be ruled out for Austria, as there are no nuclear power stations or oil rigs in the country. Major clean-up costs with respect to landfill sites are recorded as GFCF when they occur.
- Daily allowances received by employees on business trips are fully included in wages and salaries.

3.3. Valuation

Valuation is done in accordance with ESA 2010.

Total **market output (P.11)** is valued at basic prices. As enterprises report producers' prices and not basic prices in the sources used, output is first calculated at producers' prices. The transition to basic prices is done in a second step on ÖNACE two-digit level by adjusting the output for precisely determined taxes and subsidies on products:

Table 3.5: Transition from producers' prices to basic prices

Valuation at producers' prices
- Taxes on products, except VAT and import taxes (D.214)
+ Other subsidies on products (D.319)
= Valuation at basic prices

Since there are no import subsidies (D.311) in Austria, it is only other subsidies on products (D.319) that have to be added to achieve valuation at basic prices. The taxes and subsidies used are taken from the government account.

Output produced for own final use (P.12) has to be valued either at the basic prices of similar products sold on the market, or, if such prices are not available, at the costs of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income.

In Austria valuation is mainly done at costs of production (intermediate consumption, compensation of employees, consumption of fixed capital, other taxes on production less other subsidies on production). Important examples are own-account products reported in the SBS, own-account R&D (see chapter 5.10.3.6) and software (see chapter 5.10.3.7). To take the corresponding net operating surplus or mixed income into account, an explicit estimation is added (except for non-market producers). The estimation is done by applying the ratio of operation surplus to output on the basis of structural information from surveys, for example from the SBS or the BZ 95, with BZ 95 (see chapter 10.1.1.1) being used for those ÖNACE divisions that are not covered by the SBS (ÖNACE 85 to 93 and 96).

For those own-account products, for which output is not valued at the costs of production, valuation is carried out as follows:

Valuation at basic prices of comparable products is possible for imputed rents (see chapter 3.18), own-account construction of non-agricultural dwellings (see chapter 3.12) and output of ÖNACE 97 (see chapter 3.26).

Entertainment, literary or artistic originals are valued according to ESA 2010 § 3.136, c (see chapter 5.10.3.8).

The **total output of a non-market producer** (a local KAU) is by definition valued at the total costs of production, i.e. the sum of intermediate consumption, compensation of employees, consumption of fixed capital, other taxes on production less other subsidies on production. If total output of a non-

market local KAU covers market, non-market and own final use output, **non-market output (P.13)** is obtained residually as the difference between the value of its total output and the sum of its market output (determined by its receipts from sales of market products) and output for own final use. Non-market output is subdivided into two items: Payments for non-market output (P.131), which consists of various fees and charges, and other non-market output, which is output provided for free. To calculate other non-market output (P.132) payments for non-market output (P.131) are deducted from non-market output (P.13).

Intermediate consumption (P.2) is valued at purchasers' prices. Detailed information is directly available from the sources used.

As required by ESA valuation of **changes in inventories (P.52)** is consistent with that of output and intermediate consumption. For most industries the data available to calculate changes in inventories are the book values for the stock of inventories at the end of the current year and the stock of inventories at the end of the previous year (= the stock of inventories at the beginning of the current year). In order to determine changes in inventories being valued in accordance with ESA 2010 the difference between the book values of the opening and the final stock of inventories is adjusted for holding gains or losses (for description of calculation see chapter 5.11). The stocks of inventories are subdivided into five types: fuels, other materials and supplies, goods for resale, work-in-progress and finished goods (from own production). Changes in inventories of finished goods and work-in-progress are included in output, with work-in-progress being valued in the same way as finished goods. Changes in inventories of fuels and other materials and supplies are deducted from intermediate consumption. Changes in inventories of goods for resale are deducted from purchases of goods for resale, which are part of the calculation of the trade margin (see chapter 5.11).

ESA requires flows to be recorded on an accrual basis; that is, when economic value is created, transformed or extinguished. Information for that is directly available from the sources used, since the transactions are recorded when they take place, giving rise to claims and obligations, independently of the payment. For application of the accrual principle to the estimates of taxes and subsidies see chapters 3.28 and 3.29.

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

3.4.1. Adapting survey data

Most of the data for enterprises used in the production approach are obtained from statistical surveys specifically designed for this purpose. Consequently the survey questions and the corresponding explanation notes are mainly in line with the requirements of ESA 2010. However, *Statistics Austria* has to balance between what businesses understand and are able to provide with the needs of statistics for national accounts.

Various sources are used to calculate gross domestic product. For market producers of ÖNACE sections B to N and S95, the Structural Business Statistics (SBS) is the most important source. The SBS provides information on revenues, expenditures, inventories, capital formation and employees. It is checked for statistical non-recording or underrecording and supplemented where necessary (see chapter 6). Individual survey variables were also corrected with additional information from the 2017 supply-use tables in order to adjust them to the national accounts methodology.

The following adjustments were made in all industries:

- ESA 2010 is quite vague in its definition of small tools, so *Statistics Austria* has decided to interpret ESA 2010 3.89f literally. Goods that are listed in this paragraph were identified at the basis of ÖCPA 6 digit in the commodity supply. Private consumption of small tools is fixed on the basis of HBS updated by trade statistics, whereas intermediate consumption is calculated as residual. See also chapter 5.7.3.3.3.
- The explanation notes to SBS contain detailed information regarding questions to major repairs and renovations. Intermediate consumption has to include current maintenance costs of buildings and may not include value increasing major repairs and renovations.
- In accordance to ESA 2010 changes in inventories cover the value of the entries into inventories less the value of withdrawals (including recurrent losses). For most industries the data available for a reporting year are the book values for the stock of inventories at the end of the current year and the stock of inventories at the end of the previous year (= the stock of inventories at the beginning of the current year). In order to determine changes in inventories the difference between the book values of the opening and the final stock of inventories is adjusted for holding gains and losses. These adjustments are necessary, because the time of recording and the valuation of changes in inventories have to be consistent with other transactions in products to ensure consistency.
- The production of entertainment, literary, artistic originals and software is a two-stage process and generates output from both stages: the first stage is the production of originals, the second stage is the use of originals. The original can be used in different ways: The owner of the original may use it directly or use it to produce copies in subsequent periods. If the owner has licensed other producers to make use of the original in production, the fees, commissions, royalties, etc. received from the licenses are the output of services. See also chapter 3.16 and chapter 3.24.
- The treatment of research and development and its impact on production and GFCF is described in detail in chapter 5.10.3.6.
- The insurance premiums treated in company accounts as operating expenditure and reported in statistical surveys as other operating expenditure are adjusted to the insurance service charge concept. At first a global calculation is carried out with final consumption of insurance services being deducted from total insurance services and the remaining insurance services assigned to producers. Allocation to individual industries is based on information from the most recent supply and use table. Since other operating expenditure includes the gross premiums paid, any claims for which payments are received are deducted so that only the net amount paid for insurance services remains.

- Financial intermediary services indirectly measured (FISIM) is a national accounts concept derived to measure production of financial intermediation services that is not paid for directly by users but is charged for indirectly by financial institutions by demanding a higher interest rate on loans and paying out a lower interest rate on deposits than they could.
- Financial services consisting of acquiring and disposing of financial assets and liabilities in financial markets (short: Market Making Services) is a national accounts concept that measures production of financial services that occurs when financial institutions buy or sell securities (or equities, investment fund share and foreign currencies) and indirectly levy a service charge by applying a margin to the market value of the security.
- Both FISIM and Market Making Services are produced domestically only by financial institutions in ÖNACE 64.19 and are imported as well. They are used as intermediate and final consumption by all other economic sectors and for export. See more detailed information on the calculations of FISIM and Market Making Services in chapter 3.17.1.4 and 3.17.1.5.
- Some components of the variable "Other operating expenditures" contain parts that are not treated as intermediate consumption according to ESA 2010. These adjustments are checked in the balancing process with the supply and use tables and reduce intermediate consumption. Value added increases by the same amount.
- Output of wholesale and retail services is expressed in terms of the margin by deducting goods purchased for resale from the revenue. The same applies to other activities in which output is defined in terms of the margin, such as banking and insurance, lotteries, etc.
- If output produced for own final use is valued at costs of production, an explicit estimation is added (except for non market producers) to take the corresponding net operating surplus or mixed income into account.
- Financial leasing as defined in ESA 2010 does not exist in Austria (see chapter 3.17.1) Operational leasing is recorded both as supply and use. The main data source to identify operational leasing is the Structural Business Statistics, where producers have to report their revenues from or their expenditures on operational leasing (measured by the value of the rental paid) (see chapter 3.20)

Table 3.6: Size of the various conceptual adjustments by ÖNACE sections, in million EUR, year 2017*

ÖNACE Section	Allocation of FISIM	Market making services	Taxes on products	Subsidies on products	Deduction on other operating expenditures	Expenditures on claims due	Expenditures on small tools	Holding gains and losses	Own account software	Research and development	Entertainment, literary or artistic originals	Total conceptual adjustments
A	-158	-3	-22	9	-	-	-111	-	3	2	-	-280
B	-17	-1	-1	-	1	6	-1	-4	8	6	-	-4
C	-1,233	-56	-2,211	6	705	288	-568	-823	707	6,083	-	2,898
D	-197	-9	-927	-	256	36	-13	-13	52	43	-	-771
E	-54	-2	-64	-	34	19	-5	-21	2	9	-	-83
F	-328	-15	-10	-	36	72	-242	-304	184	85	-	-521
G	-468	-21	-4,858	-	1,671	325	-84	-517	655	409	-	-2,889
H	-187	-8	-123	679	398	115	-1	-25	95	12	-	955
I	-178	-8	-135	-	891	57	-74	-25	15	0	-	544
J	-154	-7	-65	15	97	25	0	-14	170	525	33	625
K	-463	-506	-1,386	-	501	52	0	-	225	14	-	-1,565
L	-1,463	-7	-1,110	-	116	560	-8	-43	8	10	-	-1,937
L [°]	-1,272	-	-	-	-	315	-	-	-	-	-	-957
M	-215	-10	-58	-	115	190	-4	-30	182	415	-	585
N	-137	-6	-4	-	136	55	-26	-6	46	12	-	71
O	-	-	-	-	-	-	-	-	-	-	-	-
P	-8	0	0	-	-4	-	0	-	-	7	-	-6
Q	-91	-3	-3	-	100	40	-2	0	22	3	-	66
R	-32	-1	-605	-	151	12	0	0	18	7	172	-278
S	-23	-1	-1	-	52	9	-36	-1	27	1	-	27
T	-	-	-	-	-	-	-	-	-	-	-	-
Total	-5,408	-665	-11,581	709	5,255	1,861	-1,176	-1,826	2,420	7,642	205	-2,563

[°] Imputed rents of owner-occupied dwellings

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

Data for most industries are based on direct methods. The main data sources are sample surveys and administrative records. In Austria data from statistical inquiries and administrative data cannot always be separated. For example, the Structural Business Statistics (SBS) is largely a survey source, but supplemented by some administrative data. The column "Combined Data" in the process table displays the SBS in Austria.

The production approach is based on the SBS which is designed as a full-scale survey with recording thresholds and an increased use of administrative data. It covers ÖNACE sections B-N and S95.

Additionally a wide range of surveys is considered. Detailed information on main data sources is provided in chapter 9.

Table 3.7: Estimation methods used in production accounts

ÖNACE Section	Surveys and Censuses	Administrative records	Combined data	Benchmark extrapolations	Commodity flow	CFC (PIM)	Dwellings stratification method	FISIM	Insurance	Quantity * price
A		X	X							
B			X							
C		X	X							
D			X							
E		X	X							
F		X	X							
G			X							
H		X	X			X				
I		X	X	X						X
J		X	X			X				
K		X	X	X				X	X	
L		X	X			X	X			
L [°]		X					X			
M		X	X			X				
N		X	X			X				
O		X				X				
P	X	X				X				
Q		X				X				
R		X				X				
S		X	X			X				
T										

[°] Imputed rents of owner-occupied dwellings

In those ÖNACE sections where models are used, they are regularly revised and adapted, for example the stratification model for imputed rents or FISIM is recalculated each year, based on current data (see chapters 3.17 and 3.18). In the government sector (S.13) consumption of fixed capital (CFC) is part of the production side and also calculated annually. The same applies to the insurance services (see chapter 3.17.2), for which the model calculations are also carried out every year.

For some ÖNACE sections not surveyed by the SBS still references are made to the non-agricultural business census (BZ 95). The main data source for estimating production is the taxable turnover. For intermediate consumption the ratio between value added at constant prices and output at constant prices (net rate at constant prices) is taken to estimate IC. Inventories are also calculated by quota.

Detailed calculation methods are described in the respective chapters (3.23 - 3.25). Due to the following reasons the estimations can be regarded reliable or do only have a minor impact on GNI:

- The share of value added (at producer prices) calculated by estimation models accounts for only 2.8 % in 2017. Please consider that output is calculated on the basis of current data sources (mainly taxable turnover), so that the estimation error is limited.
- The biggest share of the concerned value added is produced in ÖNACE 86.2. To re-assess the estimation model for IC the German cost structure survey in the medical sector was used. Hence, a quite equal development for the costs concerning IC could be observed.
- The share of value added without ÖNACE 86.2 amounted to only 1.3 % in 2017.
- Inventories are of only of minor relevance in ÖNACE Q, R and S. In 2017 they range in sector 11 and 14 from € +0,0m in ÖNACE 87-88 to +0,9m in ÖNACE 93.
- All calculations are assessed in the annual supply and use tables.
- With the implementation of FRIBS/EBS the coverage of the Structural Business Statistics will be extended to ÖNACE sections P, Q, R and S96 of ÖNACE 2008. This means that data from SBS will be available for all ÖNACE sections with the exception of Agriculture, forestry and fishing (ÖNACE A) and Public administration and defence; compulsory social security (ÖNACE O) starting with the reporting year 2021.

Additionally in some ÖNACE sections business reports are used to get more detailed information (ÖNACE sections F, H, Q, R, S). ÖNACE section I (Accommodation and food service activities) is mainly within the coverage of the SBS, but due to discrepancies between the SBS and a price x quantity approach of accommodation services an additional benchmark extrapolation based on the non-agricultural business census (BZ 95) and further on supply and use tables is conducted (see chapter 3.15).

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

Austria makes significant efforts to ensure its national accounts are of the highest quality. This starts by making informed decisions about whether to use administrative or survey sources within the production account and culminates in balancing these measures through the supply and use process explained in chapter 6. Numerous measures have been applied to ensure that any relevant economic activity that is not captured within source data is accounted for. The adjustments for exhaustiveness can mainly be classified in accordance with the following aspects:

- adjustments for underrecording in economic statistical surveys (particularly small units which are not in the survey's sampling frame)
- adjustments for units that report data for a business year different from the calendar year
- adjustments for deliberately incomplete data reported for output and income (e.g. revenues off the books)
- supplementary estimates for producers who deliberately refrain from registering (e.g. non observed work)
- supplementary estimates for units which are not obliged to register (e.g. private households)

- estimates on the extent of illegal activities in accordance with Eurostat Task Force recommendations
- other adjustments (e.g. tips)

The following table shows the size of the various exhaustiveness adjustments in the breakdown of NACE sections and types of non-exhaustiveness. The approaches for ensuring exhaustiveness are outlined and subsequently described in detail in chapter 7.

Table 3.8: Exhaustiveness adjustments, in million EUR, year 2017*

ÖNACE section	N1: underground producer	N2: illegal producer	N3: producer not obliged to register	N4&N5: Registered producer not included in statistics	N6: Mis-reporting by the producer	N7: statistical deficiencies	Sum
A	0	0	0	0	0	33	33
B	0	0	0	0	2	2	4
C	0	0	0	91	390	17	498
D	0	0	0	14	5	0	19
E	0	0	0	9	24	0	33
F	1,427	0	1,964	248	258	11	3,908
G	433	216	0	163	1,043	12	1,868
H	0	0	0	77	127	70	273
I	23	0	0	229	1,687	1,554	3,494
J	0	0	0	7	49	11	67
K	0	0	0	0	0	0	0
L	0	0	0	0	0	2	2
L [°]	0	0	0	0	0	0	0
M	0	0	0	155	222	4	381
N	950	0	0	51	50	5	1,055
O	0	0	0	0	0	0	0
P	172	0	0	0	25	0	198
Q	0	0	0	0	349	0	349
R	0	0	0	0	540	0	540
S	229	220	0	0	78	105	631
T	0	0	0	0	0	0	0
Total	3,235	436	1,997	1,045	4,849	1,795	13,355

* including rounding errors

° Imputed rents of owner-occupied dwellings

3.7. Agriculture, forestry and fishing (ÖNACE A)

Table 3.9: Classification for ÖNACE A – Agriculture, forestry and fishing

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
01	01		Crop and animal production, hunting and related service activities
02	02		Forestry and logging
03	03		Fishing and aquaculture

The calculations on ÖNACE division 01 "Crop and animal production, hunting and related service activities" are carried out on the basis of data provided by the Economic Accounts for Agriculture (EAA). A satellite accounts to the national accounts, the structure of the EAA is closely aligned with that of national accounts but they contain additional information and have been adapted to the particular nature of the agricultural industry. As some of the rules differ from the general ESA 2010 rules, the results of the EAA need to be adapted for use in the national accounts. Data are adjusted, inter alia, for own-account production of goods by private households, in order to cover production of fruit and vegetables in domestic gardens and, for wine production, where adjustments are made to avoid double counting.

The transactions of ÖNACE division 02 "Forestry and logging" derive from the Economic Accounts for Forestry (EAF), which are among a collection of forest related environmental and economic statistics comprising the European Forest Accounts (EFA).

3.7.1. Agriculture and hunting (ÖNACE 01)

The Economic Accounts for Agriculture are based on the concept of the local kind of activity unit or industry. This ensures that the EAA remain consistent with national accounts and that the EAA are more closely aligned with economic reality in agriculture in as much as certain (inseparable) non-agricultural secondary activities are taken into account in the overall production activity of agricultural units.

The local kind of activity unit used in the EAA is the agricultural holding, which - after adjustment to cater for ESA aims in accordance with specific agreements - represents the basic unit of the industry. The output of units for which agricultural production is merely a leisure activity is not recorded in the EAA and therefore features in the bridge tables for the national accounts as these, unlike the EAA, enter production in domestic gardens, for example, as part of the industry's output.

In order to produce the EAA, the output of all agricultural products, except those produced by non-agricultural kind of activity units in the course of secondary activities, has to be valued.

The agricultural secondary activities of non-agricultural units may, however, be seen as marginal and by convention are deemed to be zero (on the assumption that the agricultural production of a non-agricultural unit can always be identified separately by the special nature of the products and the agricultural means of production as well as the sources of data and methods used to produce the

EAA). Total agricultural output is accordingly recorded in the EAA (except for production of units for which agricultural activity merely represents a leisure activity).

The use of the local kind of activity unit as the basic unit of the EAA entails recording non-agricultural secondary activities where they cannot be separated from the main agricultural activity. Examples are the processing of agricultural products on holdings, vacations on farms, etc.

The output of the agricultural industry thus stems from two types of activities:

- agricultural activities (main or secondary) carried out by agricultural units and
- inseparable non-agricultural secondary activities of agricultural units.

For the purposes of national accounts, the agricultural industry is defined as all units which – either exclusively or in conjunction with other secondary economic activities – exercise the activities listed in division 01 of NACE Rev. 2 "Crop and animal production, hunting and related service activities", which comprises:

Group 01.1: Growing of non-perennial crops;

Group 01.2: Growing of perennial crops;

Group 01.3: Plant propagation;

Group 01.4: Animal production;

Group 01.5: Mixed farming;

Group 01.6: Support activities to agriculture and post-harvest crop activities;

Group 01.7: Hunting, trapping and related service activities.

The list of characteristic agricultural activities of the EAA essentially corresponds to these seven groups of activities but there are some differences. This is taken account of in implementing EAA data in national accounts by compiling "bridge tables".

Transition from EAA to national accounts

- Crop production

- Vegetables and fruits

Production of vegetables and fruits in private domestic gardens is not included in the EAA and therefore needs to be added for purposes of the national accounts.

Estimates of production of private domestic gardens are taken from the Supply Balance Sheets.

- Wine

In order to avoid double counting, output of wine in wine-making cooperatives is deducted from the EAA figures. The estimate is made on the basis of the Short Term Statistics and Structural Business Statistics.

As the output of wine produced in wineries is not included in the EAA, no adjustments are necessary in this regard.

➤ Production of non-agricultural products for own account

A supplement for self-production is added for agricultural buildings, self-produced software and self-produced research and development.

Table 3.10: Conversion EAA to national accounts, 2017, in million EUR ^{13*}

	EAA	National accounts ¹⁾	Diff.
<i>CEREALS (including seeds)</i>	754	754	0
<i>INDUSTRIAL CROPS</i>	281	281	0
<i>FORAGE PLANTS</i>	483	483	0
<i>VEGETABLES AND HORTICULTURAL PRODUCTS</i>	653	670	18
<i>POTATOES (including seed potatoes)</i>	90	90	0
<i>FRUITS</i>	220	260	40
<i>WINE</i>	581	524	-57
<i>OLIVE OIL</i>			
<i>OTHER CROP PRODUCTS</i>	4	4	0
CROP OUTPUT	3,067	3,067	0
<i>ANIMALS</i>	1,944	1,944	0
<i>ANIMAL PRODUCTS</i>	1,640	1,640	0
ANIMAL OUTPUT	3,584	3,584	0
AGRICULTURAL GOODS OUTPUT	6,650	6,650	0
AGRICULTURAL SERVICES OUTPUT	252	252	0
OUTPUT OF ACTIVITIES INVOLVING GROSS FIXED CAPITAL FORMATION OF NON-AGRICULTURAL PRODUCTS FOR OWN ACCOUNT		35	35
AGRICULTURAL OUTPUT	6,903	6,938	35
NON-AGRICULTURAL SECONDARY ACTIVITIES (INSEPARABLE)	415	415	0
OUTPUT OF THE AGRICULTURAL INDUSTRY (at market prices)	7,317	7,352	35
OUTPUT OF THE AGRICULTURAL INDUSTRY (at basic prices)	7,302	7,340	38
TOTAL INTERMEDIATE CONSUMPTION	4,075	4,068	-7
GROSS VALUE ADDED	3,228	3,273	45

* including rounding errors

¹⁾ Excluding the general government sector.

3.7.1.1. Output of the agricultural industry

Output of the vast majority of products is determined using the formula "quantity x price". Agricultural production statistics (harvest statistics, livestock surveys, slaughter statistics, etc.) and the statistics on producer prices in agriculture and forestry play an important part in calculating the value of agricultural output. These statistics are compiled by *Statistics Austria* either by means of primary statistical surveys or use of administrative data. The supply balance sheets for crop and animal products, farm structure surveys and the agricultural price indices also provide essential information.

A series of non-specific agricultural statistics such as ITGS and official data sources of other institutions like *Agrarmarkt Austria* or the *Bundesministerium für Landwirtschaft, Regionen und*

¹³ No adjustments are made for differences in rounding (this applies for all tables with numerical data).

Tourismus (BMLRT – Federal Ministry for Agriculture, Regions and Tourism) also feed into the EAA. Supplementary information is also obtained from producers' associations and chambers of agriculture.

Measurements of agricultural output reflects the specific characteristics of agricultural industry by including parts of the production consumed by the agricultural units themselves if this output relates to two different basic activities (such as crop products used as feed). The reason for booking intra-unit consumption of feeding stuffs in the EAA as output and intermediate consumption is that an agricultural holding is considered as just one local kind of activity unit even when several different activities at NACE four-digit level are carried out at the holding. As deliveries between local kind of activity units within an institutional unit are to be recorded as output and intermediate consumption in accordance with ESA 2010, this EAA rule represents an adjustment to ESA rules.

The value of agricultural output is calculated using a series of tables on quantities, prices and values of the products of the various agricultural activities. Production is obtained gradually in these tables in the form of a progressive calculation for individual activities or groups of activities.

Output of the industry is ultimately calculated from the individual data on supply and use. In accordance with the EAA definition, the output of agricultural activities can be depicted as follows:

Table 3.11: Components of agricultural output

Uses	Agricultural output of the agricultural industry
Sales (total except for trade of animals between agricultural holdings)	X
Change in stocks (at producer level)	X
Own-account capital formation (plantations yielding repeat products, productive animals)	X
Own final consumption (of agricultural products)	X
Processing by the producer (of agricultural products; separable activities)	X
Intra-unit consumption:	
➤ for the same activity (seeds, milk for feeding, wine grapes and olives for olive oil, hatching eggs)	
➤ for another activity	
- Crop products used for animal feed (cereals, oil seeds, fodder crops, marketable or not, etc.)	X
- Animal by-products used in crop production (liquid and solid manure)	

The quantities are multiplied by the prices to produce the values. Output is initially calculated at market prices. Subsequently subsidies on products are added and taxes on products deducted in order to value it at basic prices. Subsidies and taxes on products are based on federal or regional budget forecasts and final accounts, data from *Agrarmarkt Austria* and further calculations carried out by the *Bundesanstalt für Agrarwirtschaft und Bergbauernfragen* (Federal Institute of Agricultural Economics, Rural and Mountain Research).

Crop production

Crop production is recorded within EAA at the time of harvesting. Growing crops (such as cereals on the stalk) are not treated as stocks of work in progress and are therefore not recorded as part of output.

The starting point for the calculations are data for gross output of crop products of the harvest surveys of *Statistics Austria* determined on the basis of cultivated areas and yields. In the case of those products for which there is no annual harvest survey the EAA uses, inter alia, area data from the Farm Structure Surveys as well as information from relevant experts (chambers of agriculture etc.).

Useable output is calculated from gross output less losses. Losses in principle refer to current losses at producer level which are made up of field losses, harvesting losses and other farm losses (due to product perishability). As the data from the harvest statistics have already been adjusted for field losses (as a result of for example, extreme climatic conditions such as frost and drought) only harvesting and other farmyard losses are taken into account in calculating data for the EAA. These can normally only be estimated and the EAA bases its estimates on supply balance sheet assumptions and consultation with relevant experts.

The total available resources are calculated from the useable output plus initial stocks. Initial stocks are the stocks of finished or unfinished products at the industry's holdings (i.e. at producers) at the beginning of the reporting year. In the absence of original data, certain assumptions have to be made in the EAA with regard to the initial and final stocks of various crop products in agricultural holdings which are made in consultation with the relevant experts.

One possible use of crop products may be, depending on the product, intra-unit consumption in the form of seed, feed or other intra-unit consumption (i.e. processing of grapes for wine). Intra-unit consumption as seed and wine grapes used for wine production are not included in measuring the output of the industry as these are products which are used internally by the same agricultural activity. By contrast, feed used for intra-unit consumption is counted as part of agricultural output (and hence also intermediate consumption), since the two activities are from different four-digit levels of NACE Rev.2.

In the Austrian EAA, internal consumption of crop products is determined for the product groups cereals, industrial crops (oil seeds, protein crops), potatoes, forage plants and wine grapes.

For the purposes of monetary valuation of output the statistics on agricultural and forestry producer prices is used for most products. Additional information for individual products that are not recorded in the official price statistics (e.g. hops, nursery products, ornamental plants and flowers) is collected from trade associations, producer organisations, chambers of agriculture and other institutions. Valuation of forage crops is a special case. As these crops are largely uninvolved in market activities, it is difficult or even impossible to survey representative prices. For this reason the Austrian EAA uses production costs for the valuation of forage crops.

Calculations are made first at market prices and subsequently subsidies on products are added and/or taxes on products deducted in order to obtain a valuation at basic prices. In the past subsidies on

products for crop products comprise area premiums and product premiums. In 2005 most crop premiums were however decoupled and the decoupled payments are classified as "other subsidies on production".

Animal production

The output of animal production is calculated in the same way as crop production in principle but differs due to the available data and the different mode of production. There are two main groups within animal production: a) animals and b) animal products.

A. Animals (productive livestock, breeding livestock and livestock for slaughter, including poultry)

The basis for determining livestock output are livestock numbers, slaughtering statistics and ITGS. The statistics on agricultural and forestry producer prices are used for monetary valuation of slaughtered animals and/or stocks.

Livestock output is calculated for cattle, pigs, horses, sheep, goats, poultry and other animals. It corresponds to the change in numbers in the individual categories, i.e. the difference between additions (particularly births) and disposals. As it is generally not possible to measure this directly, production is valued on the basis of animals slaughtered (plus exports and minus imports of live animals) and changes in the livestock population. The changes in the livestock population between the beginning and the end of the accounting year are, depending on the type of animal, entered either in changes in stocks (for animals for fattening and poultry) or gross fixed capital formation (for animals classed as fixed assets like breeding animals).

Table 3.12: Calculation of livestock output

Animals slaughtered
+ Exports of livestock
- Imports of livestock
= Gross indigenous production
+ Changes in inventories
+ Gross fixed capital formation
= Output

The basic source of the data for determining the output of poultry is the housing data from the Austrian Quality Poultry Association (QGV) for broilers and turkeys. Specific fattening periods are assumed for the appropriate assignment of output to period. In addition, an estimate agreed with relevant experts is made in order to balance any under-recording.

The output of hunting is recorded under the 'Other animals' heading. This output is determined using the amount of game (number of game shot according to hunting statistics by weight), valued at prices as hunted (according to agricultural and forestry producer price statistics) or selling prices to the trade.

B. Animal products

Animal products comprise milk, eggs, raw wool and honey. Output of milk is determined separately for cows, ewes and goats' milk.

The most important data source for determining output of **cows' milk** is the milk statistics of *Statistics Austria* which records total raw milk volume in a calendar year and its use for human consumption or feed. Output of milk at producer prices is calculated as the sum of milk delivered to dairies, use for own final consumption and direct sales (as milk for drinking or in the form of butter, cheese and other processed products), valued at the average selling price according to data of Agrarmarkt Austria and an average price for direct sales based on expert estimates. For the monetary valuation of the quantities of milk for direct sales an additional mark-on to the selling price for supplies to dairies is charged. The milk used in agricultural holdings for feed is not taken into account in calculating the output volume. Output at basic prices is calculated by deducting taxes on products (which in the case of milk comprise the additional levy for exceeding the milk quota which existed till the end of March 2015 and the agricultural marketing contributions for milk) and adding any subsidies on products.

Output of **ewes' and goats' milk** is calculated from gross output according to the milk statistics of *Statistics Austria* less losses and feed within the agricultural holding. Milk statistics data is also used for assigning output to the individual usage categories (fodder, processing, human consumption). The value is calculated by multiplying the quantities by average producer prices for direct marketing and for supply to dairies according to information from the chambers of agriculture and breeding associations for sheep and goats.

The item **eggs** refers exclusively to eggs for human consumption¹⁴. Calculations are made separately for hens' and ducks' eggs (although output of the latter is negligible). Gross output of hens' eggs is calculated in the same way as in the supply balance sheets from the average stocks of laying hens, the average laying rate and the average weight of eggs, with eggs for hatching being deducted to obtain production of eggs for consumption. The monetary value of output is calculated on the basis of a weighted average annual price for all marketing channels and sales categories. For the purposes of calculating output at basic prices the agricultural marketing contributions are to be deducted as taxes on products.

Determination of the output of **honey and sheep's wool** is primarily based on estimates by experts.

The output of the agricultural industry is not accounted for exclusively by production of agricultural goods, i.e. crop and animal products. It also includes agricultural services and the production of inseparable non-agricultural secondary activities.

Agricultural services

Since all agricultural services simultaneously represent intra-unit consumption of the agricultural industry, the output of agricultural services corresponds to the intermediate consumption item "Agricultural services" on the uses side of the production account. The latter is derived from data from

¹⁴ Eggs for hatching are regarded as a semi-finished product of poultry production in the EAA.

the farm accountancy data network (FADN, see explanation in chapter 3.7.1.2). Until the abolition of the milk quota system per 1. April 2015, the output of services also included income from the renting of milk quotas.

Inseparable non-agricultural secondary activities

Output of inseparable non-agricultural secondary activities in the Austrian EAA is, like agricultural services, calculated on the basis of the records of the national FADN (farm accountancy data network). The average revenue from direct marketing, agricultural ancillary operations and guest accommodation is extrapolated to federal level using an area key derived from the Farm Structure Survey.

3.7.1.2. Intermediate consumption in agriculture

Intermediate consumption in agriculture is both purchased from other industries and other agricultural holdings and produced and consumed within the same unit (in the case of animal feed). The EAA distinguishes between the following intermediate consumption items:

- seeds and planting stock¹⁵;
- energy, fuels and lubricants;
- fertilisers and soil improvers;
- plant protection products and pesticides;
- veterinary expenses;
- animal feedingstuffs;
- maintenance of machinery and equipment and buildings;
- agricultural services;
- financial intermediation services indirectly measured (FISIM);
- other goods and services¹⁶.

Only consumption in agricultural holdings but not consumption in farmers' private households (in respect of, for example, energy or maintenance costs for buildings) is recorded in the EAA.

The key data source for determining intermediate consumption is the national farm accountancy data network, which is a network of representatively selected agricultural and forestry holdings, which keep detailed records (natural data, records of monetary transactions, inventory book) for the purposes of agricultural statistics (Green Report of the BMLRT). This voluntary keeping of accounts is based on

¹⁵ Seed produced and consumed internally during the same accounting year is not recorded.

¹⁶ Many different types of intermediate consumption are recorded under "other goods and services". These include, for example, expenditure on low-value durables and telephones, general administrative expenditure (for postage, technical journals, writing materials, etc.), membership contributions, fees for associations and inspections, expenditure for EDP and office machinery (valued at less than EUR 400), consumables and accessories, disposal costs, some expenditure for crop cultivation (such as consumable materials for crop cultivation, supporting material for tomatoes, etc., expenditure for wine-making such as vinification articles) or for livestock holding (slaughtering and inspection fees, purchase of animal semen and embryos, other animal husbandry expenditure) and certain types of expenditure which can be directly assigned to inseparable secondary activities such as marketing and advertising expenditure for direct marketing.

business criteria and is therefore different to financial accounting in which taxation aspects are to the fore. For the purposes of the EAA the average expenses per hectare of reduced agricultural area are extrapolated to national level using an area key derived from the Farm Structure Survey. As the sampling frame for the holdings keeping accounts does not entirely match that for the agricultural industry as defined in the EAA, some additional estimates (such as for expenditure on market gardening, which is largely excluded from the sampling frame for the holdings keeping accounts) and certain deductions (for example, small forests which are also recorded in the EAF and would therefore be duplicated) have to be made when the extrapolated accounting data are used in the EAA.

Table 3.13: Production account – agriculture, in million EUR, year 2017*

ÖNACE A	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section A	On total GVA	On GDP	On GNI
01	7,352	12	7,340	4,068	3,273	73.3%	0.9%	0.9%	0.9%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.14: Production account by sector – agriculture, in million EUR, year 2017*

ÖNACE 01	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.92		0.08		100
- Intermediate consumption at purchasers' prices	99.88		0.12		100
= Gross value added at basic prices	99.97		0.03		100
in million EUR					
Output at basic prices	7,340		6		7,346
- Intermediate consumption at purchasers' prices	4,068		5		4,073
= Gross value added at basic prices	3,273		1		3,274

* including rounding errors

3.7.2. Forestry (ÖNACE 02)

Division 02 'Forestry and logging' of NACE Rev. 2 comprises of the following classes:

02.1: Silviculture and other forestry activities;

02.2: Logging;

02.3: Gathering of wild growing non-wood products;

02.4: Support services to forestry.

Data on the economic activities of the forestry industry derive from the extended economic accounts for forestry (EAF). The EAF resemble a macroeconomic calculation that is used to determine the economic aggregates of the forestry and logging industry and to measure its economic performance.

The relevant aggregates taken from the EAF concern the output and intermediate consumption of goods and services as well as the gross value added by the forestry industry.

In addition to the national accounts, the EAF are reported to Eurostat within the framework of the European Forest Accounts (EFA). The EFA constitute a module of the European Environmental Economic Accounts (EEEA), which are consistent with the system of national accounts, ESA 2010. In 2019, the Austrian EAF had been adapted to meet the standardized reporting system of the EFA, which included the removal of previous methodological deviations from the national accounts and the compilation of concept bridge tables to adjust the EAF results. These were linked to the different arrangements for recording forestry output in the former Austrian EAF and the national accounts.

The previous EAF approach considered timber output at the time of felling, while standing timber was not regarded as work-in-progress stock, unfinished products respectively. In accordance with the national accounts, the EFA distinguish between forestry and logging, which means that the EAF had to be adapted/extended to account for both the additions to and withdrawals from timber stocks. The output value of timber thus comprises the biological (net increment of forest trees) as well as the technological production of timber (harvest of wood in the rough). The value of the standing timber harvested is to be recorded as intermediate consumption of logging.

The following time series for both production and intermediate consumption for the years 2009 to 2017 were derived from the EAF and are part of the current national accounts.

Table 3.15: Time series for output, intermediate consumption and value added, in million EUR*

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Output	1,897	2,251	2,592	2,545	2,547	2,464	2,381	2,250	2,340
Intermediate consumption	948	1,164	1,349	1,315	1,323	1,268	1,267	1,201	1,266
Value added	949	1,087	1,244	1,230	1,224	1,196	1,114	1,049	1,074

* including rounding errors

3.7.2.1. Output of the forestry industry

Forestry production mainly comprises production of raw wood.

Wood in the rough

The EAF books the production of wood in the rough at the time of felling. Output can therefore be measured on the basis of timber felling reports compiled by the BMLRT and the agricultural price statistics at current and constant prices.

The timber felling report serves as primary indicator for the annual logging activities in Austria. The EFA adopt the quantities of felled timber directly from the annual felling reports to determine the output of wood in the rough. The different assortments of coniferous and non-coniferous timber recorded in the felling reports are further aggregated into various product groups of raw timber for material and energy use. The aggregates for saw logs, industrial and fuel wood (including wood chips) obtained

through this procedure are hence valued on the basis of the annual average prices of the most representative assortment of the respective product group.

Trees, tree plants and forest tree seeds

The EFA and the national accounts both regard standing timber (forest trees) as an unfinished product. Hence, the increment of standing timber is viewed as a continuous process of production recorded in the outputs, whereas felling of standing timber can be seen as withdrawal in the course of use, which is to be recorded as intermediate consumption of timber. As a result, both the increment in terms of increase of stocks of unfinished products and felling as intermediate consumption for the use of wood have to be valued.

The monetary valuation of both elements rests on stumpage prices. These correspond to the prices paid per cubic meter of standing timber before being cut, differentiated by different assortments. Stumpage prices are thus calculated using the annual average prices for coniferous and non coniferous timber minus harvest costs.

Furthermore, data on the physical growth rates (increment) of standing timber is required. Whilst withdrawals from stocks are documented by the annual timber felling statistics, data on increment derives from the aggregated values of the national forest inventory (*Österreichische Waldinventur, ÖWI*) and values calculated by the Austrian Environmental Agency (UBA).

The national forest inventory is compiled at longer intervals, therefore a time lag in recording the quantity component with sporadic changes following years of stability (see Sekot 1998).

Annual growth data provided by the national forest inventory thus corresponds to mean values derived from the total increment of an inventory period. Conversion of mean increment into the actual annual growth rate is carried out by the Federal Environment Agency (UBA) as part of the UN climate reporting. To determine the specific annual values/ for a given inventory period, the UBA uses measurement data on growth, use and increment of timber from the ÖWI as well as additional dendrological data from drill cores and weather data from both literature and the ÖWI. If no annual growth data is yet available from UBA, the annual growth rates between the inventory periods are determined by interpolation (cf. means).

Since the growth data is only available on the aggregated level, discerned in coniferous and non-coniferous wood, the timber felling reports (HEM) of the BMLRT are utilized to assess the composition of the annual increment. Differentiation of annual growth rates of coniferous and non-coniferous timber into product groups rests on the assumption that the structure of standing wood corresponds to a 15-year moving average of harvested timber, i.e. the composition of product groups in the recorded fellings.

The value of the additions to the stock of standing timber (forest trees) can thus be approximated by using stumpage prices multiplied by the annual growth (increment) differentiated in the various product groups of coniferous and non-coniferous timber. The potentially achievable income is estimated under the assumption of current prices and product range structures.

The primary source of data for output volumes of forestry plants (tree plants and forest tree seeds) produced in nurseries (item 04.2) was the forestry plant balance sheet of the *Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (BMLFUW)*. The forest plant balance sheet is now no longer compiled, but a new statistics concerning the number of sold forest plants is currently compiled by the Austrian Research Center for Forests (, *Bundesforschungszentrum Wald, BFW*). Prices derive from the Austrian Chamber of Agriculture.

Other products

This item is made up of

- cork (item 04.1);
- forestry plants produced in nurseries (item 04.2);
- afforestation and conversion (item 04.3);
- other forestry products (item 04.4).

As there is no information on any production of cork (item 04.1) that may exist in Austria in the context of the EAF the corresponding item is negligible for Austria. Likewise, afforestation of plantations of trees yielding repeat products (item 04.3) plays practically no part in Austrian forestry so that no values are indicated under this item in the EAF for Austria.

The primary source of data for output volumes of forestry plants produced in nurseries (item 04.2) was the forestry plant balance sheet of the *Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (BMLFUW)*. The forest plant balance sheet is now no longer compiled, but a new statistics concerning the number of sold forest plants will probably be available in the year 2016. Prices are determined on the basis of an expert assessment based on the price lists for various producers made available by the *Association of Austrian Land and Forest Owners*.

The category of "other forestry products" (item 04.4) is largely in line with the concept of ancillary forest use and is derived from forest accountancy data networks and/or from data from the national forests (*Österreichische Bundesforste, ÖBF*).

Production of forestry services

As no specific aggregated data are available in Austria, estimates have to be made on the basis of expert assessments.

The annual figures given in the timber felling reports on the quantity of wood felled by non-forestry holding agents and the average unit costs of harvesting wood in large forests are used as a basis for calculating *logging services* (according to data of the forest accountancy data network for forest enterprises over 500 ha).

For *forestry service* activities, data of the accountancy network of enterprises over 500 ha and of the accountancy network of small scale forestry as well as ÖBF data are used.

Furthermore, consulting services for forestry are included.

Inseparable secondary activities

These are also calculated on the basis of special analyses of the results of the accountancy networks of enterprises over 500 ha and of small scale forestry as well as the operating accounts of the *Österreichische Bundesforste*.

3.7.2.2. Intermediate consumption of the forestry industry

The EAF distinguishes between the following categories of intermediate consumption:

- Trees, tree plants;
- energy and lubricants;
- fertilisers and soil improvers;
- plant protection products and pesticides;
- maintenance of machinery and equipment;
- maintenance of buildings;
- financial intermediation services indirectly measured (FISIM);
- other goods and services.

The values for the following units are determined separately and aggregated to form the respective overall values for individual items of intermediate consumption:

- local kind of activity units for the production of forestry goods (including inseparable goods and services);
- local kind of activity units for the production of forest plants in nurseries;
- local kind of activity units for the production of forestry and logging related services.

The calculation of the intermediate consumption of standing timber requires stumpage prices and annual total harvests, differentiated into product groups. For the stumpage prices wood harvesting costs are deducted from the value of felled timber at the roadside. Harvested timber is recorded in the annual felling reports (HEM).

For most of the remaining intermediate consumption items, values can only be derived reliably on the basis of data of forest accountancy networks. The parameters "felling" and "forest area under cultivation" used for extrapolations are always documented separately in the timber felling reports and the national forest inventory for the three types of property: small scale forests below 200 ha, holdings above 200 ha and the *ÖBF*. For the purposes of the EAF, this means that the extrapolations differ depending on the data available. A full survey is carried out for the *ÖBF* whilst holdings over 200 ha are represented by the accountancy network of enterprises and those fewer than 200 ha by the accountancy network of small scale forestry. The production statistics of the plant protection industrial group constitute further sources of information. The remaining gaps in the documentation ultimately have to be plugged by expert assessments. This is true of, in particular, the scale and structure of intermediate consumption in the sectors of services and forest plant production.

Table 3.16: Production account – forestry, year 2017

ÖNACE A	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section A	On total GVA	On GDP	On GNI
02	2,435	1	2,434	1,266	1,168	26.1%	0.3%	0.3%	0.3%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.17: Production account by sector – forestry, year 2017

ÖNACE 02	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.51		0.49		100
- Intermediate consumption at purchasers' prices	99.29		0.71		100
= Gross value added at basic prices	99.74		0.26		100
in million EUR					
Output at basic prices	2,434		12		2,446
- Intermediate consumption at purchasers' prices	1,266		9		1,275
= Gross value added at basic prices	1,168		3		1,171

3.7.2.3. Fishing (ÖNACE 03)

Fish and fish farming play a much smaller part in Austria than in many other EU Member States. However, a separate production and income generation account is prepared. The initial information is made up of data from the aquaculture statistics and primary statistical surveys. The annual census is based on a postal questionnaire out of the stock of enterprises with registered aquaculture facilities in the Veterinary Information System. There is the possibility to answer the questionnaire by post, electronic means, fax or telephone. Enterprises which actually sell fish are obliged to provide information about the marketed annual production of food fish (in kg live weight and unit value per fish species), sold fish eggs and juvenile fish (in pieces per fish species) and structural data about the size of the production unit types (ponds, tanks, recirculation systems etc.). In addition information from the Turnover Tax Statistics is used for updating.

Table 3.18: Production account – fishing, year 2017

ÖNACE A	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section A	On total GVA	On GDP	On GNI
03	0,085	0	0,085	0,058	0,027	0.6%	0.01%	0.01%	0.01%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE division 03 does not contain units from institutional sectors other than S.11 (Including S.14).

Table 3.19: Production account – agriculture, forestry and fishing, in million EUR, year 2017*

ÖNACE A	Output	Intermediate consumption	Value added
Initial data (including S.13)	9,837	5,135	4,702
- Taxes on products, except VAT and import taxes	-22		-22
+ Other subsidies on products	9		9
+/- Various corrections to the initial data	0		0
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assetsetc.)	4	271	-275
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	33		33
+ Balancing adjustments	16		16
Total	9,877	5,406	4,471

* including rounding errors

3.8. Mining and quarrying (ÖNACE B)

ÖNACE section B is made up of ÖNACE divisions 05, 06, 07, 08 and 09.

The internal working level is the following:

Table 3.20: Classification for ÖNACE B – Mining and quarrying

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
05+06+07	06a		Mining of coal and lignite; Extraction of crude petroleum and natural gas; Mining of metal ores;
08+09	08a		Other mining and quarrying; Mining support service activities;

The data for the year 2017 are taken from the Structural Business Statistics 2017 (see chapter 10.1.1.2) and balanced for the reporting year 2017 by the input-output statistics. The following table gives an overview of the composition of gross value added for ÖNACE divisions 05 to 09.

Table 3.21: Production account – Mining and quarrying activities, year 2017*

ÖNACE B	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section B	On total GVA	On GDP	On GNI
05-07	977	0	977	392	585	49%	0.2%	0.2%	0.2%
08-09	1,737	0	1,736	1,133	603	51%	0.2%	0.2%	0.2%
Total	2,714	-1	2,713	1,525	1,188	100%	0.4%	0.3%	0.3%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE Section B does not contain units from institutional sectors other than S.11 (including S.14).

For calculating output, intermediate consumption and value added the following variables are principally used:

Table 3.22: Calculation of output

Output
Revenues from produced goods
+ Changes in inventories of finished products
+ Changes in inventories of semi-finished products
+ Own-account production including mark up for net operating surplus
+ Other revenues
+ Revenues from wholesale trade
- Purchases of goods for resale
+ Changes in inventories of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.23: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Changes in energy inventories
+ Purchases of material for treatment and processing
- Changes in inventories of material for treatment and processing
+ Expenditures on repairs
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Expenditures on small tools
+ FISIM / Market Making Services
= Intermediate consumption

The results of the survey were subsequently adapted in order to meet national accounts requirements. These corrections and supplements are mentioned in chapter 3.4.

Rough estimates of mineral exploration in section B suggest that expenditures are insignificant. Since no existing data sources provide further information on expenditures for mineral exploration activities, they are not treated as GFCF.

Compiling of ÖNACE section B produced the following results for reporting year 2017:

Table 3.24: Production account – mining and quarrying, in million EUR, year 2017*

ÖNACE B	Output	Intermediate consumption	Value added
Initial data	2,250	1,171	1,079
- Taxes on products, except VAT and import taxes	-1	0	-1
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	438	340	97
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	16	19	-4
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	7	3	4
+ Balancing adjustments	2	-8	11
Total	2,713	1,525	1,188

* including rounding errors

The changes in inventories for both the input and output inventories are adjusted for **holding gains and losses**. These are dealt with in chapter 3.4.1, as is adjusting **other operating expenditure** (transition from gross insurance premiums to the insurance service charge concept and eliminating components which do not count as intermediate consumption in national accounts).

Output is valued at the activity classification level at market prices and the transition to basic prices is made at ÖNACE division level. In ÖNACE section B, an assumption is made to cover **additional material expenditures** for revenues off the books in order to ensure exhaustiveness (see chapter 7).

For the initial data, the company structure is first broken down to establishment level. Inconsistencies in data which occur during this process are adjusted and other corrections are made. As described above, conceptual adjustments and adjustments for exhaustiveness must be transferred into the data set in order to obtain the final results.

3.9. Manufacturing (ÖNACE C)

ÖNACE section C is made up of ÖNACE divisions 10 to 33. The internal national accounts level is in line with ÖNACE divisions.

Table 3.25: Classification for ÖNACE C - Manufacturing

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
10	10		Manufacture of food products
11	11		Manufacture of beverages
12	12		Manufacture of tobacco products
13	13		Manufacture of textiles
14	14		Manufacture of wearing apparel;
15	15		Manufacture of leather and related products
16	16		Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
17	17		Manufacture of paper and paper products
18	18		Printing and reproduction of recorded media
19	19		Manufacture of coke and refined petroleum products
20	20		Manufacture of chemicals and chemical products
21	21		Manufacture of basic pharmaceutical products and pharmaceutical preparations
22	22		Manufacture of rubber and plastic products
23	23		Manufacture of other non-metallic mineral products
24	24		Manufacture of basic metals
25	25		Manufacture of fabricated metal products, except machinery and equipment
26	26		Manufacture of computer, electronic and optical products
27	27		Manufacture of electrical equipment
28	28		Manufacture of machinery and equipment n.e.c.
29	29		Manufacture of motor vehicles, trailers and semi-trailers
30	30		Manufacture of other transport equipment
31	31		Manufacture of furniture
32	32		Other manufacturing
33	33		Repair and installation of machinery and equipment

The data for the year 2017 are taken from the Structural Business Statistics 2017 (see chapter 10.1.1.2) and balanced for the reporting year 2017 by the input-output statistics. The following table gives an overview of the composition of gross value added for ÖNACE divisions 10 to 33.

Table 3.26: Production account –Manufacturing activities, year 2017*

ÖNACE C	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section C	On total GVA	On GDP	On GNI
10	16,449	-2	16,447	12,034	4,413	7.1%	1.3%	1.2%	1.2%
11	6,257	-258	6,000	4,216	1,783	2.9%	0.5%	0.5%	0.5%
12	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
13	1,516	0	1,516	1,007	509	0.8%	0.2%	0.1%	0.1%
14	608	0	608	413	195	0.3%	0.1%	0.1%	0.1%
15	844	0	844	618	226	0.4%	0.1%	0.1%	0.1%
16	8,833	-2	8,831	6,372	2,460	4.0%	0.7%	0.7%	0.7%
17	6,544	-2	6,543	4,572	1,970	3.2%	0.6%	0.5%	0.5%
18	2,144	-1	2,143	1,266	877	1.4%	0.3%	0.2%	0.2%
19	6,555	-1,913	4,643	4,063	580	0.9%	0.2%	0.2%	0.2%
20	13,335	-2	13,333	10,152	3,181	5.1%	1.0%	0.9%	0.9%
21	4,529	-1	4,528	2,165	2,364	3.8%	0.7%	0.6%	0.6%
22	6,737	-1	6,736	4,173	2,562	4.1%	0.8%	0.7%	0.7%
23	6,629	-2	6,628	3,950	2,678	4.3%	0.8%	0.7%	0.7%
24	16,913	-4	16,910	12,731	4,179	6.7%	1.3%	1.1%	1.1%
25	16,112	-3	16,109	9,791	6,318	10.2%	1.9%	1.7%	1.7%
26	8,214	-2	8,212	4,844	3,369	5.4%	1.0%	0.9%	0.9%
27	12,944	-2	12,942	7,359	5,583	9.0%	1.7%	1.5%	1.5%
28	23,485	-4	23,481	14,776	8,705	14.0%	2.6%	2.4%	2.4%
29	16,405	-4	16,401	12,311	4,091	6.6%	1.2%	1.1%	1.1%
30	3,035	-1	3,035	2,062	973	1.6%	0.3%	0.3%	0.3%
31	3,232	-1	3,231	1,836	1,395	2.2%	0.4%	0.4%	0.4%
32	4,085	-1	4,084	2,667	1,417	2.3%	0.4%	0.4%	0.4%
33	6,410	-1	6,409	4,025	2,384	3.8%	0.7%	0.6%	0.7%
Total	191,819	-2,205	189,614	127,403	62,211	100%	18.9%	16.8%	17.0%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

The vast majority of gross value added in manufacturing is produced in sector 11 (including S.14), nevertheless ÖNACE division 10 also contains gross value added from sector 13. The following table gives an overview of the corresponding shares. Calculation of value added for non-market producers in the general government sector is described in chapter 3.21.

Table 3.27: Production account by sector – Manufacture of food products, year 2017*

ÖNACE 10	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	100.00		0.00		100
- Intermediate consumption at purchasers' prices	100.00		0.00		100
= Gross value added at basic prices	100.00		0.00		100
in million EUR					
Output at basic prices	16,447		0,13		16,447
- Intermediate consumption at purchasers' prices	12,034		0,12		12,034
= Gross value added at basic prices	4,413		0,01		4,413

* including rounding errors

The calculations for ÖNACE section C produced the following results for reporting year 2017:

Table 3.28: Production account – Manufacturing, in million EUR, year 2017*

ÖNACE C	Output	Intermediate consumption	Value added
Initial data (including S.13)	183,748	125,253	58,495
- Taxes on products, except VAT and import taxes	-2,211	0	-2,211
+ Other subsidies on products	6	0	6
+/- Various corrections to the initial data	2,422	2,011	411
Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	4,556	-547	5,104
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	1,189	691	498
+ Balancing adjustments	-96	-4	-92
Total	189,614	127,403	62,211

* including rounding errors

Major changes apart from the implementation of ESA 2010 (in particular the recognition of R&D as gross fixed capital formation and the revised definition of small tools) are due to methodical innovations concerning foreign units in ITGS, corrections of misreporting units and adaptation of units which do not report calendar years.

The changes in inventories for both the input and output inventories are adjusted for **holding gains and losses**. These are dealt with in chapter 3.4.1, as is adjusting other **operating expenditure** (transition from gross insurance premiums to the insurance service charge concept and eliminating components which do not count as intermediate consumption in national accounts).

Output is valued at the activity classification level at market prices and the transition to basic prices is made at ÖNACE division level. In ÖNACE section C, an assumption is made to cover **additional material expenditure** for revenues off the books in order to ensure exhaustiveness.

For the initial data, the company structure is first projected down to establishment level. Inconsistencies in data which occur during this process are adjusted and other corrections are made.

As described above, conceptual adjustments and adjustments for exhaustiveness must be transferred into the data set in order to obtain the final results.

3.10. Electricity, gas, steam and air conditioning supply (ÖNACE D)

ÖNACE section D is made up of ÖNACE division 35 which is broken down further in the national accounts for internal purposes. These breakdowns correspond to the groups of ÖNACE.

The classification is made up as follows:

Table 3.29: Classification for ÖNACE D – energy, gas, steam and air conditioning supply

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
35	35.1		Electric power generation, transmission and distribution
	35.2		Manufacture of gas; distribution of gaseous fuels through mains
	35.3		Steam and air conditioning supply

The data for 2017 are taken from the Structural Business Statistics 2017 (see chapter 10.1.1.2) and balanced for the reporting year 2017 by the input-output statistics.

The following table gives an overview of the composition of gross value added for ÖNACE division 35 in sector 11:

Table 3.30: Production account – energy, gas, steam and air conditioning supply, year 2017

ÖNACE D	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section D	On total GVA	On GDP	On GNI
35	30,600	-927	29,674	23,783	5,890	100%	1.8%	1.6%	1.6%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE section D does not contain units from institutional sectors other than S.11 and S.14.

For calculating output, intermediate consumption and value added the following variables are principally used:

Table 3.31: Calculation of output

Output
Revenues from produced goods
+ Changes in the inventories of finished products
+ Changes in the inventories of semi-finished products
+ Revenues from internal company supplies and services
+ Own-account production including mark up for net operating surplus
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchases of goods for resale
+ Changes in inventories of goods for resale
= Output

Table 3.32: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Changes in energy inventories
+ Purchases of material for treatment and processing
- Changes in the inventories of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Expenditures on internal deliveries
+ Expenditures on small tools
+ Expenditure on FISIM and Market making services
= Intermediate consumption

The results of the survey were subsequently adapted in order to meet national accounts requirements. These corrections and supplements are already mentioned in chapter 3.4.

In ÖNACE 35 a further correction is made in addition. Merchanting in electricity and gas is recorded on a net basis, while in the Structural Business Statistics it's recorded on a gross basis. Since output and intermediate consumption are reduced by the same amount this correction does not have an impact on value added in this ÖNACE section.

Table 3.33: Production account – energy, gas, steam and air conditioning supply, in million EUR, year 2017*

ÖNACE D	Output	Intermediate consumption	Value added
Initial data (including S.13)	40,415	33,234	7,181
- Taxes on products, except VAT and import taxes	-927		-927
+ Other subsidies on products	0		0
+/- Various corrections to the initial data	-9,918	-9,735	-183
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	72	-84	155
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	37	18	19
+ Balancing adjustments	-5	350	-356
Total	29,674	23,783	5,890

* including rounding errors

3.11. Water supply; sewerage, waste management and remediation activities (ÖNACE E)

ÖNACE section E is made up of the ÖNACE divisions 36 to 39. The internal working level is the following:

Table 3.34: Classification for ÖNACE E – Water supply, sewerage, waste management and remediation activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
36	36		Water collection, treatment and supply
37+38+39	37a		Sewerage; Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services

Table 3.35: Production account – Water supply; sewerage, waste management and remediation activities, year 2017*

ÖNACE E	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section E	On total GVA	On GDP	On GNI
36	1,053	-0,2	1,052	449	604	18%	0.2%	0.2%	0.2%
37-39	7,162	-64	7,098	4,278	2,821	82%	0.9%	0.8%	0.8%
Total	8,215	-64	8,151	4,726	3,424	100%	1.0%	0.9%	0.9%

* including rounding errors

1) at producers' prices

2) Taxes on products except VAT and import taxes less other subsidies on products

3) at purchasers' prices

4) at basic prices

Table 3.36: Production account by sector – Water collection, treatment and supply, year 2017*

ÖNACE 36	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	98.0		2.0		100.0
- Intermediate consumption at purchasers' prices	97.4		2.6		100.0
= Gross value added at basic prices	98.4		1.6		100.0
in million EUR					
Output at basic prices	1,031		21		1,052
- Intermediate consumption at purchasers' prices	437		12		449
= Gross value added at basic prices	594		9		604

* including rounding errors

Table 3.37: Production account by sector – Sewerage; Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services, year 2017*

ÖNACE 37-39	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	97.1		2.9		100.0
- Intermediate consumption at purchasers' prices	96.7		3.3		100.0
= Gross value added at basic prices	97.8		2.2		100.0
in million EUR					
Output at basic prices	6,895		203		7,098
- Intermediate consumption at purchasers' prices	4,136		141		4,278
= Gross value added at basic prices	2,759		62		2,821

* including rounding errors

Table 3.38: Production account – Water supply; sewerage, waste management and remediation activities, in million EUR, year 2017*

ÖNACE E	Output	Intermediate consumption	Value added
Initial data	8,161	4,689	3,471
- Taxes on products, except VAT and import taxes	-64	0	-64
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	6	3	3
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	-3	16	-20
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	51	18	33
+/- Balancing adjustments	0	0	0
Total	8,151	4,726	3,424

* including rounding errors

Sectors S.11 and S.14

The 2017 Structural Business Statistics (see chapter 10.1.1.2), balanced by input-output statistics, provides the data for the reporting year to a large extent. A special feature in this ÖNACE section is

that several establishments are operated by government units, but classified as quasi-corporations under sector S.11. These units are not covered by the SBS and are therefore supplemented by the Closed Accounts.

Output is calculated as follows:

Table 3.39: Calculation of output

Output
Revenues from produced goods
+ Revenues not further subdivided
+ Own-account production including mark up for net operating surplus
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchases of goods for resale
+ Changes in the inventories of semi-finished products
+ Changes in the inventories of finished products
+ Changes in the inventories of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.40: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
+ Purchases of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Intermediate consumption (without breakdowns)
+ Expenditures on small tools
+ Expenditures on FISIM
+ Expenditures on Market Making Services
- Changes in energy inventories
- Changes in the inventories of materials for treatment and processing
= Intermediate consumption

The results of the survey were subsequently adapted in order to meet national accounts requirements. These corrections and supplements are already mentioned in chapter 3.4.

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18.

3.12. Construction (ÖNACE F)

Construction (ÖNACE section F) is made up of the ÖNACE divisions 41 to 43. The classification is as follows:

Table 3.41: Classification for ÖNACE F – Construction

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
41	41a		Construction of buildings
	41b		Own-account construction and underground production of dwellings
42	42a		Civil engineering
	42b		Interest groups
43	43.1		Demolition and site preparation
	43.2		Electrical, plumbing and other construction installation activities
	433a	43.3+43.9	Building completion and finishing; Other specialised construction activities

The two groups 41b and 42b have been added to the ÖNACE classification for the purposes of national accounts in order to ensure that the construction industry is covered exhaustively.

Table 3.42: Production account – Construction, year 2017*

ÖNACE F	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section F	On total GVA	On GDP	On GNI
41	21,154	-4	21,150	12,733	8,417	39.8%	2.6%	2.3%	2.3%
42	7,968	-2	7,966	5,943	2,023	9.6%	0.6%	0.5%	0.6%
43	25,316	-5	25,311	14,603	10,709	50.6%	3.3%	2.9%	2.9%
Total	54,438	-10	54,428	33,279	21,148	100.00	6.4%	5.7%	5.8%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE section F does not contain units from institutional sectors other than S.11 and S.14.

3.12.1. Calculations for ÖNACE groups 41 to 43

Output, intermediate consumption and value added in construction, apart from 41b and 42b, are calculated using Structural Business Statistics (see chapter 10.1.1.2), balanced by input-output

statistics. The Structural Business Statistics provide data on revenue, intermediate consumption, value added, inventories and capital formation.

Output is defined by the following variables:

Table 3.43: Calculation of output

Output
Revenues from produced goods
+ Change in the inventory of finished products
+ Change in the inventory of semi-finished products
+ Own-account production including mark up for net operating surplus
+ Revenues from goods for processing
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchase of goods for resale
+ Change in the inventory of commercial goods
= Output

Intermediate consumption is made up of the following variables:

Table 3.44: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Changes in energy inventories
+ Purchases of material for treatment and processing
- Changes in the inventories of material for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Expenditures on internal deliveries
+ Expenditures on small tools
+ Expenditures on FISIM
= Intermediate consumption

The results are supplemented by a series of additional calculations which constitute additions for statistical under-recording (see chapter 5) and incomplete reports, and the corrections described in chapter 3.4.

3.12.2. Own-account construction and underground production of dwellings (41b)

Own-account construction and underground production of dwellings accounted for EUR 3.4 billion in 2017. National accounts rules require that labour input (by the owner, relations, neighbours, amateurs and clandestine workers) for activities in relation to capital formation (new buildings, improvements and refurbishing) should be added to output and value added in the construction industry.

The details of these estimates are described in chapter 7.1.3.2, where both the calculation methods and results of the particular adjustments under N1 (underground production) and N3 (producer is not obliged to register) are presented. It should be noted that only non-agricultural own-account construction, i.e. the construction of one and two-family houses and repairs and improvements to dwellings is recorded in the construction industry. Own-account construction of agricultural buildings is entered under ÖNACE section A.

3.12.3. Interest groups (42b)

3.12.3.1. Definition

In addition to public institutions, there are also other institutions which perform tasks that are traditionally a matter for government. The term used for such institutions¹⁷ is interest groups. Interest groups perform activities, which benefit a large number of citizens. These activities are carried out organizationally not typical privately. Examples of such institutions are associations and cooperatives.

The interest groups in construction industry occur mainly in the context of improvement of the production base in agriculture and forestry.

The construction activities in question are as follows:

- water engineering (irrigation and drainage)
- improving transport infrastructure in rural areas (construction of goods transport roads and forestry service roads)
- electrification of rural areas
- land consolidation
- torrent and avalanche control
- river engineering.

In national accounts, interest groups are mainly significant as investors. However, they are recorded as such neither in the public sector statistics (financial statistics) nor in the agriculture and forestry industry (defined in terms of function). Legally they are considered as non profit organisations; however, they are controlled by public entities.

¹⁷ The legal term used in German for such institutions is "*Konkurrenzen*", which is also found in the expression "*Konkurrenzgebarung*" and is used in Austrian national accounts.

The costs of the interest groups are charged to funds for specific construction projects, which are administered by the federal government. They have their own staff (employed by federal or regional government), but the expenditure is borne by the building funds and is therefore not included in the personnel costs of the federal government or the federal states. These specific funds are financed by the federal government, the federal states and other stake holders.

3.12.3.2. Sources

Data on expenditure or financing are from annual publications of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), which show federal investment data in land improvement and protection from natural disaster because of avalanches and high floodings.

3.12.3.3. Estimating output and value added

According to detailed research in input-output statistics, more than half (63%) of the total **expenditures** of interest groups are accounted as **purchases** of construction company services, whereas the remainder (37%) is treated as expenditures relating to own-account production. About 53% of the output consists of **intermediate consumption** (building materials, energy, etc.) whereas the remainder is to be interpreted as value added (especially expenditure on staff).

The following tables present the production account of interest groups and the total production account for construction.

Table 3.45: Production account – construction, in million EUR, year 2017*

ÖNACE F	Output	Intermediate consumption	Value added
Initial data	49,405	31,634	17,772
- Taxes on products, except VAT and import taxes	-10	0	-10
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	258	185	73
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	-9	502	-511
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	4,814	906	3,908
+ Balancing adjustments	-31	52	-84
Total	54,428	33,279	21,148

* including rounding errors

Table 3.46: Construction activity of interest groups (42b), in million EUR, year 2017*

Designation	in million EUR
Total expenditure	240
of which 37% self-production	89
Gross intermediate consumption	47
VAT on intermediate consumption	8
Net intermediate consumption	39
Net output	81
Net value added	42

* including rounding errors

3.13. Wholesale and retail trade; repair of motor vehicles and motorcycles (ÖNACE G)

ÖNACE section G is made up of ÖNACE divisions 45, 46 and 47 which are defined via the internal national accounts classification. The classification largely corresponds to the groups of the ÖNACE and is made up as follows:

Table 3.47: Classification for ÖNACE G – wholesale and retail trade, repair of motor vehicles and motor cycles

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
45	45.1		Sale of motor vehicles
	45.2		Maintenance and repair of motor vehicles
	45.3		Sale of motor vehicle parts and accessories
	45.4		Sale, maintenance and repair of motorcycles and related parts and accessories
46	46.1		Wholesale on a fee or contract basis
	46.2		Wholesale of agricultural raw materials and live animals
	46.3		Wholesale of food, beverages and tobacco
	46.4		Wholesale of household goods
	46.5		Wholesale of information and communication equipment
	46.6		Wholesale of other machinery, equipment and supplies
	46.7		Other specialised wholesale
47	46.9		Non-specialised wholesale
	47.1		Retail sale in non-specialised stores
	47.2		Retail sale of food, beverages and tobacco in specialised stores
	47.3		Retail sale of automotive fuel in specialised stores
	47.4		Retail sale of information and communication equipment in specialised stores
	47.5		Retail sale of other household equipment in specialised stores
	47.6		Retail sale of cultural and recreation goods in specialised stores
	47.7		Retail sale of other goods in specialised stores
	47.8		Retail sale via stalls and markets
47.9		Retail trade not in stores, stalls and markets	

For the purposes of analysis, especially with a view to balancing supply and use, with particular reference to the consumption of private households, a further disaggregated classification of activities is used. However, the production account is prepared at the level of the ÖNACE groups in compliance with the ESA.

The 2017 Structural Business Statistics (see chapter 10.1.1.2) provides the data for the year 2017.

Output is calculated as follows:

Table 3.48: Calculation of Output

Output
Revenues from produced goods
+ Change in the inventory of finished products
+ Change in the inventory of semi-finished products
+ Revenues from internal company supplies and services
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Revenues from goods for processing
+ Revenues from transport and communications services
+ Own-account production including mark up for net operating surplus
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchases of goods for resale
+ Change in the inventory of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.49: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Change in energy inventory
+ Purchases of materials for treatment and processing
- Change in the inventory of material for treatment and processing
+ Expenditure on goods for processing
+ Expenditure on repairs
+ Expenditure on rents
+ Expenditure on operating leasing
+ Expenditure on non-company workers
+ Expenditure on outward freight
+ Expenditure on services for resale
+ Expenditure on internal deliveries
+ Other operating expenditure
+ Expenditure on small tools
+ Expenditure on Market making services and FISIM
= Intermediate consumption

At level of the internal activity classification output is **valued** at producer prices and converted to basic prices at ÖNACE division level.

Table 3.48 illustrates the **measurement of output**. Trade margins realised on the goods purchased for resale are the main component of **output of wholesale and retail services**. Structural Business Statistics provide information on trade margins, no ad-hoc surveys on trade margins were made.

Changes in inventories were adjusted for both the input and output inventories for holding gains and losses (see chapter 3.4). The information on prices needed to do this comes from Short Term Statistics for the wholesale and retail trades (for the vast majority of goods for resale), from the wholesale price and consumer price statistics (for energy and materials and partly also for goods for resale) and from the producer price statistics (as an indicator for the development of prices of finished and semi-finished products). The price indices for energy and material were weighted on the basis of detailed information from the supply and use tables.

Illegal activities were identified in ÖNACE groups 47.2 (Retail sale of food, beverages and tobacco in specialised stores) and 47.7 (Retail sale of other goods in specialised stores). (see chapter 7).

Regarding **revenues off the books** (see chapter 7.1.3.5) yielded from trade services, it was considered for each branch, which component of production these revenues would stem from. Thus, in ÖNACE groups 45.1 (Wholesale and retail of motor vehicles), 45.2 (Maintenance and repair of motor vehicles), 45.3 (Sale of motor vehicle parts and accessories) and 45.4 (Sale and repair of motor cycles) it was decided that this was **repair services**, for which additional intermediate consumption of materials was estimated. In ÖNACE group 46.1 (Intermediary trading activities), revenues off the

books are interpreted as **earnings from commissions** and in all other branches as **trade margins**. It was not considered necessary to include additional intermediate consumption for these services in addition to what was already recorded. In all cases it was assumed that there was evasion of VAT "with complicity".

Local kind of activity units that have trade as a secondary activity are classified into ÖNACE groups outside of ÖNACE section G. Local kind of activity units that have trade as principal activity are classified as part of ÖNACE section G. This is also a step taken to avoid **double counting** when other branches have trade as a secondary activity.

The turnover of retail trade is compared and made consistent with the tradeable consumption of households in the course of balancing procedures (for details see chapter 5). Repairs of motor vehicles are validated against expenditure.

Output of local kind of activity units that have trade as a principal activity are included in the output estimate of ÖNACE section G also when the institutional unit they belong to is classified in other ÖNACE sections.

The calculations for ÖNACE section G produced the following results:

Table 3.50: Production account – Wholesale and retail trade, repair of motor vehicles and motor cycles , year 2017*

ÖNACE G	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section G	On total GVA	On GDP	On GNI
45	10,574	-475	10,098	5,104	4,995	13%	1.5%	1.4%	1.4%
46	38,896	-4,378	34,518	15,597	18,921	50%	5.7%	5.1%	5.2%
47	23,355	-5	23,350	9,399	13,952	37%	4.2%	3.8%	3.8%
Total	72,825	-4,858	67,967	30,099	37,867	100%	11.5%	10.3%	10.4%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE section G does not contain units from institutional sectors other than S.11 and S.14.

Table 3.51: Production account – Wholesale and retail trade, repair of motor vehicles and motor cycles, in million EUR, year 2017*

ÖNACE G	Output	Intermediate consumption	Value added
Initial data (including S.13)	73,715	30,443	43,271
- Taxes on products, except VAT and import taxes	-4,858	0	-4,858
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	-2,849	922	-3,771
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	338	-1,575	1,913
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	2,072	204	1,868
+ Balancing adjustments	-451	105	-556
Total	67,967	30,099	37,867

* including rounding errors

3.14. Transportation and storage (ÖNACE H)

ÖNACE section H is made up of ÖNACE divisions 49, 50, 51, 52 and 53, which are then broken down into an internal classification for national accounts.

This internal **classification** is as follows:

Table 3.52: Classification for ÖNACE H – Transportation and Storage

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
49	49a	49.1	Passenger rail transport, interurban
		49.2	Freight rail transport
	49.31-1		Passenger land transport by tramways, trolley buses, undergrounds and suburban railways
	49.31-2a	49.31-2	Urban and suburban passenger land transport services by buses (without trolley buses)
		49.39-9	Other passenger land transport n.e.c. (except transport by cable railways, funiculars and ski-lifts)
	49.32		Taxi operation
	49.39-1		Transport by cable railways, funiculars and ski-lifts
	49.4		Freight transport by road and removal services
49.5		Transport via pipeline	
50	50		Water transport
51	51		Air transport
52	52.1a	52.1	Warehousing and storage
		52.24	Cargo handling
	52.21-1		Operation of car parks and garages
	52.21-2		Operation of toll roads
	52.21-9a	52.21-9	Service activities incidental to land transportation n.e.c.
		52.22	Service activities incidental to water transportation
52.23		Service activities incidental to air transportation	
52.29		Other transportation support activities	
53	53		Postal and courier activities

The data for 2017 are taken from the Structural Business Statistics 2017 (see chapter 10.1.1.2) and balanced for the reporting year 2017 by the input-output statistics. Annual business reports and detailed auditing data were also used for parts of ÖNACE groups 49a (ÖBB) and 52.21-2 (ASFINAG) in addition to the Structural Business Statistics.

The following table gives an overview of the composition of gross value added for ÖNACE divisions 49, 50, 51, 52 and 53:

Table 3.53: Production account – Transportation and Storage, year 2017*

ÖNACE H	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section H	On total GVA	On GDP	On GNI
49	16,587	676	17,263	8,157	9,105	49%	2.76%	2.47%	2.49%
50	148	0	148	100	48	0%	0.01%	0.01%	0.01%
51	3,312	-116	3,196	2,337	859	5%	0.26%	0.23%	0.23%
52	12,023	-2	12,021	4,881	7,140	38%	2.17%	1.93%	1.95%
53	3,111	-1	3,110	1,682	1,429	8%	0.43%	0.39%	0.39%
Total	35,180	557	35,737	17,156	18,581	100%	5.64%	5.03%	5.08%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE Section H contains units from the following institutional sectors:

Table 3.54: Production account by sector – Transportation and Storage, year 2017*

ÖNACE 49-53	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	83.05		16.95		100
- Intermediate consumption at purchasers' prices	84.98		15.02		100
= Gross value added at basic prices	81.26		18.74		100
in million EUR					
Output at basic prices	29,678		6,059		35,737
- Intermediate consumption at purchasers' prices	14,579		2,577		17,156
= Gross value added at basic prices	15,099		3,482		18,581

* including rounding errors

For calculating output, intermediate consumption and value added for ÖNACE divisions 49, 50, 51, 52 and 53 the following variables are principally used:

Table 3.55: Calculation of output

Output
Revenues from produced goods
+ Changes in the inventories of finished products
+ Changes in the inventories of semi-finished products
+ Own-account production including mark up for net operating surplus
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Revenues from goods for processing
+ Other services
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchases of goods for resale
+ Changes in inventories of goods for resale
+ Revenues from transport and communication services
= Output

Table 3.56: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Changes in energy inventories
+ Purchases of material for treatment and processing
- Changes in the inventories of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Expenditures on internal deliveries
+ Expenditures on small tools
+ Expenditures on FISIM and Market making services
= Intermediate consumption

For ÖNACE divisions 49 and 52 (internal national accounts level ÖNACE 49.4, ÖNACE 49.5 and ÖNACE 52.29) only transport margin – similar to the trade margin concept – is included in output, i.e. transport services for the transport of goods were deducted from the revenues from transport.

The results of the survey were subsequently adapted in order to meet national accounts requirements. These corrections and supplements are already mentioned in chapter 3.4.

Changes in inventories for both the input and output inventories are adjusted for holding gains/losses.

Table 3.57: Production account – Transportation and Storage, in million EUR, year 2017*

ÖNACE H	Output	Intermediate consumption	Value added
Initial data (including S.13)	35,290	17,810	17,480
- Taxes on products, except VAT and import taxes	- 123		- 123
+ Other subsidies on products	679		679
+/- Various corrections to the initial data	- 663	- 689	25
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	87	- 312	398
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	374	100	273
+ Balancing adjustments	93	246	- 153
Total	35,737	17,156	18,581

* including rounding errors

3.15. Accommodation and food service activities (ÖNACE I)

ÖNACE section I comprises ÖNACE divisions 55 (Accommodation) and 56 (Food and beverage service activities). For ÖNACE 56, the activity classification is in line with the ÖNACE groups. For ÖNACE 55, the activity *Renting out of private rooms* (internal national accounts label "55p") which is part of the ÖNACE activity group 55.9 (Other accommodation) is calculated separately, as it is not covered in the 1995 non-agricultural business census and the annual structural business statistics (SBS, see chapter 10.1.1.2), which are the basic source of data for hotels and restaurants. Activity group 55.1 (Hotels and similar accommodation) is calculated separately, and all other activities in ÖNACE 55 covered by SBS are subsumed in the internal label "55q". The following classification is therefore used:

Table 3.58: Classification for ÖNACE I – Accommodation and food service activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
55	55.1		Hotels and similar accommodation
	55p	Renting out of private rooms (part of 55.9)	Renting out of private rooms not on farms
	55q	55.2+55.3+55.9 except the renting out of private rooms	All activities in accommodation except Hotels and similar accommodation and Renting out of private rooms not on farms
56	56.1		Restaurants and mobile food service activities
	56.2		Event Catering and other food service activities
	56.3		Beverage serving activities

Table 3.59: Production account – Accommodation and food services, year 2017

ÖNACE I	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section I	On total GVA	On GDP	On GNI
55-56	27,667	-135	27,533	10,307	17,225	100%	5.2%	4.7%	4.7%
Total	27,667	-135	27,533	10,307	17,225	100%	5.2%	4.7%	4.7%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.60: Production account, ÖNACE 55-56 – Accommodation and food services, year 2017

ÖNACE 55-56	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.9%		0.1%		100.0%
- Intermediate consumption at purchasers' prices	99.8%		0.2%		100.0%
= Gross value added at basic prices	100.0%		0.0%		100.0%
in million EUR					
Output at basic prices	27,506		26		27,533
- Intermediate consumption at purchasers' prices	10,284		23		10,307
= Gross value added at basic prices	17,222		3		17,225

Output for the branches covered in the non-agricultural business census (BZ 95) and the output and structure surveys is defined by the following variables:

Table 3.61: Calculation of output

Output
Earnings from self-produced goods
+ Changes in inventories of finished products
+ Changes in inventories of semi-finished products
+ Earnings from internal supplies
+ Earnings from commissions
+ Earnings from rent
+ Earnings from accommodation
+ Earnings on supply of food and beverages
+ Earnings from repair services
+ Earnings from jobbing work
+ Earnings from transport services
+ Earnings from self-produced additions to fixed assets
+ Other earnings
+ Wholesale earnings
+ Retail earnings
- Purchases of goods for resale
+ Changes in the inventories of goods for resale
= Output

For group 551, an analysis of the value of earnings from accommodation taken from Structural Business Statistics (SBS) against a price times quantity approach has shown that the former is likely underestimated: growth has been weak although the number of overnight stays has been increasing and higher priced accommodation facilities have increased their share; employment in section I has risen as well. To correct for this implausibility, the development of overnight stays (weighted with accommodation categories) and the respective development of prices is used as an indicator for the development of earnings from accommodation. The level of earnings of 1995 is considered reliable as for this year an estimate for revenues off the books was done by comparing earnings with a reference value. The implausibly weak development of earnings from accommodation in the following years hints at a stronger development of revenues off the books from accommodation which is not adequately depicted by the application of constant quotas. Earnings on supply of food and beverages are corrected as well, as a link is plausible and also visible in the corresponding data from SBS. Also for groups 552 and 561 earnings from accommodation are corrected in the way described above.

Intermediate consumption for the branches covered in the Non-agricultural business census (BZ 95) and the Structural Business Statistics is made up of the following variables:

Table 3.62: Calculation of intermediate consumption

Intermediate consumption	
	Purchase of energy
-	Changes in the inventories of energy
+	Purchases of materials for treating and processing
-	Changes in the inventories of materials for treating and processing
+	Expenditures on jobbing work
+	Expenditures on repair services
+	Expenditures on rent
+	Expenditures on operating leasing
+	Expenditures on non-company personnel
+	Expenditures on outward freight
+	Expenditures on services for resale
+	Expenditures on internal deliveries
+	Other operating expenditures
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
=	Intermediate consumption

The changes in inventories are adjusted for holding gains and losses using information from the wholesale price and consumer price statistics and the producer price statistics. Other operating expenditure was also adjusted (see chapter 3.4)

As the renting out of private rooms is not covered in any business statistics surveys (Non-agricultural business census or Structural Business Statistics), a price times quantity approach is used to make an estimate for earnings from accommodation services in this section based on the number of overnight stays in private accommodations from tourist statistics and the average price from consumer price statistics. Turnover tax statistics show that renting out of private rooms generates most turnover at the reduced turnover tax rate that applies to accommodation earnings, but also some turnover at other turnover tax rates. Therefore, an addition of approximately 15% is made to account for these other earnings that are treated as earnings from sales of food and beverages.

As there is no direct information on intermediate consumption for renting out of private rooms, it was assumed that at least energy, material and other operating expenditure occurs to run this type of business and has to be estimated. The ratios for these components of intermediate consumption were derived from those units classified under ÖNACE 552, 553 and 559, which are covered by the structural business statistics. It was also assumed that the incentives to realise revenues off the books from renting out of private rooms are about the same as in other accommodation services. Hence, the ratio for revenues off the books (including estimates for tax evasion) estimated for accommodation activities surveyed in Structural Business Statistics was also applied for the renting out of private rooms, i.e. an additional adjustment to the results of the price times quantity approach described above is recorded.

Evasion of the VAT "without complicity" was also assumed in connection with revenues off the books estimated for hotel and restaurant services. Additions were also calculated for untaxed tips (see chapter 7.1.3.8). It was also deemed plausible to make a supplementary estimate for intermediate consumption to account for material expenditure for revenues off the books.

Based on input-output-analysis, data compiled using the production approach and data compiled using the expenditure approach are compared and balanced (see chapter 5).

The transition from market prices to basic prices is made at ÖNACE division level.

The calculations for ÖNACE section I yielded the following results:

Table 3.63: Production account - Accommodation and food services, in million EUR, year 2017

ÖNACE I	Output	Intermediate consumption	Value added
Initial data (including S.13)	23,516.3	10,271.6	13,244.7
- Taxes on products, except VAT and import taxes	-134.5	-	-134.5
+ Other subsidies on products	-	-	-
+/- Various corrections to the initial data	-	-	-
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	12.5	-666.1	678.6
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	4,141.4	647.5	3,493.9
+ Balancing adjustments	-3.2	54.3	-57.5
Total	27,532.5	10,307.3	17,225.3

Imports and exports are estimated separately, see chapter 5.13 to 5.16.

3.16. Information and communication (ÖNACE J)

ÖNACE section J is made up of the ÖNACE divisions 58 to 63, which are broadly in line with the internal classification for national accounts. The classification is as follows:

Table 3.64: Classification for ÖNACE J – Information and communication

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
58	58		Publishing activities
59	59		Motion picture, video and television programme production, sound recording and music publishing activities
60	60		Programming and broadcasting activities
61	61		Telecommunications
62+63	62a		Computer programming, consultancy and related activities; Information service activities

Table 3.65: Production account – information and communication, year 2017*

ÖNACE J	in million EUR					Gross value added in %			
	Output ¹⁾	- Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section J	On total GVA	On GDP	On GNI
58	3,011	-48	2,963	1,762	1,200	10%	0.4%	0.3%	0.3%
59-60	3,029	-13	3,015	1,780	1,235	11%	0.4%	0.3%	0.3%
61	6,116	13	6,130	3,270	2,860	24%	0.9%	0.8%	0.8%
62-63	12,920	-2	12,918	6,490	6,428	55%	2.0%	1.7%	1.8%
Total	25,076	-50	25,026	13,303	11,723	100%	3.6%	3.2%	3.2%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE division 58 and 61 do not contain units from institutional sectors other than S.11 and S.14.

Table 3.66: Production account by sector – Motion picture, video and television programme production, sound recording and music publishing activities; Programming and broadcasting activities, year 2017*

ÖNACE 59-60	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	63.7		36.3		100
- Intermediate consumption at purchasers' prices	70.3		29.7		100
= Gross value added at basic prices	54.2		45.8		100
in million EUR					
Output at basic prices	1,921		1,094		3,015
- Intermediate consumption at purchasers' prices	1,251		529		1,780
= Gross value added at basic prices	670		565		1,235

* including rounding errors

Table 3.67: Production account by sector – Computer programming, consultancy and related activities; Information service activities, year 2017*

ÖNACE 62-63	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	98.6		1.4		100.0
- Intermediate consumption at purchasers' prices	98.3		1.7		100.0
= Gross value added at basic prices	99.0		1.0		100.0
in million EUR					
Output at basic prices	12,740		178		12,918
- Intermediate consumption at purchasers' prices	6,379		111		6,490
= Gross value added at basic prices	6,362		67		6,428

* including rounding errors

Sector S.11 and S.14:

The 2017 Structural Business Statistics (see chapter 10.1.1.2) balanced by input-output statistics provides the data for the reporting year. The supply of services under the Mini One Stop Shop Scheme is covered by Structural Business Statistics and therefore also included in output. The classification of the supply of services under Mini One Stop Shop Scheme by ÖNACE sections depends on the nature of the characteristic activity of the reporting unit. In 2017 80.5% of the exports of services under the MOSS Scheme were classified in ÖNACE section J.

For more detailed information on MOSS see chapter 10.3.3.

Output is calculated as follows:

Table 3.68: Calculation of output

Output
Revenues from produced goods
+ Revenues not further subdivided
+ Own-account production including mark up for net operating surplus
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Other services
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
+ Revenues from transport and communication services
- Purchases of goods for resale
+ Changes in the inventories of semi-finished products
+ Changes in the inventories of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.69: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
+ Purchases of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Intermediate consumption (without breakdowns)
+ Expenditures on small tools
+ Expenditures on FISIM
+ Expenditures on Market Making Services
- Changes in energy inventories
- Changes in the inventories of materials for treatment and processing
= Intermediate consumption

In addition to the corrections and supplements mentioned already in chapter 3.4 the following need to be carried out as well:

- In ÖNACE 59 and 60 entertainment, literary or artistic originals were added (see chapter 5.10.3.8).
- In ÖNACE 60 a part of the revenues reported in the survey must be deducted because it is no production in accordance with ESA but some other subsidy on production. This subsidy refers to a reimbursement paid by government to the public service broadcaster for participants, who are exempt from fee.

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18. Since the benchmark revision 2017 public broadcasting is treated as non-market producer in S.13. The impact is shown in chapter 2.1.1.3.

Table 3.70: Production account – Information and communication, in million EUR, year 2017*

ÖNACE J	Output	Intermediate consumption	Value added
Initial data (including S.13)	23,692	12,732	10,960
- Taxes on products, except VAT and import taxes	-65		-65
+ Other subsidies on products	15		15
+/- Various corrections to the initial data	670	557	113
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	625	-50	675
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	98	31	67
+ Balancing adjustments	-10	32	-42
Total	25,026	13,303	11,723

* including rounding errors

An outline on how the GNI Expert Group's recommendations on software can be found in chapter 5.10 of the inventory.

3.17. Financial and insurance activities (ÖNACE K)

ÖNACE K is made up of ÖNACE division 64 (financial service activities, except insurance and pension funding), division 65 (Insurance, reinsurance and pension funding, except compulsory social security) and division 66 (Activities auxiliary to financial services and insurance activities). The classification in detail is as follows:

Table 3.71: Classification for ÖNACE K - Financial and insurance activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
64	64.11		Central banking
	64.19		Other monetary intermediation
	64.3		Trusts, funds and similar financial entities
	64.9	64.9	Other financial service activities, except insurance and pension funding
		64.2	Activities of holding companies
65	65.11		Life insurance
	65.12		Non-life Insurance
	65.2		Reinsurance
	65.3		Pension funding
66	66.1		Activities auxiliary to financial services, except insurance and pension funding
	66.2		Activities auxiliary to insurance and pension funding
	66.3		Fund management activities

The production account of ÖNACE K is given in the following:

Table 3.72: Production account - Financial and insurance activities, year 2017*

ÖNACE K	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section K	On total GVA	On GDP	On GNI
64	16,530	4	16,526	7,452	9,073	66%	2.8%	2.5%	2.48%
65	8,468	1,381	7,088	3,692	3,396	25%	1.0%	0.9%	0.93%
66	3,527	1	3,526	2,251	1,275	9%	0.4%	0.3%	0.35%
Total	28,526	1,386	27,140	13,395	13,744	100%	4.2%	3.7%	3.8%

* including rounding errors

¹⁾ at producers' prices

²⁾ taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Different compilation steps of the production account for ÖNACE section K are shown in the following:

Table 3.73: Production account - Financial and insurance activities, in million EUR, year 2017*

ÖNACE K	Output	Intermediate consumption	Value added
Initial data (including S.13)	28,385	13,366	15,019
- Taxes on products, except VAT and import taxes	-1,386	0	-1,386
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	-135	-406	272
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	257	436	-179
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	0	0	0
+ Balancing adjustments	18	-1	19
Total	27,140	13,395	13,744

* including rounding errors

3.17.1. Financial service activities, except insurance and pension funding (ÖNACE 64)

The financial intermediation industry, ÖNACE 64, is broken down into the following areas:

Table 3.74: Classification for ÖNACE 64 – Financial service activities, except insurance and pension funding

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation	
64	64.11		Central banking	
	64.19		Other monetary intermediation	
	64.3		Trusts, funds and similar financial entities	
	64.9	64.9		Other financial service activities, except insurance and pension funding
		64.2		Activities of holding companies

Group 64.3 in Austria includes mainly private foundations. Group 64.9 is made up of other credit-granting institutions (64.92) and other financial service activities, except insurance and pension funding n.e.c. (64.99) that since 2003 includes employee welfare funds (compensation funds). Originally, some units had also been classified in ÖNACE 64.91 (financial leasing), but after consultation with experts from the Austrian leasing association and of relevant legal expert opinions it was determined that financial leasing as defined in ESA 2010 does not exist in Austria. For economic purposes and in line with commercial and taxation law criteria and ultimately also civil law criteria, Austrian leasing contracts are generally assigned to the leasing provider and in accord with international conventions are therefore classified as operating leasing. On the basis of these criteria, only hire purchases are regarded as financial leasing for the purposes of ESA 2010 and are therefore recorded for the hire purchaser. The units surveyed as 64.91 were subsequently assigned to ÖNACE 68.20.1 (Leasing of real estate) and 77 (Rental and leasing activities). As group 64.2 is only relevant for its large assets and liabilities, but per definition does not have any relevant production, there is none assigned. Any components like FISIM or R&D that would be assigned to 64.2 are included in 64.9.

Table 3.75: Production account by sector – Financial service activities except insurance and pension funding, year 2017*

ÖNACE 64	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices		99.5	0.5		100
- Intermediate consumption at purchasers' prices		99.0	1.0		100
= Gross value added at basic prices		99.9	0.1		100
in million EUR					
Output at basic prices		16,450	76		16,526
- Intermediate consumption at purchasers' prices		7,380	72		7,452
= Gross value added at basic prices		9,070	3		9,073

* including rounding errors

In the following, the calculation of output, its allocation and intermediate consumption of ÖNACE 64 is described. As the calculation of the central bank follows a sum of costs approach and is therefore different from the other groups, it is described separately. A peculiarity of ÖNACE group 64 is that financial services can be paid for either directly or indirectly. Indirectly paid for services can either be services that are paid for through loading interest charges (FISIM) or services in acquiring and disposing of financial assets and liabilities in financial markets (Market Making services). Both of those types of services are only produced by units in ÖNACE group 64.19, all other groups within group 64 produce only services that are paid for directly. The calculation of the production of these three different types of services is described separately in the following.

3.17.1.1. **Data sources for financial service activities, except insurance and pension funding (ÖNACE 64)**

Data sources: non-FISIM and non-Market Making Services

The main source of data for the non-FISIM sector in group 64 is SBS. For group 64, SBS is based on bank statistics that the Austrian National Bank collects for supervisory purposes and that are edited and supplemented for SBS purposes by *Statistics Austria* (Directorate Business Statistics). For national accounts purposes, the resulting SBS data are partially validated against business reports and corrections are made for special cases like guarantee commissions. For ÖNACE 64.3, VAT-data and data from ÖNACE 70.22 (business and other management consultancy activities) are used to extrapolate SBS that has been discontinued in 2007.

For calculating the production account for group 64.11 (Austrian National Bank), in addition to the above, the profit and loss accounts of the annual report of the Austrian National Bank are used.

Data sources: FISIM

- Quarterly reports on stocks of deposits and loans as well as interest flows between resident and non-resident banks and nonbanks provided by the Austrian National Bank (Vermögens-, Erfolgs- und Risikoausweis, VERA)
- ECB MFI interest rate statistics provided by the Austrian National Bank
- ECB monetary statistics: Quarterly reports on stocks of deposits and loans by user sector and currency provided by the Austrian National Bank
- National financial accounts
- Balance of payments statistics
- Interest rates and stocks of loans from banks to central government provided by the Austrian Treasury

Data sources: Market Making Services

- Balance of payments statistics
- Monthly reports on investment funds provided by the Austrian National Bank

3.17.1.2. **Deriving output of ÖNACE 64.11 (Central bank)**

The central bank is excluded from the calculation of FISIM by convention and its output is calculated as the sum of its costs. The part of the central bank output that is not sold is allocated to the intermediate consumption of financial intermediation institutions.

Table 3.76: Derivation of the production account for ÖNACE 64.11, in thousand EUR, year 2017*

	64.11
Output of central bank that is not sold	357,620
Own-account research and development	10,168
Revenues from rent	2,505
Other services	21,113
Revenues from commissions, expenses and own fees received	6,932
Purchases of energy	1,128
Expenditures on repairs	13,696
Expenditures on rents	5,727
Expenditures on operational leasing	29
Expenditures on non-company workers	6,419
Expenditures on commissions and expenses	5,792
Other operating expenditures	64,870
Intermediate consumption	9,7661
Consumption of fixed capital	44,721
Compensation of employees	241,954
Taxes	18,147
Output	402,483
Gross value added	304,821

* including rounding errors

3.17.1.3. Deriving output of ÖNACE 64 on financial services provided for direct payment

The biggest single contributor to output of ÖNACE 64 is FISIM (financial intermediation services indirectly measured), which consists of indirect payments. Another production factor that is made up of indirect payments is market making services (financial services in acquiring and disposing of financial assets and liabilities in financial markets). The calculation of these two items is detailed in chapters below.

The other relevant items for output comprise commissions received, earnings from rent of buildings and from other services, all of which are direct payments charged by financial institutions. The following table shows the detailed numbers.

Table 3.77: Production account ÖNACE 64 excluding 64.11, in million EUR, year 2017*

	64.19	64.3	64.9
FISIM	7,604	-	-
Market Making Services	756	-	-
Revenue from commissions	4,885	2	549
Revenues from rents	85	315	4
Other services	1,285	0	405
Other revenues	0	0	0
Own-account software	158	2	5
Own-account research and development	2	0	0
Output	14,775	319	963
Purchases of energy	60	2	3
Expenditures on repairs	185	6	6
Expenditures on rent	315	6	16
Expenditures on operating leasing	27	1	1
Expenditures on non-company workers	343	4	30
Expenditures on commissions	1,146	0	313
Other operating expenditures	3,455	94	400
Expenditures on small tools	0	0	0
Intermediate consumption of national bank services	358	-	-
Intermediate consumption	5,888	112	769
Value added	8,887	207	193

* including rounding errors

3.17.1.4. FISIM – Financial intermediary services indirectly measured

The notion of financial intermediation services indirectly measured (FISIM) has been an integral part of national accounts since their inception. The idea behind the concept is that besides producing services that are remunerated directly for example via commissions, financial intermediaries produce output by providing a mechanism to allow units to lend to each other and borrow from each other, respectively. These services are paid for indirectly – the financial institutions charge for them by demanding a higher interest rate on loans and paying out a lower interest on deposits than they could. In order to account for this output, national accountants have had to come up with a method of how to measure it.

The method of how FISIM is calculated has evolved with ESA, and with ESA 2010 again there are new aspects to the calculation that have changed both level and development of the value of FISIM. In the beginning, FISIM had been calculated as the sum of all earnings on interest minus all expenditure on interest plus the balance from financial transactions plus the earnings on securities. However, there was no breakdown of the use of FISIM by various units ("customers"). Instead, a fictitious unit with an output of zero had been introduced to which the total value of FISIM was allocated as intermediate consumption.

In 2002, a new definition of FISIM was introduced, and based on it a way of how to break down FISIM according to user categories. FISIM was now to be calculated using a bottom-up approach instead of the old top-down method as the difference between actual and theoretical interest flows in the different sectors. The rationale behind this method was that not the whole difference of interest earned minus interest paid out should be seen as remuneration for services but only the part that is earned by charging a mark-up over a reference interest rate (the rate at which financial intermediaries can refinance themselves) on loans and the part that is earned by paying out a rate lower than a reference interest rate on deposits. The remaining interest was to be accounted for as property income.

With ESA 2010, again the calculation of FISIM has been refined, although the basic notion has stayed the same. Two of the most important changes are that now different reference rates can be used for different currencies and that the way how to calculate the internal reference rate has been changed. The current method is described in the following:

3.17.1.4.1. Stocks

The calculation of FISIM production starts with stocks. Financial institutions provide loans to and take deposits from different groups of customers, which are identical with the economic sectors: S.11 non-financial corporations, S.12 financial corporations, S.13 general government, S.14 private households, S.15 non-profit institutions serving households. Stocks in sector S.13 are further subdivided into the four groups of S.1311 (central government – federal level), S.1312 (state government – regional level), S.1313 (local government – municipalities) and S.1314 (social security funds). Stocks in sector S.14 can be divided into the following subgroups according to the role that a household is taking regarding the loan or deposit in question: Loans to households as consumers, loans to households in their capacity as owners of unincorporated enterprises (this means mainly farmers and self-employed workers), loans to households for the construction or acquisition of dwellings and accommodation, deposits of private households in their capacity as owners of unincorporated enterprises, and deposits of private households in their capacity as consumers. The data on stocks for each mentioned (sub-)sector are taken from national financial accounts that are provided by the Austrian National Bank. These data follow the guidelines for national accounts (ESA 2010) and thus include non-performing loans as long as they are in the books of the banks. Using data from monthly reports by banks for supervisory purposes provided by the Austrian National Bank, the stocks of each sector are broken down further into stocks held in Euros, Swiss francs, US-American dollars, Japanese yen and other foreign currencies.

3.17.1.4.2. Interest Flows

Next, "actual" flows of interest between the banking sector and the different groups of customers listed above are calculated by multiplying data on stocks of loans and deposits with corresponding "actual" interest rates taken from ECB interest rate statistics, which provide different interest rates for the numerically relevant institutional sectors (S11, S12 (nonbanks) and S.14 (separately for loans for housing construction and for consumption and other loans)). For a part of central government (old loans with special conditions that are being paid back over a long period) a corresponding interest rate provided by the Austrian Treasury is used. As no direct information is available for non-profit

institutions as well as for state and local government, which albeit hold only negligible shares of stock, interest rates are imputed. The rates are not weighted according to their maturity.

In order to calculate FISIM it is assumed that besides actually applied interest rates so-called "reference rates" exist, which are the rates which both lender and borrower would consent to would they be dealing with each other directly without the intermediation of an institution. These rates do not include service charges or risk premiums and are therefore the same for depositors and borrowers. In practice, interbank interest rates are used as reference rates: The internal Euro reference rate is calculated by dividing the sum of interest receivable on loans and interest paid on deposits between resident financial institutions by the corresponding stocks of loans and deposits between resident financial institutions. For internal reference rates for the three numerically important foreign currencies, three-month interest rates on Swiss francs, US-American dollars und Japanese yen provided by the Austrian National Bank are used. These rates of interest multiplied by the respective stocks of deposits and/or loans yield the "theoretical" flows of interest.

3.17.1.4.3. The calculation of FISIM production

FISIM is calculated quarterly as the difference between the theoretical interest flows and the actual interest received or owed. It is calculated separately for each of the above mentioned user sectors. Within each sector, FISIM on loans (actual minus theoretical flows of interest from borrowers to financial intermediation institutions) and FISIM on deposits (theoretical minus actual flows of interest from financial intermediation institutions to investors) is calculated separately. Total production of FISIM by financial intermediation institutions is the sum of these individual components.

Only loans and deposits of nonbanks vis-à-vis financial institutions are taken into account. By definition there is no FISIM produced in interbank business and flows of interest between or within the subsector S.122 only impact the production of FISIM through the internal and external reference rate. Also, by definition other forms of investing or borrowing money than loans and deposits do not yield FISIM. Also, in Austria all FISIM producing units are classified in sector S.122 by the Austrian National Bank, that database is used for the calculations. Therefore there is only FISIM production in S.122 and the internal reference rate is calculated by using only data referring to S.122, but this still complies with ESA 2010 as all relevant units are included.

3.17.1.4.4. Imports and exports of FISIM

As the balance of payments statistics of the Austrian National Bank record only financial intermediation services for which explicit payment is made (fees, commissions), the value of cross-border financial services which are paid for indirectly (FISIM imports and exports) has to be estimated, too.

FISIM exports occur when resident financial institutions give loans to non-resident nonbanks or take in deposits from non-resident nonbanks. Imports occur when non-resident financial institutions give loans to resident nonbanks or take in deposits from resident nonbanks. The calculation of exports is done in analogy to the method for calculating domestic production described above with the exception that data on actual interest flows are directly available (and don't have to be calculated as the product of

stocks and interest rates) as there is no need to separate stocks according to user sector. Theoretical interest flows are calculated by multiplying stocks of loans granted to non-residents and stocks of deposits of non-residents with an external reference rate. In analogy, the external reference rate is calculated as the ratio of interest on loans plus interest on deposits that resident financial institutions receive from non-resident financial institutions to the corresponding stocks. Only one rate is used as we don't have information on how much of the stocks are in different currencies. Actual and theoretical interest flows are combined in analogy to domestic production. Again, FISIM on loans and FISIM on deposits is calculated separately. Their sum results in total FISIM exports.

Due to data constraints, the estimation of imports uses the following approach: Data on stocks of loans and deposits of resident nonbanks with non-resident banks is used to break down the aggregate interest flow on deposits and the aggregate interest flow on loans taken from balance of payments statistics. Then it is assumed that the ratio of FISIM to actual interest flow is the same for imported FISIM as it is for domestic FISIM, for loans and deposits in each user sector respectively. Therefore those ratios (domestic FISIM by domestic actual interest flow) are applied to the respective shares of incoming interest flow of each sector. The result is estimated values for each user sector for deposits and loans separately. The imports furthermore do not include any loans from the European Stability Mechanism and International Monetary Fund. Loans from the European Investment bank (and European Investment Fund) as well as loans from other international banks classified in S125 are on the other hand included in the calculation of Imports in FISIM.

3.17.1.4.5. User allocation of FISIM

Produced and imported FISIM is used as intermediate consumption by sectors S.11 (non-financial corporations), S.12 (financial corporations, except S.122/ ÖNACE 64.19), S.13 (general government), by households in sector S.14 in their capacity as owners of unincorporated enterprises or in their capacity as owners of dwellings and by sector S.15 (NPISH). FISIM is used as final consumption by households in sector S.14 in their capacity as consumers. FISIM is also exported.

FISIM has to be allocated among user industries (ÖNACE classes). As data on the distribution of stocks of loans and deposits across industries within the sectors is not available (save for ÖNACE 64.3, where allocation is therefore based on its stocks of loans/deposits), in line with ESA 2010 the allocation of FISIM to ÖNACE classes within sectors S.11, S.12 (except ÖNACE 64.3), S.14 and S.15 is done based on the output of each industry.

Within the four subsectors S.1311 to S.1314 (central, state, local government and social security funds), FISIM is first broken down by the different legal entities within each subsector (that includes the central state's main unit (Bund), various extrabudgetary units, regions (*Länder*), municipalities, and social insurance funds, as well as chambers and funds) and then further by industries within those entities.

The breakdown of FISIM on loans and deposits across legal entities within S.13 is done by assigning each legal entity the share of FISIM that corresponds to its respective share of interest payments for bank loans/deposits of total interest payments. Interest payments are used to structure FISIM instead of stocks of loans and deposits because at the moment, available data on interest payments and on

liabilities are not always entirely consistent, which means that if the breakdown would be done by stocks of loans, for some legal entities the situation could arise that its FISIM would be larger than its interest payments. This would result in a negative value for the FISIM-adjusted interest flow of that entity. If the consistency of the data improved, however, the method should be changed.

Within each legal entity, FISIM in S.13 is then broken down by industries using the shares of the different industries of the entity's output (like in the other sectors).

FISIM as a type of consumption expenditure of households is fully assigned to COICOP class 12610000.

FISIM as a type of consumption expenditure of government is fully assigned to COFOG class 01.7.0 *Public debt transactions* or expenditure for collective consumption. These entries affect intermediate consumption, output, consumption expenditure, interest expenditure and revenue and total expenditure and revenue of the general government sector and/or its public entities.

The FISIM part of the rental payments is adequately allocated.

3.17.1.4.6. Effect of FISIM on market and non-market producers

As the output of non-market producers is calculated as the sum of their costs, using FISIM has a different effect on them as on market producers. For market producers (including households as owners of unincorporated enterprises and of dwellings) and non-market producers alike, FISIM is a component of intermediate consumption. Households in their capacity as consumers use FISIM for final consumption. As non-market producers' output is their sum of costs, however, for them, intermediate consumption turns final consumption, so FISIM is also a component of their final consumption expenditure.

When resident market producers (including households as owners of unincorporated enterprises and of dwellings) use FISIM produced by resident financial institutions, their intermediate consumption increases by the same value as the output of the financial institutions increases when FISIM is produced. Therefore, GDP and national income is not changed compared to a situation where no FISIM would be allocated.

When resident non-market producers use FISIM produced by resident financial institutions, however, an increase of their intermediate consumption also means an equivalent increase of their production and their value added is not affected by FISIM. As FISIM production is increasing value added of resident financial institutions, however, in this case value added of the total economy and national income increases. Also, when households use FISIM for final consumption, GDP and national income increase by the amount of allocated FISIM.

When FISIM is exported, GDP rises but national income is unchanged, as its increase is offset by a decrease in interest receivable less payable towards the rest of the world (see chapter 8.3.1).

When FISIM is imported by resident market producers (including households as owners of unincorporated enterprises and of dwellings), GDP decreases by the amount of those imports as intermediate consumption of resident units increases but the corresponding production of FISIM

happens abroad. National income, however, is unchanged as this decrease is offset by an increase of interest receivable less payable towards the rest of the world (see chapter 8.3.1).

When FISIM is imported by resident non-market producers, GDP remains unchanged as value added of the non-market producers stays the same (intermediate consumptions and production rise by the same amount) and the production of FISIM happens abroad. National income, however, increases as there is an increase of interest receivable less payable towards the rest of the world. In analogy, when households use imported FISIM for final consumption, there is no impact on GDP and national income increases (see chapter 8.3.1).

3.17.1.4.7. FISIM in numbers

Table 3.78: Reference rates, year 2017*

Reference rates	2017
Internal reference interest rate EUR	0.67%
Three month interest rate CHF	0.00%
Three month interest rate JPY	0.06%
Three month interest rate USD	1.26%
External reference interest rate EUR	1.46%

Table 3.79: Production of FISIM, domestic, in million EUR, year 2017*

Loans		Stocks	Actual interest flows	FISIM
S.11	Loans to non-financial companies	151,782	2,691	1,706
S.125 + S.126	Loans to non-monetary financial institutions	13,178	261	172
S.127 (64.3)	Loans to private foundations	3,036	53	34
S.128 + S.129	Loans to insurance and pension funds	30	5	3
S.1311	Loans to central government, excluding independent agencies	550	13	10
S.1311	Loans to central government, independent agencies	1,091	17	11
S.1312	Loans to federal <i>Länder</i>	6,170	114	72
S.1313	Loans to municipalities including Vienna	8,753	174	110
S.1314	Loans to social insurance	314	4	1
S.14	Loans to households, loans for housing construction	107,156	1,862	1,272
S.14	Loans to households, consumption loans	17,990	552	433
S.14	Loans to households, other loans	31,488	966	760
S.15	Loans to non-profit organisations	2,860	18	32
S1	Total	344,396	6,731	4,615
Deposits		Stocks	Actual interest flows	FISIM
S.11	Deposits from corporations	64,309	82	342
S.125 + S.126	Deposits from non-monetary financial institutions	9,847	12	52
S.127 (64.3)	Deposits from private foundations	4,122	5	23
S.128 + S.129	Deposits from insurance and pension funds	3,632	5	24
S.1311	Deposits from central government, excluding independent agencies	1,101	82	6
S.1311	Deposits from central government, independent agencies	5,127	8	32
S.1312	Deposits from federal <i>Länder</i>	3,787	4	20
S.1313	Deposits from municipalities including Vienna	6,570	7	34
S.1314	Deposits from social insurance	4,203	7	20
S.14	Deposits from households as entrepreneurs	47,771	135	198
S.14	Deposits from households as consumers	189,864	503	739
S.15	Deposits from non-profit organisations	6,451	8	37
S1	Total	346,784	860	1,525

* including rounding errors

Table 3.80: FISIM external contribution, in million EUR, year 2017*

Exports	1,425
of which loans	1,050
of which deposits	375
Imports	1,002
of which loans	456
of which deposits	547

* including rounding errors

Table 3.81: FISIM supply and use by sector, in million EUR, year 2017*

FISIM	Production	Final consumption of private households	Intermediate consumption of households as owners of dwellings	Intermediate consumption of market producers	Intermediate consumption of non-market producers	External contribution	Sums
S.1 excl. Imports	7,604						7,604
S.1 imports						1,002	1,002
S.1 exports						1,425	1,425
S.12 excl. imports				345			345
S.12 imports				161			161
S.13 excl. imports				42	376		419
S.13 imports					200		200
S.14 private consumption (no imports)		3,276					3,276
S.14 as owners of housing (no imports)				1,470			1,470
S.11+S.14 as owners of enterprises excl. imports				3,006			3,006
S.11+S.14 as owners of enterprises imports				585			585
S.15 excl. imports					37		37
S.15 imports					0		0

* including rounding errors

The balanced impact of FISIM on GDP and GNI (including rounding errors) on the production and expenditure side can be verified in the following table:

The impact of production and allocation of FISIM on GDP is 2,445 billion euros. GDP-impact = S.12 Nace 65.11 (market producer, but calculated at sum of costs) (34) + S.13 non-market producers excl. imports (554) + S.15 excl. imports (69) + S.14 private consumption, no imports (1,172) + exports (1,425) – S.12 imports () – imports from market producers in S.11, S.12, S.14SO+WO (741) = 2,445 billion euros).

The impact of production and allocation of FISIM on GNI is 2,022 billion euros. GNI-impact = S.12 Nace 65.11 (market producer, but calculated at sum of costs) (34) + S.13 non-market producers incl. imports (554+194) + S.14 private consumption, no imports (1,172) + S.15 incl. imports (69) = 2,022 billion euros).

GNI-impact also equals GDP-impact (2,445 billion euros)) plus FISIM adjustment of interest received from the rest of the world-503 million euros, see Process) minus FISIM adjustment of interest paid to the rest of the world (-80,065 million euros, see Process Table) = 2,022 billion euros.

Table 3.82: FISIM imports by sector, in million EUR, year 2017*

S.11	Loans to non-financial companies	190
S.125 + S.126	Loans to non-monetary financial institutions	4
S.127 (64.3)	Loans to private foundations	32
S.128 + S.129	Loans to insurance and pension funds	0
S.1311	Loans to central government	182
S.1312	Loans to federal Länder	5
S.1313	Loans to municipalities including Vienna	5
S.14	Loans to households, other loans	37
S.15	Loans to non-profit organisations	0
S.1	Loans	456
S.11	Deposits from corporations	308
S.125 + S.126	Deposits from non-monetary financial institutions	7
S.127 (64.3)	Deposits from private foundations	51
S.128 + S.129	Deposits from insurance and pension funds	11
S.1311	Deposits from central government	67
S.1312	Deposits from federal Länder	0
S.1313	Deposits from municipalities including Vienna	2
S.14	Deposits from households as entrepreneurs	88
S.15	Deposits from non-profit organisations	0
S.1	Deposits	533

* including rounding errors

3.17.1.5. Market Making Services

Providing market making services means the buying and selling of financial instruments or commodities on a regular and continuous basis at publicly quoted prices and hence providing liquidity, reducing transaction costs and facilitating trade and market efficiency.

In national accounts, the production of financial services needs to be accounted for and therefore market making services have to be included in the calculations concerning the banking sector. As there is no direct service charge associated with these services of market making and market clearing, its value is estimated indirectly as the value of the margins that financial institutions charge when they are buying or selling securities (like bills or bonds), equities, investment fund shares and foreign currencies: When a financial institution sells a security, a service charge is levied. Instead of selling it for the estimated market value, a margin is charged and the institution asks for a higher price. Also when securities are bought by financial institutions, a charge is applied, as the price offered to the seller is lower than the estimated market value. In the national accounts concept, these margins are understood to be paying for the provision of market making services by the financial institution.

In Austria, all units that produce market making services are classified in sector S.122. Data on margins (domestic, as well as imported and exported) is directly provided by the Austrian National Bank to whom banks have to report their respective data since the introduction of BPM 6. Therefore for the available data the financial assets, for which the margins are estimated, are indicated.

Currently, however, *Statistics Austria* is only able to calculate margins for services connected with securities as well as investment fund shares, as we lack corresponding data on equities, and foreign currencies.

Like FISIM, produced and imported market making services are used as intermediate consumption by sectors S.11 (non-financial corporations), S.12 (financial corporations), by households in sector S.14 in their capacity as owners of unincorporated enterprises or in their capacity as owners of dwellings and by sector S.15 (NPISH). S.13 has only a negligible share. Different from FISIM, market making services are also used for intermediate consumption by financial institutions within S.122 itself. Market making services are used as final consumption by households in sector S.14 in their capacity as consumers. They are also imported and exported. As this description points out, market making services are output adequately allocated to uses.

Market Making Services in numbers

Table 3.83: Production of market making services by paying sector, domestic, in million EUR, year 2017*

S.11	Non-financial corporations	155
S.122	Deposit-taking corporations except the central bank	347
S.124 –S.127	Investment funds, financial auxiliaries, captive financial institutions and money lenders	59
S.128 + S.129	Insurance corporations and pension funds	67
S.14	Households as consumers	208
S.14	Households as entrepreneurs	5
S.15	Non-profit institutions serving households	11
S1	Total	851

* including rounding errors

Table 3.84: Market making services, external contribution, in million EUR, year 2017*

Exports	242
Imports	371

* including rounding errors

3.17.2. Insurance, reinsurance and pension funding, except compulsory social security (ÖNACE 65)

ÖNACE division 65 covers private insurance companies and small mutual associations. The ancillary activities associated with private insurances (e.g. activities of insurance brokers and representatives) are classified in ÖNACE 66.

Division 65 is broken down as follows:

Table 3.85: Classification of ÖNACE 65 – insurance

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
65	65.11		Life insurance
	65.12		Non-life insurance
	65.2		Reinsurance
	65.3		Pension funding

Non-life insurance is further broken down into health insurance and non-life/accident insurance.

3.17.2.1. Sources of data

The production account for private insurance is calculated from the insurance supervisory authority's quarterly and annual statistics. This publishes the balance sheets and profit and loss accounts, as well as the technical and non-technical accounts for insurance companies broken down into domestic insurance companies and branches of non-resident insurance companies on national territory. Data is presented by individual type of insurance and summarised for each insurance company. As the published data has already been aggregated, the insurance supervisory authority makes available forms with detailed analyses of insurance statistics. For small mutual associations and private pension funds there are separate statistics or forms.

3.17.2.2. Derivation of output and value added of life insurance

With the implementation of ESA 2010 Austria has shifted from a service charge concept towards a sum of costs concept, calculating output of life insurance. The reason was that changes in (private) accounting rules concerning technical reserves resulted in more and more inexplicable fluctuations of output.

Table 3.86: Derivation of output and value added of life insurance, year 2017*

in million EUR	2017
Purchase of energy	1.756
Expenditure on repairs	8.597
Expenditure on rents	14.218
Expenditure on operational leasing	0.847
Expenditure on FISIM	33.710
Expenditure on market making services	43.730
Expenditure on commissions and expenses	112.298
Consumption of reinsurance services	53.449
Other operating expenditure	573.407
Intermediate consumption	842.035
Consumption of fixed capital	62.576
Compensation of employees	382.317
Taxes	223.717
Profit margin (mark-up)	203.158
Output	1,837.200
Gross value added	995.165

* including rounding errors

Data result from supervisory statistics, apart from insurance taxes, which are taken from tax statistics and consumption of fixed capital which is taken from the model as described in chapter 3. The profit margin is calculated as average return on equity for the last ten years.

$$Profit\ margin_{(t)} = \frac{\sum_{i=t}^{t-10} (profit\ of\ common\ business\ operation/equity)}{10}$$

Service charge of life insurance is then derived as output minus own-account research and development minus own-account software minus revenue from rent minus revenue from other services.

Table 3.87: Derivation of life insurance service charge, year 2017*

in million EUR	2017
Output	1,837.200
Own-account research and development	-
Own-account software	3.217
Revenue from rent	108.451
Other services	6.318
Life insurance service charge	1,719.214

* including rounding errors

On the use side life insurance service charge is fully recorded as consumption of private households (apart from a minor share that is exported).

3.17.2.3. Derivation of output and value added of non-life insurance

Output in accordance with ESA 2010 – supplemented by the requirements of the insurance industry task force – corresponds to the service charge and is made up of the following components:

Output = + actual earned premiums
+ additional premiums
- adjusted claims
+/- changes in technical reserves.

It also includes revenue from other services, rent and self-produced additions to fixed assets. In order to bring the data into line with these requirements, the production account is broken down into three sections:

- technical insurance account
- earnings from investments
- other non-technical earnings

The source of data is the Austrian insurance statistics issued every year by the financial market supervisory authority (FMA)¹⁸ which covers all licensed insurance companies in Austria. Data on import and export of insurance services are also available from the supervisory authority for the insurance industry.

3.17.2.3.1. Technical account

Table 3.88: Technical account non-life insurance net of reinsurance, in million EUR, year 2017*

direct insurance	
Accrued premiums	11,210
+ Other technical income	35
Claims incurred, net of reinsurance	7,177
- Adjusted claims	6,855
- Bonuses and rebates, net of reinsurance	109
- Changes in other technical provisions	390
- Changes in the equalization provisions	189
+ Insurance tax	746
+ Fire protection tax	62
+ Premiums for small mutual associations	19
- Benefits from small mutual associations	12
= Output of technical account	4,894

* including rounding errors

¹⁸ The FMA is an independent and integrated supervisory authority for the Austrian financial market and is an institution under public law. It is responsible for supervising financial intermediation institutions, insurance companies, pension funds, employee welfare funds, investment funds, securities service companies, companies quoted on the stock exchange and the securities exchange.

Accrued premiums are the term used in Austria for premiums actually earned. These are actual premiums which are intended to cover the risk in the current accounting period (accrual principle). The actual earned premiums do not, as a rule, correspond to the actual premiums received as the latter are frequently intended to cover the risk both in the current and in future accounting periods.

The same principle applies for claims incurred. Claims incurred (claims due) cover events during the current accounting period. However, benefits are often paid during a later accounting period than in the one in which the event giving rise to the benefit occurs, so claims due are not the same as claims paid.

The claims paid recorded in the insurance statistics also contain components which are not paid to the policyholder. These are expenditure for settlement (including, for example, payments for expert opinions, legal costs, personnel costs, etc.). These components are deducted and allocated either to personnel costs or the corresponding intermediate consumption items. This is done within the Structural Business Statistics and afterwards transferred to national accounts.

With the implementation of ESA 2010 National Accounts had to shift from claims incurred to **adjusted claims**. Adjusted claims results in a smoothing of gross incurred claims over time. Technically adjusted claims are the geometric average of the previous five years of claims incurred, corrected for inflation.

In the case of major events such as natural disasters as far as insured, the difference between claims incurred and adjusted claims are recorded as a capital transfer from insurance companies to the policyholder.

Changes in reserves to cover risks and reserves for profit sharing for insurees are made up of payments into reserves for covering risks and reserves for insurance contracts with profit sharing by insurees with a view to accumulating the guaranteed capital sums under these insurance contracts. These reserves are exclusively for life insurance policies.

Insurance tax is broken down by type of insurance (e.g. life insurance, accident insurance etc.) by means of estimates on the basis of the taxation rates and the deferred premiums from direct business.

3.17.2.3.2. Earnings from investments (premium supplements)

The earnings from investing premiums are adjusted for realised and non-realised profits (holding gains). This is possible because interest and dividends as well as realised and non-realised profits are recorded separately in the basic statistics for insurance supervision.

Table 3.89: Earnings from investments, in million EUR, year 2017*

Rents	139.679
+ Shares, holdings, participation and additional (tier 2) capital	717.412
+ Bonds and fixed interest securities	208.068
+ Loans and mortgage loans	58.977
+ Cash at bank and in hand	0.506
= Total earnings	1,124.642
Adjusted for own funds	803.426

* including rounding errors

Following ESA 2010 output only includes investment profits which are attributable to policy holders. Thus they have to be adjusted for the earnings from own funds. These can be identified from the insurance statistics which indicate what proportion of the investment profits are to be transferred to the technical insurance account.

3.17.2.3.3. Derivation of output of non- life insurance

Other non-technical earnings (non-characteristic production) and self-produced software (P.12) are added to the above components of output.

Table 3.90: Derivation of output of the insurance industry without pension funds, in million EUR, year 2017*

Direct insurance	
Output of the technical insurance account	4,894.121
+ Output financial management	803.426
+ Non-technical other earnings	199.494
+ car registration fees	250.510
= P.11	6,147.55
+ P.12	20.856
= P.1	6,168.407

* including rounding errors

3.17.2.3.4. Derivation of intermediate consumption and value added of non-life insurance

Intermediate consumption of the (direct) insurance industry consists of two parts, consumed reinsurance services and other intermediate consumption.

Table 3.91: Intermediate consumption of the insurance industry, in million EUR, year 2017*

Direct business	
Purchase of energy	7.058
Expenditure on repairs	23.347
Expenditure on rent	48.483
Operational leasing	3.299
Commissions	328.526
Other operating expenditure	1,860.738
Consumption of reinsurance services	244.337
Small tools	0.142
Identified value added components	-52.056
Intermediate consumption	2,463.874

* including rounding errors

The source of data for the individual intermediate consumption items is the *SBS* which, however, is also based on the financial supervision sources, except in respect of the service charge for consumption of reinsurance services.

Consumption of reinsurance services is the process whereby one insurance company transfers part of the risk to other insurance companies. This transaction between insurance companies is called reinsurance. Both life insurance and non-life insurance companies can conduct reinsurance transactions. Reinsurers can be either companies which both reinsure and also conclude insurance contracts with insurance companies or companies which only deal in reinsurance.

The source of data for consumption of reinsurance services by direct insurers is, again, the insurance statistics. This business is calculated essentially in the same way as direct business.

Table 3.92: Calculation of passive reinsurance business, in million EUR, year 2017*

Adjusted claims	2,006.215
+ Increase of technical reserves	-0.894
+ Other earnings	776.437
- Accrued premiums	2,887.239
- Other expenses	0.638
= Consumption of reinsurance services	-106.119
= Adjusted for holding gains	-244.502

* including rounding errors

The item "other earnings from reinsurance business" is adjusted when calculating the reinsurance service charge. This item includes both premiums from contracted out reinsurance (reinsurance commissions) and capital profits from investing reinsurance premium payments which are fed back to direct insurances in the form of rebates. These capital profits are adjusted for realised and non-realised profits.

3.17.2.3.5. Distribution of insurance services between intermediate consumption and final consumption

The service charges on life and health insurance and pension funds are booked as consumption of private households in the expenditure account. The charges for non-life/accident insurance are broken down into consumption and intermediate consumption components. Quotas are set on the basis of the individual insurance lines which are to be assigned to private households or companies. These quotas result from a poll carried out by the Austrian Insurance Association at 5 major insurance companies. For 20 several insurance products these units distinguished between premiums earned from commercial and private policy holders for the year 2011.

Table 3.93: Distribution of insurance services in %, year 2017*

Insurance business	Use	2017
Fire civil and agriculture	private consumption	35.87
	intermediate consumption	64.13
Fire industry	private consumption	0.38
	intermediate consumption	99.62
Fire, business interruption civil	private consumption	7.24
	intermediate consumption	92.76
Fire, business interruption industry	private consumption	0.3
	intermediate consumption	99.7
Household	private consumption	96.02
	intermediate consumption	3.98
Electrical appliances supplementary	private consumption	57.06
	intermediate consumption	42.94
Insurance cover against burglary and house-breaking	private consumption	27.28
	intermediate consumption	72.72
Machines	private consumption	0.81
	intermediate consumption	99.19
Machines, business interruption civil	private consumption	0.02
	intermediate consumption	99.98
Water damage insurance	private consumption	38.29
	intermediate consumption	61.71
Glass breakage	private consumption	17.62
	intermediate consumption	82.38
Refrigerated goods	private consumption	56
	intermediate consumption	44
Storm	private consumption	49.66
	intermediate consumption	50.34
Animals	private consumption	49.67
	intermediate consumption	50.33
General liability	private consumption	32.78
	intermediate consumption	67.22
Aircraft	private consumption	0
	intermediate consumption	100

Insurance business	Use	2017
Legal expenses	private consumption	85.3
	intermediate consumption	14.7
Transport	private consumption	1.14
	intermediate consumption	98.86
Credit	private consumption	50
	intermediate consumption	50
Other	private consumption	30.93
	intermediate consumption	69.07
Vehicle liability	private consumption	71.78
	intermediate consumption	28.22
Car Insurance	private consumption	67.9
	intermediate consumption	32.1
Car accident insurance	private consumption	84.43
	intermediate consumption	15.57
Accident	private consumption	95.9
	intermediate consumption	4.1
Business interruption for self-employed and freelancer	private consumption	0
	intermediate consumption	100

* including rounding errors

Table 3.94: Distribution of the service charge, in million EUR, year 2017*

Private consumption	2,875.638
Intermediate consumption	2,018.296

* including rounding errors

Intermediate consumption is broken down by industry on the basis of the current supply and use tables.

3.17.2.4. Output and value added of reinsurance services

In Austria there are no insurance companies that produce reinsurance services as primary production. Thus reinsurance is produced as secondary production by direct insurers, although the volume plays a minor role and has been decreasing continuously over the past years. The derivation of output and value added of reinsurance services follows the same rules as for direct insurance services.

Table 3.95: Derivation of servicecharge of produced reinsurance, in million EUR, year 2017*

Reinsurance	
Accrued premiums	1,139.034
+ Other technical income	1.263
Claims incurred, net of reinsurance	737.505
- Adjusted claims	737.505
- Bonuses and rebates, net of reinsurance	0.166
- Changes in other technical provisions	2.464
- Change in the equalization provision	0.055
= Output of technical account	405.034

* including rounding errors

Again intermediate consumption of reinsurance services consists of consumption on reinsurance services and other intermediate consumption. Values are adjusted for holding gains.

Table 3.96: Derivation of consumption of reinsurance services, in million EUR, year 2017*

Adjusted claims	157.643
+ Increase of technical reserves	-1.951
+ Other earnings	15.937
- Accrued premiums	83.307
- Other expenses	3.427
= Consumption of reinsurance services	-11.076
= Adjusted for holding gains	-12.987

* including rounding errors

Table 3.97: Derivation of intermediate consumption of produced reinsurance, in million EUR, year 2017*

Reinsurance	
Purchase of energy	7.179
Expenditure on repairs	3.900
Expenditure on rent	14.972
Operational leasing	0.098
Commissions	10.523
Other operating expenditure	270.825
Consumption of reinsurance services	12.980
Small Tools	0.028
Identified value added components	-0.140
Intermediate consumption	320.364

* including rounding errors

Table 3.98: Derivation of value added of produced reinsurance, in million EUR, year 2017*

Reinsurance	
Service charge	405.034
+ Own-account software	1.486
+ R&D	-
= Output	406.520
- Intermediate consumption	320.365
= Value added	86.155

* including rounding errors

3.17.2.5. Derivation of output and value added of pension funds

The basic conditions for the setting up and growth of pension funds were created by the *Pensionskassengesetz (PKG – Pension Fund Act)*¹⁹. The production account for pension funds (ÖNACE 65.3) is produced using form B (income account for investment and risk coverage schemes in accordance with the Annex to § 30 *PKG*), which is made available by the Federal Ministry of Finance (*BMF*).

Similar to life insurance services, pensions funds are not calculated using a service charge concept but a sum of costs method. The reason for this is the need to exclude holding gains from investment profits. Using the service charge concept in earlier revisions had led to structurally negative output for several periods, since the interest and dividends were not sufficient over the entire time series to compensate for the negative technical results. Eurostat therefore permitted the sum of costs method to be used as an alternative.

Table 3.99: Derivation of value added of pension funds, in million EUR, year 2017*

Intermediate consumption	32.717
Consumption of fixed capital	1.560
Personnel costs	20.645
Tax	1.313
Output	56.236
Service charge	56.236
Value added	23.519

* including rounding errors

¹⁹ Federal Act of 17 May 1990 on the setting up, administration and supervision of pension funds, Federal Gazette No 281/1990.

3.17.3. Activities auxiliary to financial services and insurance activities (ÖNACE 66)

This industry comprises the following three ÖNACE groups:

Table 3.100: Classification for ÖNACE 66 – Activities auxiliary to financial and insurance activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
66	66.1		Activities auxiliary to financial services, except insurance and pension funding
	66.2		Activities auxiliary to insurance and pension funding
	66.3		Fund management activities

Calculations are based on Structural Business Statistics. As the earnings of ÖNACE 66 mainly consist of commissions paid by banks and insurances, the commission payments of ÖNACE industries 64 and 65 serve as a further indicator for the development of earnings. Components which do not constitute intermediate consumption and claims paid by insurance companies are deducted from other operating expenditure. The following tables show how the production account is calculated in detail.

Table 3.101: Production account by sector – Activities auxiliary to financial services and insurance activities, year 2017*

ÖNACE 66	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices		100.0	0		100.0
- Intermediate consumption at purchasers' prices		100.0	0		100.0
= Gross value added at basic prices		100.0	0.0		100.0
in million EUR					
Output at basic prices		3,526	10		2,921
- Intermediate consumption at purchasers' prices		2,251	10		1,954
= Gross value added at basic prices		1,275	0		966

* including rounding errors

Table 3.102: Production account, ÖNACE 66 – Activities auxiliary to financial services and insurance activities, year 2017*

in million EUR	ÖNACE		
	66.1	66.2	66.3
Revenue from commissions	759	1,093	1,131
Revenue from rents	2	2	0
Other services	236	224	28
Other revenues	2	7	2
Revenue from wholesale trade	0	2	0
Revenue from retail trade	0	5	0
Own-account software	21	11	1
Own-account research and development	-	0	0
Purchases of goods for resale	0	3	0
Output at market prices	1,022	1,345	1,162
Purchase of energy	2	11	1
Purchase of materials for treatment and processing	4	1	0
Expenditure on repairs	3	15	5
Expenditure on rent	19	36	11
Expenditure on operating leasing	2	6	1
Expenditure on non-company workers	343	205	625
Expenditures on outward freight	0	0	0
Expenditure on services for resale	142	66	6
Other operating expenditure	124	215	164
Expenditure on small tools	0	0	0
Intermediate consumption	639	555	813
Value added	383	791	349

* including rounding errors

3.18. Real estate activities (ÖNACE L)

ÖNACE section L is made up of ÖNACE division 68 which is broken down further in the national accounts for internal purposes.

Table 3.103: Classification for ÖNACE L – Real estate activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
68	68.1a		Imputed rents
	68.1b		Actual rents
	68.1c	68.10	Buying and selling of own real estate
		68.20-9	Other renting and operating of own or leased real estate
	68.20-01		Leasing of real estate
	68.31		Real estate agencies
	68.32		Management of real estate on a fee or contract basis
	68.99		Real Estate Transfer Tax from commissions

In Austrian National Accounts **housing** (actual and imputed rents) as part of real estate activities is functionally defined, this means that calculations start from the housing stock, regardless of the activity classification of the producers of housing services. The production of rental services in ÖNACE divisions other than ÖNACE 68 is deducted to avoid double counting.

The following table gives an overview of the composition of gross value added for ÖNACE division 68:

Table 3.104: Production account – Real estate activities, year 2017

ÖNACE L	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section L	On total GVA	On GDP	On GNI
68	50,314	-1,110	49,203	16,513	32,691	100%	9.9%	8.9%	8.9%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

ÖNACE Section L contains units from the following institutional sectors:

Table 3.105: Production account by sector – Real estate activities, year 2017

ÖNACE 68	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	96.27		3.73		100
- Intermediate consumption at purchasers' prices	94.66		5.34		100
= Gross value added at basic prices	97.08		2.92		100
in million EUR					
Output at basic prices	47,369		1,834		49,203
- Intermediate consumption at purchasers' prices	15,631		881		16,513
= Gross value added at basic prices	31,738		953		32,691

Sector S.13

Gross value added of the general government sector is produced by market and non-market producers. These producers are active in a large number of industries. The majority of the "government" market producers in 2017 were in ÖNACE L – Real estate activities – (see the following table of this GNI inventory).

Table 3.106: Gross value added for the general government sector, in million EUR, year 2017*

ÖNACE		Market producers	Non-market producers	Total
01	Crop and animal production, hunting and related service activities	1		1
02	Forestry and logging	2		2
10	Manufacture of food products		0	0
36	Water collection, treatment and supply	9		9
37	Sewerage	23		23
38	Waste collection, treatment and disposal activities; materials recovery	38		38
49	Land transport and transport via pipelines		1,197	1,197
52	Warehousing and support activities for transportation	9	2,276	2,284
55	Accommodation		2	2
56	Food and beverage service activities	-2	3	1
59	Motion picture, video and television programme production, sound recording and music publishing activities		1	1
60	Programming and broadcasting activities		564	564
62	Computer programming, consultancy and related activities	2	15	18
63	Information service activities	49		49
64	Financial service activities, except insurance and pension funding	0	3	3
68	Real estate activities	937	16	953
69	Legal and accounting activities	0		0
70	Activities of head offices; management consultancy activities	27	3	30
71	Architectural and engineering activities; technical testing and analysis	13	157	171
72	Scientific research and development	6	630	637
73	Advertising and market research	1	1	3
74	Other professional, scientific and technical activities	3	1	4
75	Veterinary activities	5	3	9
77	Rental and leasing activities	6	68	74
78	Employment activities	5		5
79	Travel agency, tour operator and other reservation service and related activities		38	38
81	Services to buildings and landscape activities		267	267
82	Office administrative, office support and other business support activities	2	0	2
84	Public administration and defence; compulsory social security		16,644	16,644
85	Education		15,482	15,482
86	Human health activities	13	9,038	9,050
87	Residential care activities	374	137	510
88	Social work activities without accommodation	4	214	218
90	Creative, arts and entertainment activities	4	481	484
91	Libraries, archives, museums and other cultural activities	4	355	359
93	Sports activities and amusement and recreation activities	4	243	246
94	Activities of membership organisations	4	920	924
96	Other personal service activities	10		10
	Total	1,556	48,759	50,315

* including rounding errors

The data for ESA 2010 transactions are derived from the economic breakdown of closed accounts or are already the result of processing of the public accounts statistics on other units of government sector. Value added of market producers is calculated as the difference between output (P.1) and intermediate consumption (P.2). This is illustrated with regard to the closed accounts of the federal government, the federal states and the municipalities in more detail below (see chapter 3.21.2 for the definition of federal government, federal states and municipalities and their public accounting systems).

Table 3.107: National accounts transactions x accounts according to public accounting coding rules

ESA 2010 transaction	Accounts according to public accounting coding rules					
	Bund		Länder		municipalities	
P.11 Market output	80..	Receipts from sales	80..	Receipts from sales	80.	Receipts from sales
	81.. (excluding 815. and 817.)	Receipts from services (excluding charges, contributions and reimbursement for government services)	81.. (excluding 819.)	Receipts from services (excluding write-downs and write-offs)	81. (excluding 815 and 819)	Receipts from services (excluding charges for other administrative services, write-downs and write-offs)
	824.	Receipts from renting and leasing	824.	Receipts from renting and leasing	824	Receipts from renting and leasing
	825.	Receipts from subletting and subleasing	825.	Receipts from subletting and subleasing	825	Receipts from subletting and subleasing
	8260	Current remuneration	8260	Current remuneration		
	827.	Reimbursement for detachment of officials	827.	Reimbursement for detachment of officials	827	Reimbursement for detachment of officials
					850	Interest group contributions
					852	Charges for the use of municipal facilities
					857	Commission fees
P.2 Intermediate consumption	4... (excluding 463. to 467., 4680, 4685, 4690)	Expenditure on durables and consumer goods (excluding expenditure on property facilities and buildings under construction, purchase of machinery and vehicles and other investment – all for the purpose of the armed forces)	4...	Expenditure on durables and consumer goods	4..	Expenditure on durables and consumer goods
	560. and 561.	Travel expenses	560. und 561.	Travel expenses	560	Travel expenses
	571.	Compensation for work contracts	571.	Compensation for work contracts		
	6... (excluding 6420, 65..., 67.. and 69..)	Other administration and operating expenditure (excluding court fees, interest, insurance premiums and insurance claims)	6... (excluding 65..., 67.. and 69..)	Other administration and operating expenditure (excluding interest, insurance premiums and insurance claims)	6.. (excluding 65., 67. and 69.)	Other administration and operating expenditure (excluding interest, insurance premiums and insurance claims)

ESA 2010 transaction	Accounts according to public accounting coding rules					
	Bund		Länder		municipalities	
	70..	Costs of renting and leasing	70..	Costs of renting and leasing	70.	Costs of renting and leasing
	710. to 712.	Charges for the use of municipal facilities	71..	Expenditure on public taxes	711	Charges for the use of municipal facilities
	713.	Contributions from interested parties				
	720.	Other charges and reimbursement	720.	Discounts granted in arrears	720	Contributions to costs (reimbursement) of administrative services
	721.	Patent and licence fees				
	723.	Fixed duty allowances and representation expenses	723.	Discretionary allowance and representation expenditure	723	Fixed duty allowances and representation expenditure
	725.	Library requisities	725.	Library requisities	725	Library requisities
	727.	Compensation for other services of individual persons	727.	Compensation for other services of individual persons	727	Compensation for other services of individual persons
	728.	Compensation for other services of business people, companies and legal persons	728.	Compensation for other services of business people, companies and legal persons	728	Compensation for other services of business people, companies and legal persons
	7290	Current remuneration	7290	Current remuneration	729	Other expenditure

The "raw data" for intermediate consumption are adjusted for two components of FISIM (financial intermediation services indirectly measured): FISIM on loans and FISIM on deposits. These FISIM adjustments are broken down by activity according to their output. More information on FISIM calculation can be found in chapter 3.17.1.4.

3.18.1. Rental and imputed rents

The calculation of output, intermediate consumption and value added of dwelling services considers both occupied and unoccupied dwellings. A distinction is made between temporarily unoccupied units (second residences and weekend homes) and empty units. In the case of temporarily unoccupied units, a full set of calculations is carried out in the same way as for occupied units, i.e. gross rent, intermediate consumption and value added. In the case of empty units, no gross rent is calculated but fixed costs are imputed.

A. Data sources

The most important data sources for calculating the contribution of dwelling services to GDP are the housing census and the **microcensus** survey. The housing census is the most suitable source for determining the structure of the housing stock as it records how many dwellings of specific quality and sizes exist. The housing census was normally carried out every ten years (and most recently in 2001). It was replaced by the **Buildings and Dwellings Register**, which was launched 2004. The Buildings

and Dwellings Register contains address details of land, buildings and dwellings as well as structural data for buildings, dwellings and other usage units. The initial data came from the housing census 2001 and the subsequent construction activity statistics.

Based on the Buildings and Dwellings Register, the microcensus survey is carried out. The sample is stratified by federal states (Bundesländer) in Austria and comprises about 22,500 dwellings (definition of an occupied dwelling = main residence) per quarter throughout Austria. The microcensus covers almost all dwelling specific questions (gross rent, useful area, number of rooms, legal relationship to the apartment, time of construction, operating costs, basic equipment of the apartment, etc.) Questions concerning the heating of the apartment, the presence of passenger cars, garages or parking lots are now integrated in the survey and regularly queried. For more information to the microcensus housing survey see chapter 10.1.4.

B. Calculation method

The stratification method is used in Austrian national accounts. First of all, the entire stock of occupied dwellings is broken down into **rented dwellings** (including sublet dwellings) and **other dwellings** (owner-occupied flats, owner-occupied houses, other legal relationship). Cooperative dwellings are recorded as rented dwellings in the microcensus survey and National Accounts.

The two data sets are broken down according to the stratification characteristics:

- construction period
- type of municipality and
- usable floor area

The type of breakdown is used to calculate average market rents per square meter and stratum which are then used to value the square meter of other dwellings in similar strata (**imputed rents**).

As mentioned above also for **temporarily unoccupied units** a full set of calculations is carried out in the same way as for occupied units, i.e. gross rent, intermediate consumption and value added. These data have to be imputed, since due to the definition of dwellings in the microcensus (dwelling = main residence) no surveyed information for secondary dwellings exists. Thereby *Statistics Austria* links the average imputed housing costs per square meter for main residences with the average useful area of owner occupied dwellings, although a reduction of useful area is considered. This is based on the assumption that second residences and weekend homes are not built for permanent residence and therefore constructed with less useful area.

The costs for **garages and parking lots** are, as mentioned above, now surveyed every quarter in the microcensus whereby the number of personal motor vehicle spaces (garage or parking lot) and the costs of the parking lots are recorded. The data on the costs of rented parking spaces are used as a basis for imputing the costs of parking for other dwellings (in accordance with the stratification method).

Intermediate consumption for the renting of garages and parking spaces is not calculated separately as it is already included in intermediate consumption of the housing industry.

C. Definition of output and intermediate consumption

The gross rent recorded in the microcensus, i.e. the rent excluding heating and hot water costs, comprises the following:

Table 3.108: Definition of output in housing services

Current maintenance costs without major repairs (investments) by the owner and without current maintenance of the dwelling by the tenant (private consumption)	
Current operating costs (water, sewage disposal, refuse collection, cleaning of house and pavement, care of lawns, chimney sweeping, stairwell lighting, lift, garage, etc.)	
Building insurance (fire, third-party liability, mains water, storm insurances, etc.)	
Compensation of employees for caretakers	
Total	Intermediate consumption excluding VAT
Taxes on products (especially property tax B)	
Consumption of fixed capital	
Net operating surplus	
Total	Value added

Gross rents are genuine market prices; there is no direct subsidising of rents in Austria, since any housing allowances go directly to private households as other current transfers. This is also the case when public legal entities (especially the municipality of Vienna) are the owners of dwellings.

The compensation of employees for caretakers, which are recorded as operating costs, are split into costs for caretakers who are employed in houses with flats (and deducted from operating costs of rented dwellings) and costs for caretakers who are employed in houses with owner-occupied dwellings. These expenditures on caretakers are excluded from imputed rents and recorded as activities of households as employers of domestic personell (ÖNACE 97). The rationale behind is to be in line with ESA 2010, since income from imputed rents can comprise only operating surplus and not compensation of employees.

The gross insurance premiums, which are also recorded as operating costs, are converted to the insurance service charge separately.

The gross rental value for rented dwellings and the imputed gross rental value for other dwellings (owner-occupied flats, owner-occupied houses, other legal relationship) are determined using the stratification method described above. Operating costs for rented dwellings are calculated via the microcensus surveys mentioned above. Within the category of **other dwellings**, a distinction is made between owner-occupied houses (one and two-family houses), for which certain cost components do not arise (lift, caretaker), and condominiums (multiple-storey units) when calculating the operating costs. Furthermore, the property tax B - which is included in operating costs - is deducted from intermediate consumption.

D. Current maintenance costs

Current maintenance of buildings is always treated as **intermediate consumption** in Austria and not as final consumption, irrespective of whether the outlay is made by private households (owner-occupied dwellings) or of rental service providers. **Current maintenance in the living area** is always regarded as **final consumption** irrespective of whether it is performed by a consumer or a producer. Expenditures typically made by the tenant include products and materials, such as paints and varnishes, wallpapers, fabric wall coverings, plaster, putty, wallpaper pastes etc., purchased for **minor** maintenance and repair of the dwelling.

Expenditures by the owner include products, materials and fixtures that are used for **major maintenance** and repair, e.g. heating system, building exterior (façade), sanitary equipment. In principle the owner of the dwelling has to bear the costs of normal wear and tear.

This principle naturally applies to the imputation of values for other dwellings as well.

The rents recorded contain operating costs but not the costs of current building maintenance. These costs must therefore be added. Current maintenance costs are calculated by the **capital stock method**. This method can be described as follows:

The current maintenance costs, which must be financed from rental earnings and not operating costs, are assumed on functional and technical grounds to account for **0.45% of the value of the housing stock** (valued at replacement prices, Source: STAT). The ratio used is constantly checked with the results of the Household Budget Survey (HBS), which serves as a benchmark for these estimations and, when necessary, as a data source for modifications. An additional data source for further cross-checking is the business report of the biggest caretaker of municipal flats in Austria ("Wiener Wohnen"). Detailed calculations of these verifications are described in the Austrian response to the information request from Eurostat concerning maintenance and repairs (Reservation VIII, April 2015 and June 2015).

E. Adjustment for double counting

In Austrian National Accounts housing is functionally defined. For this reason, non-characteristic output of rental services already included in other ÖNACE sections have to be deducted. This is done by using information from the input-output statistics. Total output for actual rents was adjusted by EUR 1,442 billion for 2017, intermediate consumption by EUR 453 million.

F. Calculation of housing services for 2017

Table 3.109 shows how output, intermediate consumption and value added are calculated for housing services (68.1a and 68.1b).

Table 3.109: Production account – housing services (68.1a and 68.1b), year 2017*

		in million EUR excluding VAT	
Output (gross rent)			
Rented housing		9,323	
Expenditure on parking spaces included in expenditure on rented housing	-	144	
Garages and parking spaces (rented housing)	+	280	
Other housing	+	21,512	
Unoccupied housing	+	1,954	
Parking space expenditure included in expenditure on owner-occupied apartments	-	307	
Garages and parking spaces (owner-occupied dwellings)	+	596	
Caretaker (owner-occupied dwellings)	-	55	
Total	=	33,157	33,157

Intermediate consumption, unadjusted			
Repairs, maintenance			
Rented housing		945	
Other housing	+	2,255	
Unoccupied housing	+	433	
Total	=	3,633	
Operating costs (including property tax B)			
Rented housing		2,449	
Other housing	+	1,959	
Unoccupied housing	+	564	
Total	=	4,972	
Property tax B			
Rented housing		105	
Other housing	+	251	
Unoccupied housing	+	48	
Total	=	405	
Caretaker (CT)			
Rented housing		209	
Other housing	+	55	
Total	=	264	
Repairs + maintenance + (operating costs-CT)– property tax B			
Rented housing		3,080	
Other housing	+	3,907	
Unoccupied housing	+	949	
Total	=	7,936	

Adjustments			
Adjustment: insurance services			
Rented housing	-	81	
Other housing (including unoccupied housing)	-	315	
FISIM + Market Making Services + Balancing			
Rented housing	+	26	
Other housing	+	1,272	
Intermediate consumption, adjusted claims			
Rented housing		3,025	
Other housing	+	5,813	
Total	=	8,838	8,838

Adjustment for double counting			
For output	-		1,442
For intermediate consumption	-	453	
Output (adjusted)	+		31,716
Intermediate consumption (adjusted)	-	8,385	
Gross value added	=		23,330

* including rounding errors

Table 3.110: dwelling stock, year 2017

	Rented dwellings ¹⁾	Other dwellings ²⁾	unoccupied units		TOTAL
			temporarily unoccupied ³⁾	empty units	
number	1,674,975	2,215,117	287,288	385,971	4,563,350
m ²	114,492,313	273,120,989	24,795,533	27,635,500	440,044,333
Output ⁴⁾	8,016,164	21,745,774	1,953,585	0	31,715,522
IC ⁴⁾	2,571,967	4,864,278	404,984	544,095	8,385,324

¹⁾ including sublet dwellings and cooperative dwellings

²⁾ owner-occupied flats, owner-occupied houses, other legal relationship

³⁾ temporarily unoccupied units include second residences and weekend homes

⁴⁾ in TEUR

3.18.2. Non-residential buildings, Leasing of real estate, Real estate agencies, Management of real estate on a fee or contract basis

The data for 2011 are taken from the Structural Business Statistics 2011 (see chapter 10.1.1.2) and balanced for the reporting year 2017 by the input-output statistics.

For calculating output, intermediate consumption and value added for ÖNACE divisions 68 (beside of housing) the following variables are principally used:

Table 3.111: Calculation of output

Output
Revenues from produced goods
+ Changes in the inventories of finished products
+ Change in the inventories of semi-finished products
+ Own-account production including mark up for net operating surplus
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Revenues from goods for processing
+ Other services
+ Other revenues
+ Revenues from wholesale trade
+ Revenues from retail trade
- Purchases of goods for resale
+ Changes in inventories of goods for resale
+ Revenues from transport and communication services
= Output

Table 3.112: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
- Changes in energy inventories
+ Purchases of material for treatment and processing
- Changes in the inventories of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on subcontracts
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Expenditures on internal deliveries
+ Expenditures on small tools
+ Expenditure on FISIM and Market making services
= Intermediate consumption

The results of the survey were subsequently adapted in order to meet national accounts requirements. These corrections and supplements are already mentioned in chapter 3.4.

At the **internal national accounts level 68.1c** (renting of non-residential buildings) an additional adjustment is made. In ÖNACE 68.20-9 housing societies and public utility housing enterprises are classified, their revenues from rents have to be subtracted from output to avoid double counting of rents (as mentioned above housing is based on a functional approach).

Leasing of real estate (ÖNACE 68.20-1)

Two corrections have to be made. On the one hand, the revenues reported in the SBS sometimes include sales of fixed assets, which are not part of output. On the other hand, the reported intermediate consumptions contain the residual book value which does not constitute intermediate consumption according to ESA 2010. The deductions are mainly done on the basis of explicit inquiries carried out by the Business directorate.

Table 3.113: Production account – Real estate activities, in million EUR, year 2017*

ÖNACE L	Output	Intermediate consumption	Value added
Initial data (including S.13)	54,970	18,187	36,783
- Taxes on products, except VAT and import taxes	-1,110		-1,110
+ Other subsidies on products	0		0
+/- Various corrections to the initial data	-4,624	-2,417	-2,207
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	-1152	786	-1937
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	5	2	2
+ Balancing adjustments	4	-45	49
Total	49,203	16,513	32,691

* including rounding errors

3.19. Professional, scientific and technical activities (ÖNACE M)

ÖNACE section M is made up of the ÖNACE divisions 69 to 75, which are in line with the internal working level. The classification in detail is as follows:

Table 3.114: Classification for ÖNACE M – Professional, scientific and technical activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
69			Legal and accounting activities
70			Activities of head offices; management consultancy activities
71			Architectural and engineering activities; technical testing and analysis
72			Scientific research and development
73			Advertising and market research
74			Other professional, scientific and technical activities
75			Veterinary activities

Table 3.115: Production account – Professional, scientific and technical activities, year 2017*

ÖNACE M	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section M	On total GVA	On GDP	On GNI
69+70	17,061	-3	17,058	7,788	9,270	53%	2.8%	2.5%	2.5%
71	8,330	-2	8,328	3,759	4,569	26%	1.4%	1.2%	1.2%
72	2,690	0	2,690	1,235	1,455	8%	0.4%	0.4%	0.4%
73	4,943	-52	4,891	3,367	1,524	9%	0.5%	0.4%	0.4%
74-75	1,697	0	1,697	865	831	5%	0.3%	0.2%	0.2%
Total	34,722	-58	34,664	17,015	17,650	100%	5.4%	4.8%	4.8%

* including rounding errors

¹⁾ at producers' prices²⁾ Taxes on products except VAT and import taxes less other subsidies on products³⁾ at purchasers' prices⁴⁾ at basic prices

Table 3.116: Production account by sector – Legal and accounting activities; Activities of head offices; management consultancy activities, year 2017*

ÖNACE 69-70	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.7		0.3		100.0
- Intermediate consumption at purchasers' prices	99.7		0.3		100.0
= Gross value added at basic prices	99.7		0.3		100.0
in million EUR					
Output at basic prices	17,009		50		17,058
- Intermediate consumption at purchasers' prices	7,768		20		7,788
= Gross value added at basic prices	9,240		30		9,270

* including rounding errors

Table 3.117: Production account by sector– Architectural and engineering activities; technical testing and analysis, year 2017*

ÖNACE 71	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	97.1		2.9		100.0
- Intermediate consumption at purchasers' prices	98.2		1.8		100.0
= Gross value added at basic prices	96.3		3.7		100.0
in million EUR					
Output at basic prices	8,089		239		8,328
- Intermediate consumption at purchasers' prices	3,690		69		3,759
= Gross value added at basic prices	4,398		171		4,569

* including rounding errors

Table 3.118: Production account by sector – Scientific research and development, year 2017*

ÖNACE 72	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	68.4		31.6		100.0
- Intermediate consumption at purchasers' prices	82.7		17.3		100.0
= Gross value added at basic prices	56.3		43.7		100.0
in million EUR					
Output at basic prices	1,840		850		2,690
- Intermediate consumption at purchasers' prices	1,021		214		1,235
= Gross value added at basic prices	819		637		1,455

* including rounding errors

Table 3.119: Production account by sector – Advertising and market research, year 2017*

ÖNACE 73	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.8		0.2		100.0
- Intermediate consumption at purchasers' prices	99.7		0.3		100.0
= Gross value added at basic prices	99.8		0.2		100.0
in million EUR					
Output at basic prices	4,880		11		4,891
- Intermediate consumption at purchasers' prices	3,359		9		3,367
= Gross value added at basic prices	1,521		3		1,524

* including rounding errors

Table 3.120: Production account by sector – Other professional, scientific and technical activities; Veterinary activities, year 2017*

ÖNACE 74-75	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	97.4		2.6		100.0
- Intermediate consumption at purchasers' prices	96.3		3.7		100.0
= Gross value added at basic prices	98.5		1.5		100.0
in million EUR					
Output at basic prices	1,652		44		1,697
- Intermediate consumption at purchasers' prices	833		32		865
= Gross value added at basic prices	819		12		831

* including rounding errors

Table 3.121: Production account – Professional, scientific and technical activities, in million EUR, year 2017*

ÖNACE M	Output	Intermediate consumption	Value added
Initial data (including S.13)	33,896	17,338	16,558
- Taxes on products, except VAT and import taxes	-58	0	-58
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	-159	-275	116
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	485	-156	642
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	501	120	381
+ Balancing adjustments	-3	-13	10
Total	34,664	17,015	17,650

* including rounding errors

Sectors S.11 and S.14

The 2017 Structural Business Statistics (see chapter 10.1.1.2) balanced by input-output statistics provides the data for the reporting year to a large extent.

A special feature in ÖNACE division 72 is that some establishments are marked as non-profit units in the business register and therefore are not covered by the SBS. According to the provisions of ESA 2010 non-profit organisations that are characterized by revenues of more than 50% with respect to their expenditures are classified in sector S.11. For non-profit organisations classified in sector S.11 no mandatory survey on a regular basis exists. Data from the turnover tax statistic are used for determining revenues from production (P.11). Values for intermediate consumption (P.2) are based on the non-profit survey (see chapter 10.0.5) and updated annually by using development patterns of selected indicators.

Output is calculated as follows:

Table 3.122: Calculation of output

Output	
	Revenues from produced goods
+	Own-account production including mark up for net operating surplus
+	Revenues from commissions
+	Revenues from rents
+	Revenues from accommodation
+	Revenues from sales of food and beverages
+	Revenues from repairs
+	Other services
+	Other revenues
+	Revenues from wholesale trade
+	Revenues from retail trade
+	Revenues from transport and communication services
-	Purchases of goods for resale
+	Changes in the inventories of semi-finished products
+	Changes in the inventories of finished products
+	Changes in the inventories of goods for resale
=	Output

Intermediate consumption is made up of the following variables:

Table 3.123: Calculation of intermediate consumption

Intermediate consumption	
	Purchases of energy
+	Purchases of materials for treatment and processing
+	Expenditures on repairs
+	Expenditures on goods for processing
+	Expenditures on rents
+	Expenditures on operating leasing
+	Expenditures on non-company workers
+	Expenditures on outward freight
+	Expenditures on services for resale
+	Other operating expenditures
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
-	Changes in energy inventories
-	Changes in the inventories of materials for treatment and processing
=	Intermediate consumption

Excursion: ÖNACE 72 – recording of R&D activities

Approximately 12 % of R&D output were recorded in separate local kind of activity units in 2017 and classified to ÖNACE 72. The remaining 88% were recorded in other ÖNACE divisions as non-characteristic output.

Output is valued in accordance with ESA 2010. Market output is valued at revenues from sales, contracts and commissions according to SBS and at basic prices. Output produced for own final use and non-market output are valued as the sum of production costs plus a mark-up for market producers for non-operating surplus or mixed income. Revenues from the sale of R&D by non-market producers outside the R&D industry are recorded as revenues from secondary market production.

For the calculation of output and GFCF in R&D according to the Manual on measuring Research and Development in ESA 2010 the templates agreed by the Task Force on Capitalisation of Research and Development in National Accounts (DMES 2012/11/08) were used. Numerical example is provided in chapter 5.10.3.6. A detailed description of capitalisation of R&D in accordance with the recommendations by the Task Force on the capitalisation of R&D is presented in chapter 5. Own-account production of scientific software is excluded from the estimates of R&D (see chapter 5).

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18.

3.20. Administrative and support service activities (ÖNACE N)

ÖNACE section N is made up of the ÖNACE divisions 77 to 82. The working classification in detail is as follows:

Table 3.124: Classification for ÖNACE N – Administrative and support service activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
77	77.1		Renting and leasing of motor vehicles
	77.2a	77.2	Renting and leasing of personal and household goods
		77.3	Renting and leasing of other machinery, equipment and tangible goods
		77.4	Leasing of intellectual property and similar products, except copyrighted works
78	78		Employment activities
79	79		Travel agency, tour operator and other reservation service and related activities
80+82	80a		Security and investigation activities; Office administrative, office support and other business support activities
81	81.1		Combined facilities support activities
	81.2		Cleaning activities
	81.3		Landscape service activities

Table 3.125: Production account – Administrative and support service activities, year 2017*

ÖNACE N	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section N	On total GVA	On GDP	On GNI
77	6,395	-1	6,393	2,034	4,360	30%	1.3%	1.2%	1.2%
78	4,520	-1	4,519	498	4,021	28%	1.2%	1.1%	1.1%
79	2,290	-1	2,290	1,752	538	4%	0.2%	0.1%	0.1%
80-82	8,857	-1	8,856	3,164	5,692	39%	1.7%	1.5%	1.6%
Total	22,062	-4	22,058	7,448	14,610	100%	4.4%	4.0%	4.0%

* including rounding errors

¹⁾ at producers' prices²⁾ Taxes on products except VAT and import taxes less other subsidies on products³⁾ at purchasers' prices⁴⁾ at basic prices

Table 3.126: Production account by sector– Rental and leasing activities, year 2017

ÖNACE 77	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	98.2		1.8		100.0
- Intermediate consumption at purchasers' prices	97.9		2.1		100.0
= Gross value added at basic prices	98.3		1.7		100.0
in million EUR					
Output at basic prices	6,278		116		6,393
- Intermediate consumption at purchasers' prices	1,992		42		2,034
= Gross value added at basic prices	4,286		74		4,360

Table 3.127: Production account by sector– Employment activities, year 2017

ÖNACE 78	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	99.9		0.1		100.0
- Intermediate consumption at purchasers' prices	100.0		0.0		100.0
= Gross value added at basic prices	99.9		0.1		100.0
in million EUR					
Output at basic prices	4,514		6		4,519
- Intermediate consumption at purchasers' prices	498		0		498
= Gross value added at basic prices	4,016		5		4,021

Table 3.128: Production account by sector– Travel agency, tour operator and other reservation service and related activities, year 2017

ÖNACE 79	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	93.5		6.5		100.0
- Intermediate consumption at purchasers' prices	93.7		6.3		100.0
= Gross value added at basic prices	92.9		7.1		100.0
in million EUR					
Output at basic prices	2,142		148		2,290
- Intermediate consumption at purchasers' prices	1,642		110		1,752
= Gross value added at basic prices	500		38		538

Table 3.129: Production account by sector– Security and investigation activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities, year 2017*

ÖNACE 80-82	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	93.5		6.5		100.0
- Intermediate consumption at purchasers' prices	90.4		9.6		100.0
= Gross value added at basic prices	95.3		4.7		100.0
in million EUR					
Output at basic prices	8,283		572		8,856
- Intermediate consumption at purchasers' prices	2,861		303		3,164
= Gross value added at basic prices	5,422		269		5,692

* including rounding errors

Table 3.130: Production account – Administrative and support service activities, in million EUR, year 2017*

ÖNACE N	Output	Intermediate consumption	Value added
Initial data (including S.13)	24,135	10,559	13,576
- Taxes on products, except VAT and import taxes	-4	0	-4
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	-3,236	-3,217	-18
Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	58	-17	75
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	1,112	56	1,055
+ Balancing adjustments	-6	67	-74
Total	22,058	7,448	14,610

* including rounding errors

Sectors S.11 and S.14

The 2017 Structural Business Statistics (see chapter 10.1.1.2) balanced by input-output statistics provides the data for the reporting year.

Output is calculated as follows:

Table 3.131: Calculation of output

Output	
	Revenues from produced goods
+	Own-account production including mark up for net operating surplus
+	Revenues from commissions
+	Revenues from rents
+	Revenues from accommodation
+	Revenues from sales of food and beverages
+	Revenues from repairs
+	Revenues from goods for processing
+	Other services
+	Other revenues
+	Revenues from wholesale trade
+	Revenues from retail trade
+	Revenues from transport and communication services
-	Purchases of goods for resale
+	Changes in the inventories of semi-finished products
+	Changes in the inventories of finished products
+	Changes in the inventories of goods for resale
=	Output

Intermediate consumption is made up of the following variables:

Table 3.132: Calculation of intermediate consumption

Intermediate consumption	
	Purchases of energy
+	Purchases of materials for treatment and processing
+	Expenditures on repairs
+	Expenditures on goods for processing
+	Expenditures on rents
+	Expenditures on operating leasing
+	Expenditures on non-company workers
+	Expenditures on outward freight
+	Expenditures on services for resale
+	Other operating expenditures
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
-	Changes in energy inventories
-	Changes in the inventories of materials for treatment and processing
=	Intermediate consumption

In addition to the corrections and supplements mentioned already in chapter 3.4 the following need to be carried out as well:

- Leasing operations make a large contribution to value added especially in ÖNACE 77.1 and 77.3. Two corrections have to be made. On the one hand, the revenues reported in the SBS sometimes include sales of fixed assets, which are not part of output. On the other hand, the reported intermediate consumptions contain the residual book value which does not constitute intermediate consumption according to ESA 2010. The deductions are mainly done on the basis of explicit inquiries carried out by the Business Directorate.
- Cleaning services provided as non-observed activity are booked as self-employed income under ÖNACE 81.2. See chapter 7.1.3.1.2 for an explanation of how they are calculated.
- The output of travel agencies and tour operators is calculated on a net basis, it is measured as the value of fees and commissions charged and not as the full expenditure made by the travellers.

Excursion: Treatment of operational leasing

Operational leasing is recorded both as supply and use. The main data source to identify operational leasing is the Structural Business Statistics, where producers have to report their revenues from or their expenditures on operational leasing (measured by the value of the rental paid). Depending on who pays the rental, operational leasing is treated as intermediate consumption (producers) or HFCE (consumers). As HFCE only leased motor vehicles are identified (see chapter 5.7.3.3.1).

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18.

3.21. Public administration and defence; compulsory social security (ÖNACE O)

ÖNACE section O is made up of ÖNACE division 84.

Table 3.133: Classification for ÖNACE O – Public administration and defence, compulsory social security

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
84	84		Public administration and defence; compulsory social security

Table 3.134: Production account – Public administration and defence, compulsory social security, year 2017

ÖNACE O	in million EUR				Gross value added in %				
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section O	On total GVA	On GDP	On GNI
84			24,959	8,315	16,644	100%	5.1%	4.5%	4.5%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

3.21.1. General preliminary remarks

The sources and methods for calculating ESA 2010 data on the general government sector (S.13) are quite different from those for calculating ESA 2010 data on other institutional sectors. As ESA 2010 data on general government are fed into all three GDP approaches (production, income and expenditure approaches) and are referred to at various places in this GNI inventory, the key characteristics of these initial data sets and the methods for producing the results for general government from them need to be described first of all. Subsequently more details of the calculation of value added of non-market producers of the general government sector will be given. The kind-of-activity units of ÖNACE O are exclusively non-market producers in the government sector.

The following three steps lead from the source data to a consistent set of results for general government in ESA 2010:

- initial data sets ⇒ harmonized initial data set
- transition to ESA 2010
- compilation to form the set of results for general government

3.21.2. Harmonisation of the initial data sets

The initial data sets are all source data which are used as a basis for ESA 2010 data for the general government sector. They are made up of the closed accounts of Bund, *Länder* and municipalities (main units of local government) and the public accounts statistics on other units of government sector and are compiled to form a standard set, the harmonized initial data set.

Public closed accounts

The closed accounts of the Bund, the *Länder*, Vienna and the municipalities – these are the core units of the ESA 2010-sub-sectors central, state and local government - are transmitted electronically to *Statistics Austria* in the form of standardised data sets. Closed accounts are prepared on the basis of the Bund accounting law and the chart of accounts ("Kontenplan") for the closed account of the Bund and the Budget and Closed Accounts Regulation ("Voranschlags- und Rechnungsabschlussverordnung", VRV) for the *Länder* and municipalities including Vienna. The closed accounts initially contain a functional classification ("Ansätze") for *Länder* and municipalities or "detail budgets" (for the Bund), respectively, which are essentially technical administrative units. These are used for attribution to sectors and breaking down activities in accordance with ESA 2010 or

ÖNACE. The "Posten" (economic classification for *Länder* and municipalities) or "Konten" (economic classification for the Bund) define the economic type of expenditures/revenues and are mainly intended for allocation to ESA 2010 transactions. Each public authority has its own breakdown in terms of "Ansätze"/detail budgets and "Posten/Konten" (accounts).

Public accounts statistics on other units of government sector

All other units of government sector such as, in particular, social insurance schemes, chambers and many extrabudgetary entities at central, state and local government level provide their closed accounts either per electronic web form or in data sets which are not compatible with each other and are largely not in electronic form. These are based on various accounting standards for public legal entities, annual reports, etc. These initial data sets are for each entity grouped by economic criteria (structured by types of expenditures and revenues) and by areas of functions of general government and account for part of the harmonized initial data set.

Harmonized initial data set

This brings together all the initial data sets, i.e. the closed accounts of all public authorities and the results of the public accounts statistics in the form of a standard overall data stock, which forms the basis for central processing.

3.21.3. Transition to ESA 2010

The transition to ESA 2010 data is made essentially in two phases:

- processing of the harmonized initial data set using the coding system for raw data results: central processing
- supplementing of the raw data results with adaptations, estimates for the current year and other supplementary information

Coding system

The coding system is made up of a series of files containing rules and regulations which are applied to the data sets (Ansätze/detail budgets and Posten/Konten/accounts) of the harmonized initial data set during central processing. This coding system is used to distinguish between units in the general government sector and non-financial quasi corporations, break down production account transactions by activities, allocate payment flows and/or economic criteria to ESA 2010 transactions, and break down general government expenditure in terms of the COFOG, etc.

Central processing

The central processing implements the coding system rules. If several rules apply to a data file in the harmonized initial data set the most specific of the rules is applied. Central processing provides raw data results.

Adaptations and estimates for the current year

Adaptations are adjustments of the raw data results to ESA 2010 rules which cannot be made solely via the coding system. Examples for these are the inclusion of employers' imputed social contributions or tax refunds. Adaptations are data files which refer to a specific entity and specific year and record dimensions of the ESA 2010 and a value in millions of euros. In the course of processing the value is distributed in proportion to the data files/values which display the same characteristics as the adaptation data file.

ESA 2010 data for which no initial data stocks are available at the time of a publication deadline (which is usually a deadline of the ESA 2010 transmission programme) must be estimated for the current year. These estimates are entered as a separate data set and are treated in the same way as adaptations in the course of technical processing: distribution in proportion to similarly defined data of the harmonized initial data set, using, however, data from the previous year in the absence of data for the current year.

Other supplementary information

Other supplementary information comprises data files which are added unchanged to the harmonized initial data set. These are data which are not contained in the data set (closed accounts/public accounts statistics) and, typically, are calculated using external data sources/methods, such as:

- consumption of fixed capital
- employers' imputed social contributions
- output for own final use

Table 3.135: Gross value added for the general government sector, in million EUR, year 2017

ÖNACE		Market producers	Non-market producers	Total
01	Crop and animal production, hunting and related service activities	1		1
02	Forestry and logging	2		2
10	Manufacture of food products		0	0
36	Water collection, treatment and supply	9		9
37	Sewerage	23		23
38	Waste collection, treatment and disposal activities; materials recovery	38		38
49	Land transport and transport via pipelines		1,197	1,197
52	Warehousing and support activities for transportation	9	2,276	2,284
55	Accommodation		2	2
56	Food and beverage service activities	-2	3	1
59	Motion picture, video and television programme production, sound recording and music publishing activities		1	1
60	Programming and broadcasting activities		564	564
62	Computer programming, consultancy and related activities	2	15	18
63	Information service activities	49		49
64	Financial service activities, except insurance and pension funding	0	3	3
68	Real estate activities	937	16	953
69	Legal and accounting activities	0		0
70	Activities of head offices; management consultancy activities	27	3	30
71	Architectural and engineering activities; technical testing and analysis	13	157	171
72	Scientific research and development	6	630	637
73	Advertising and market research	1	1	3
74	Other professional, scientific and technical activities	3	1	4
75	Veterinary activities	5	3	9
77	Rental and leasing activities	6	68	74
78	Employment activities	5		5
79	Travel agency, tour operator and other reservation service and related activities		38	38
81	Services to buildings and landscape activities		267	267
82	Office administrative, office support and other business support activities	2	0	2
84	Public administration and defence; compulsory social security		16,644	16,644
85	Education		15,482	15,482
86	Human health activities	13	9,038	9,050
87	Residential care activities	374	137	510
88	Social work activities without accommodation	4	214	218
90	Creative, arts and entertainment activities	4	481	484
91	Libraries, archives, museums and other cultural activities	4	355	359
93	Sports activities and amusement and recreation activities	4	243	246
94	Activities of membership organisations	4	920	924
96	Other personal service activities	10		10
	Total	1,556	48,759	50,315

* including rounding errors

3.21.4. Results data set – general government

The results data set for general government is a consistent data set which contains the raw data, adaptations, estimates for the current year and other supplementary information. The raw data, however, do not exhibit all the dimensions of the initial data sets, such as the "Ansätze" (detail budgets) and "Posten/Konten" (accounts) of the closed accounts any more. The raw data are therefore aggregated before the results data set for the general government is prepared, as regards dimensions from the initial data sets which are no longer needed for publication in general and in particular for obligations to transmit data in particular (to Eurostat and other European Commission departments, the OECD and the International Monetary Fund).

3.21.5. General government sector producers by industry

Following these general comments, the table below shows how gross value added for the general government sector is broken down by industry and type of producer in 2017.

The individual producers in the general government sector are distributed among many industries. However, in 2017 over 83% of total value added of the general government sector was accounted for by ÖNACE industries O, P and Q. The following table shows which "departments" of the general government sector are active in which industries (see chapter 3.21.2 for the definition of Bund, *Länder* and municipalities and their public accounting systems).

Table 3.136: National accounts industries x detail budgets according to public accounting coding rules

ÖNACE division	Detail budgets /" Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
1				843		Alpine property	
				849		Other real estate	
2				842		Forest property	
10					822	Slaughter houses, livestock markets	
36				810		Water supply	
37				811		Waste water disposal	
				826		Faeces disposal	
38				813		Waste disposal	
				825		Disposal and rendering of animal carcasses	
				661		Port and port facilities	
				824		Refrigeration and cooling facilities	
49							ÖBB Personenverkehr AG
							Wiener Linien
							Other small transport companies on municipal level
52							ÖBB Infrastruktur AG
							Niederösterreichische Verkehrsorganisations GesmbH (NÖVOG)
							Schieneinfrastruktur Dienstleistungsges.m.b.H
							Brenner Basistunnel BBT SE (österr. Zweigniederlassung)
							Other small units on municipal level carrying out support activities for transportation

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
55					93	Recreational activities	
					252	Youth hostels and youth centres	
56					92	Group catering	Social benefit institutions at the local government level ("Sozialhilfeverbände")
				423		Meals on wheels	
59							Österr. Filmgalerie GmbH
							Other small units corresponding to video, film, music production and similar activities
60							Austrian Broadcasting Corporation
62							WKO Inhouse GmbH
							Other small information-technology units
63				16		Electronic data processing	Other units providing information service activities
64							Austria Wirtschaftsservice Gesellschaft mit beschränkter Haftung
							Land NÖ Finanz-und Beteiligungsmanagement GmbH
							Other small units corresponding to financial service activities, except insurance and pension funding
68		400401	Burghauptmannschaft Österreich	840		Real estate	Bundesimmobiliengesellschaft
				841		Immoveable property rights	Gebäude- und Baumanagement Graz GmbH
				846		Housing and business premises	Landesimmobiliengesellschaften
							Other real estate companies on federal, state and local level
69							Small unit for legal and accounting activities

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
70							Austria TECH - Gesellschaft des Bundes für technologie-politische Maßnahmen GmbH.
							NÖ Landeskliniken Holding
							Other units corresponding to activities of head offices; management consultancy activities
71		41020401	Federal institute for traffic		130	Food testing institutions	Bundesforschungs -und Ausbildungszentrum für Wald
		42030205	Federal office for water management				Österr. Agentur f. Gesundheit u. Ernährungssicherheit GmbH
		42020503	Federal winery inspectorate				Seibersdorf Labor GmbH
							Other units corresponding to architectural and engineering activities; technical testing and analysis
72		310302	Scientific Institutions		287	Scientific observatories	AIT Austrian Institute of Technology GmbH
		420204	Federal institute for agricultural economics				Österreichische Akademie der Wissenschaften
							Institute of Science and Technology - Austria
							Other research institutes
73							Österreich Wein Marketing GmbH
							Other unit corresponding to advertising and market research
74							Stadt Wien Marketing GmbH
							Other small units with professional, scientific and technical activities
75		240302	Veterinary services		133	Veterinary police	
				58		Veterinary medicine	
77					273	Public lending libraries	Small leasing companies for universities
					821	Vehicle fleet	

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
78							Small company for provision of personnel
79							Agencies for tourism
81		42020404	Federal gardens		513	Disinfecton institutions	
					812	WC installations	
					814	Street cleaning	
					815	Parks and gardens, children's playgrounds	
82							Other small business support companies

ÖNACE division	Detail budgets / "Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
85		240401	Women's affairs		91	Staff training	Universities
		110102	Security academy		161	Fire brigade schools	Fachhochschulen (Universities of applied sciences)
		30010602	Federal institute for adult education		21.	General education	Music colleges
		300202, 300204, 300207, 300208	General secondary schools		22.	Vocational education	Diplomatic academy
		300206	Tourism, Social and economic schools		23.	Education promotion	Music school associations
		300205	Business schools and academies		24.	Preschool education	Österreichischer Austauschdienst GmbH
		300210	Means for private schools		253	Youth road safety training	Wirtschaftskammer WIFI GmbH
		300105	Colleges of education		261	Facilities for sports education	Service institutes for universities
85		310204	Student's affairs		270	Adult evening classes	Kinder- und Jugendservices Linz
		42020401, 42020501	Colleges of agriculture		271	Adult education institutes	Other small education units
		42030103	Colleges of forestry		272	Adult education centres	
					279	Adult education – other institutions and activities	
					281	Facilities for universities	
					310	Visual arts training	
					320	Music and performing arts training	
					540	Training for medical services	
					542	Training for expert nursing service	
					543	Training for medical-technical services	
					544	Training for medical support	
				549	Other training for health-care		

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
86				41.		General public welfare	Social insurance funds – own institutions
					436	Counselling centres	Hospitals
					510	Local medical care	FSW - Wr. Pflege- und Betreuungsdienste GmbH
					512	Other medical advice and care	Wiener Gesundheitsförderung gemeinnützige GmbH
					514	Mobile X ray centre	Medizinisches Zentrallaboratorium Gesellschaft m.b.H.
					515	Mobile dental clinic	Neurologisches Rehabilitationszentrum "Rosenhügel" Errichtungs- und Betriebs-GmbH
					516	School health service	Other small units corresponding to human health activities
					519	Other medical services	
					530	Emergency services	
					55. (excl. 555)	Own hospitals (excluding nursing homes for chronically sick people)	
86					855, 857, 859, 899	Companies with market activies (hospitals)	

ÖNACE division	Detail budgets / "Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
87		300209	Federal boarding schools		251	Pupils, apprentices and journeymen's homes	FSW - Wieder Wohnen GmbH
					252	Youth hostels and youth homes/Länder	Social benefit institutions at the local government level ("Sozialhilfeverbände")
				41.		General public welfare	Other small units corresponding to residential care activities
				420		Old people's homes	
				421		Nursing homes	
				430		Homes for infants and mothers	
				431		Children's homes	
					432	Children's convalescent homes	
					435	Children's education homes	
					439	Other institutions and measures of youth welfare	
				555		Nursing homes for chronically sick people	

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
88		110301, 120203	Care of refugees, integration		17.	Emergency service	Verein Neustart
		250202	Extracurricular youth education		250	Extramural youth education	Sucht- und Drogenkoordination Wien
					259	Other institutions and measures for extramural youth education	REINTEGRA Berufliche ReIntegration psychisch kranker Menschen gemeinnützige GmbH
				412		Einrichtungen der Behindertenhilfe	Psychosoziale Zentren gemeinnützige GmbH
					424	Home help services	Suchthilfe Wien gemeinnützige GmbH
					426	Refugee assistance services	Tiroler Soziale Dienste GmbH
					429	Other institutions and measures of public welfare	Other small units corresponding to social work activities without accommodation
					439	Other institutions and measures of youth welfare	
90					511	Family counselling	
					321	Institutions for promoting music	Bundestheaterholding
					323	Institutions for the performing arts	Other theatres and other creative, arts and entertainment institutions
					325	Festivals	
					350	Institutions for promoting art	
				380	Institutions for promoting culture		

ÖNACE division	Detail budgets /"Ansätze" according to public accounting coding rules						Total unit assigned to an industry
	Bund			Länder and municipalities			Other legal entities
	Market producer s	Non-market producers		Market produc ers	Non-market producers		
91		10010402	State archive and archive office		283	Scientific archives	Museums
		14010202	Army museum		284	Scientific libraries	National library
		32010202	Cultural affairs		285	Scientific museums	National Parks
		32010300	Historic preservation		286	Botanical and zoological gardens (as scientific institutions)	Other libraries, archives, museums and other cultural institutions
					34.	Museums and other collections	
					36.	Fostering of regional traditions, local history etc.	
					830	Botanical and zoological gardens	
93					26. (excl. 261)	Sport and extramural physical education (excluding Facilities for sports education)	Sports and event institutions
					831	Open-air public swimming pools	
					833	Indoor public swimming pools	
					835	Other swimming pools and saunas	
					839	Other companys or company-like facilities	
94							Chambers
							Student interest groups
							Wiener Tourismusverband
							Other small units corresponding to activities of membership organisations
96				817		Cemetries	
84			All other departments			All other departments	Social insurance funds – administration and all other extrabudgetary units

3.21.6. Calculating gross value added of other non-market producers in the general government sector

By convention (ESA 2010, section 3.49) value added of other non-market producers equals the sum of compensation of employees (D.1), consumption of fixed capital (P.51c) and other production taxes (D.29) less other subsidies on production (D.39). Compensation for employees is made up of wages and salaries (D.11), employers' actual social contributions (D.121) and employers' imputed social contributions (D.122).

The data for the ESA 2010 transactions are derived from the economic breakdown of the closed accounts or are already the result of the processing of the public accounts statistics of other units of general government. The situation as regards the components of value added for the closed accounts of the Bund, *Länder* and municipalities is set out in more detail below.

The various methods for calculating employers' imputed social contributions (D.122 and D.612, respectively) are discussed in ESA 2010, section 4.10. The imputed social contributions consist fully of imputed pension contributions in Austria. In principle, the amount of these imputed social contributions should be estimated on the basis of actuarial calculations. If such estimates lack a sufficient level of reliability, one option is the calculation on the basis of a reasonable percentage of wages and salaries paid to current employees.

A fixed percentage of wages (25.1%) is used for the calculation of the imputed pension contributions until 2004. This 25.1 % is the double percentage of the one used in the general social security scheme. It is used for all civil servants until 2004 and for all civil servants who are not (or only minor) affected by a pension reform after 2004. For these civil servants a much more advantageous pension law is applied. It is a reasonable assumption mainly based on information about the conditions in the relevant pension law. To deliver an overall consistent picture the percentage is based on actuarial analyses as well as on the percentage of the employer pension contribution of the general social security pension scheme. An analysis was done by the Court of Audit. On the basis of the results (seen in reports) it was decided to calculate the imputed social contributions on the basis of a reasonable percentage of wages and salaries paid to current employees. The imputed fixed percentage is considerably higher than the percentage of the social security scheme (12.55%). In 2005 the pension harmonisation act became effective for central government "Beamte" (civil servants with a special employment status) borne after 1955. Nearly all state and local governments implemented pension reforms in the following years, though with a different grade of harmonisation. Therefore a different percentage (between 12.55% and 25.1%) is used for every year and every institutional sector based on the pension law in the respective sector from 2005 onwards. There were many pension reforms made at different points of time at the Bund and the various *Länder*. Taking this into account on a detailed level it leads to different percentages between 12.55% and 25.1%. The information about the years of the various pension reforms was taken from reports of the Court of Audit.

The method for calculating consumption of fixed capital is explained in chapter 4.11 of this inventory. Other subsidies on production (D.39) to non-market producers of the general government sector are not paid out in Austria (see chapter 3.21.2 for the definition of Bund, *Länder* and municipalities and their public accounting systems). In the public accounts there are no records of subsidies to non-market producers of the government sectors. Hence, unless they are zero, they are considered negligible. All payments between different parts of general government in their capacity as producers of non-market goods and services are classified as D.73 (current transfers within general government) in national accounts.

Table 3.137: Summary of national accounts transactions x accounts according to public accounting coding rules

ESA 2010 transaction	Accounts according to public accounting coding rules					
	Bund		Länder		Municipalities	
D.11 Wages and salaries	5... (excluding 560., 561., 571., 580. to 583.)	Expenditure on personnel (excluding employers' contributions, travel expenses, compensation for works contracts)	5... (excluding 560. to 562., 571., 580. to 586.)	Benefits for personnel (excluding employers' contributions, travel expenses, compensation for works contracts)	5.. (excluding 560, 580 to 582)	Expenditure on personnel (excluding employers' contributions and travel expenses)
					721	Remuneration of elected bodies
	724.	Expenditure on military service and alternative civilian service and for professional soldiers on a fixed term contract	724.	Expenditure on military service and alternative civilian service and for professional soldiers on a fixed term contract		
	7294 (excluding 7294-60 to 61, 7294-80 to 83, 7294-109)	Expenditure on persons who are not employees of the Bund				
	7295 (excluding 7295-6,7,8)	Expenditure on High Councils of State, members of parliament, members of government and other salary-related outgoings	7295	Expenditure on High Councils of State, members of parliament, members of government and officials		
D.121 Employers' actual social contributions	581.	Other employers' contributions to the social security of State civil servants	581.	Other employers' contributions to the social security of State civil servants	581	Other employers' contributions to the social security of State civil servants
	583.	Other employers' contributions to the social security of contract officials of the State	583.	Other employers' contributions to the social security of contract officials of the State		
	7294-81 and 7294-83	Other employers' contributions to social security				
	7295-8	Other employers' contributions to social security				
	7296	Special expenditure on the basis of legal commitments				
D.29 Other taxes on production	580.	Employers' contributions to the family-burden equalisation fund for civil servants	580.	Employers' contributions to the family-burden equalisation fund for civil servants	580	Employers' contributions to the family-burden equalisation fund
	582.	Employers' contributions to the family-burden equalisation fund for contract officials	582.	Employers' contributions to the family-burden equalisation fund for contract officials		
	6420	Court fees				
	71.. (excluding 710, 711, 712, 713)	Public taxes (excluding costs for the use of municipal facilities)			71.. (excluding 711, 718)	Public taxes (excluding costs for the use of municipal facilities)
			721.	Patent and licensing fees		
	7294-80 and 7294-82	Employers' contributions to the family-burden equalisation fund				
	7295-7	Employers' contributions to the family-burden equalisation fund				
			7296	Expenditure on the basis of legal commitment		

Calculation of gross value added of market producers of the general government sector is explained in chapter 3.18 by way of example.

3.22. Education (ÖNACE P)

ÖNACE section P is made up of the ÖNACE division 85. The working classification in detail is as follows:

Table 3.138: Classification for ÖNACE P – Education

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation	
85	85.1	85.10-0	Pre-primary education	
	85.2	85.20-0	Primary education	
	85.3a	85.31-1		Lower secondary schools including pre-vocational year
		85.31-2		Higher-level general secondary schools
		85.32-1		Compulsory technical and vocational schools (apprenticeship)
		85.32-2		Medium-level technical and vocational schools
		85.32-3		Higher-level technical and vocational schools
		85.41-0		Post-secondary non-tertiary education
	85.42	85.42-0	Tertiary education	
	85.5a	85.51-0		Sports and recreation education
		85.52-1		Dancing schools
		85.52-9		Other cultural education
		85.59-0		Other education n.e.c.
		85.60-0		Educational support activities
	85.53	85.53-0	Driving school activities	

Table 3.139: Production account – Education, year 2017

ÖNACE P	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section P	On total GVA	On GDP	On GNI
85	21,629	0	21,629	3,831	17,798	100%	5.40%	4.82%	4.86%

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.140: Production account by sector – Education, year 2017

ÖNACE P	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	6.0		84.8	9.2	100.0
- Intermediate consumption at purchasers' prices	13.3		74.5	12.2	100.0
= Gross value added at basic prices	4.4		87.0	8.6	100.0
in million EUR					
Output at basic prices	1,296		18,336	1,998	21,629
- Intermediate consumption at purchasers' prices	511		2,854	466	3,831
= Gross value added at basic prices	785		15,482	1,531	17,798

Table 3.141: Production account – Education, detailed data, in million EUR, year 2017

ÖNACE P	Output	Intermediate consumption	Value added
Initial data (including S.13)	21,272	3,658	17,613
- Taxes on products, except VAT and import taxes	0	0	0
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	0	0	0
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	160	167	-6
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	198	0	198
+ Balancing adjustments	0	6	-6
Total	21,629	3,831	17,798

Institutional units which offer formal education programmes within the data collection of ISCED (International Standard Classification of Education) are all classified as non-market producers because of the 50% criterion laid down in ESA 2010, chapter 3.19. These institutions are mainly funded by public or private transfers. There is only one exception within the field of formal education where is some private universities which are classified as market producers because of a substantial share of fees at economically significant prices. The classification of educational institutions which are not included in the data collection of ISCED and mainly offer continuing, adult or non-formal education is also based on the 50% criterion. According to this test for each individual unit there are both market (e.g. driving schools) and non-market producers.

Sectors S.11 and S.14

No mandatory survey on a regular basis exists for the entities of ÖNACE 85 classified in sector S.11. The last one carried out was the BZ 95 (see chapter 10.1.1.2) in 1995. The main data sources for the calculation of production accounts are the turnover tax statistic, corporate income tax statements, annual financial statements in commercial registers, explanations concerning components of profit and loss accounts as well as data on pay slips to employees. By using these data production (P.11) and intermediate consumption (P.2) are determined. These transactions are afterwards structured by using the ratios of BZ 95, adjusted for price changes. For units which are classified in ÖNACE 85.42-0

(Tertiary education) the components of the production accounts are derived from data of a primary statistics for the purpose of calculating education expenditure.

Units marked as Non-Profit units in the business register

According to the provisions of ESA 2010 non-profit organisations that are characterized by revenues of more than 50% with respect to their expenditures are classified in sector S.11. For non-profit organisations classified in sector S.11 in the field of tertiary education no mandatory survey on a regular basis exists. Data from the turnover tax statistic are used for determining revenues from production (P.11). Values for intermediate consumption (P.2) are based on the non-profit survey (see chapter 10.0.5) and updated annually by using development patterns of selected indicators.

Output of sector S.11 and S.14 is calculated as follows:

Table 3.142: Calculation of output

Output
Revenues from produced goods
+ Own-account production including mark up for net operating surplus
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Revenues from goods for processing
+ Other services
+ Revenues from wholesale trade
+ Revenues from retail trade
+ Revenues from transport services
+ Revenues not further subdivided
- Purchases of goods for resale
+ Changes in the inventories of semi-finished products
+ Changes in the inventories of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.143: Calculation of intermediate consumption

Intermediate consumption	
	Purchases of energy
+	Purchases of materials for treatment and processing
+	Expenditures on repairs
+	Expenditures on goods for processing
+	Expenditures on rents
+	Expenditures on operating leasing
+	Expenditures on non-company workers
+	Expenditures on services for resale
+	Other operating expenditures
+	Intermediate consumption (without breakdowns)
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
-	Changes in energy inventories
-	Changes in the inventories of materials for treatment and processing
=	Intermediate consumption

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21.

Sector S.15

Details concerning the calculation of Output (P.1) and intermediate consumption (P.2) of non-profit institutions serving households regarding education can be found in chapter 5.8.

3.23. Human health and social work activities (ÖNACE Q)

ÖNACE section Q is made up of the ÖNACE divisions 86 to 88. The internal working level in detail is as follows:

Table 3.144: Classification for ÖNACE Q – Human health and social work activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
86	86.1		Hospital activities
	86.21a	86.21	General medical practice activities
		86.22	Specialist medical practice activities
	86.23		Dental practice activities
	86.9		Other human health activities
87+88	87a		Residential care activities; Social work activities without accommodation

Table 3.145: Production account – Human health and social work activities, year 2017*

ÖNACE Q	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section Q	On total GVA	On GDP	On GNI
86	26,032	-2	26,030	8,571	17,459	75%	5.3%	4.7%	4.8%
87-88	8,481	-1	8,480	2,743	5,738	25%	1.7%	1.6%	1.6%
Total	34,513	-3	34,510	11,314	23,196	100%	7.0%	6.3%	6.3%

* including rounding errors

1) at producers' prices

2) Taxes on products except VAT and import taxes less other subsidies on products

3) at purchasers' prices

4) at basic prices

Table 3.146: Production account by sector – Human health activities, year 2017*

ÖNACE 86	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	35.9		51.8	12.3	100.0
- Intermediate consumption at purchasers' prices	34.9		51.7	13.4	100.0
= Gross value added at basic prices	36.5		51.8	11.7	100.0
in million EUR					
Output at basic prices	9,356		13,480	3,194	26,030
- Intermediate consumption at purchasers' prices	2,991		4,429	1,150	8,571
= Gross value added at basic prices	6,364		9,050	2,044	17,459

* including rounding errors

Table 3.147: Production account by sector – Residential care activities; Social work activities without accommodation, year 2017*

ÖNACE 87-88	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	49.6		17.2	33.2	100.0
- Intermediate consumption at purchasers' prices	47.3		26.6	26.1	100.0
= Gross value added at basic prices	50.7		12.7	36.6	100.0
in million EUR					
Output at basic prices	4,205		1,459	2,817	8,480
- Intermediate consumption at purchasers' prices	1,298		730	715	2,743
= Gross value added at basic prices	2,907		729	2,102	5,738

* including rounding errors

Table 3.148: Production account – Human health and social work activities, in million EUR, year 2017*

ÖNACE Q	Output	Intermediate consumption	Value added
Initial data (including S.13)	34,040	11,260	22,780
- Taxes on products, except VAT and import taxes	-3	0	-3
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	0	0	0
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	123	37	86
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	349	0	349
+ Balancing adjustments	0	17	-16
Total	34,510	11,314	23,196

* including rounding errors

Differentiating between market and non-market producers and market and non-market output is made in line with the criteria set out in ESA 2010. The distinction is based on the one hand on the 50%-market/non-market-test. For this purpose data from annual reports and from the survey for extrabudgetary units in the local government sector are used. On the other hand checks for qualitative criteria mentioned in ESA 2010 are carried out.

Hospitals, for example, that are funded by the so called state health funds (SHF) are classified as non-market units²⁰. All payments through this system are recorded as transfers.

Sectors S.11 and S.14

Since no current business statistics surveys cover ÖNACE Q, various data sources are used. Three groups can be distinguished according to data source:

1. Units performing residential nursing care activities respectively residential care activities for the elderly

For these units, an independent calculation method is being used because it is very difficult to cover all units in this field. One of the difficulties is that the establishments are run by private companies and by public authorities as well as by non-profit-organizations, so that a wide range of data sources has to be used. The most important to estimate output and intermediate consumption are the tax statistics, data of public authorities and business reports.

2. Units surveyed in the non-agricultural business census (BZ 95), which are not covered by group 1

These units were surveyed for the last time in 1995, precisely in the non-agricultural business census (BZ 95) (see chapter 10.1.1.1). Since then no survey is available, so the main data source is the taxable turnover which is made available as a secondary source by the financial authorities. This is

²⁰ Social Insurance, central government, state governments, local governments and private households finance the nine state health funds (SHF) that have been established at the state government level. The purpose of the nine SHF is the financing of different hospital services. In addition to the money provided by the SHF there are some additional funds available for hospitals outside of the SHF framework. Contributions to the SHF are regulated by national law.

used to estimate output. In ÖNACE 86.2 a supplement by means of the income tax statistics has to be made, because the taxable turnover does not cover every unit in this field. For intermediate consumption there are no data available. This is calculated on the assumption that the ratio between value added at constant prices and output at constant prices (= net rate at constant prices) remains constant in comparison with the base year. For this, output and value added at constant prices are first calculated, so that the total sum of intermediate consumption at constant prices can be derived as the difference between the two components. The individual components of intermediate consumption are determined on the basis of the structure of the base year. Intermediate consumption at current prices is obtained by inflating individual components of intermediate consumption using a representative price index.

As there are no sources of data for inventories either, they are estimated by using the ratios of BZ 95. Output inventories (semi-finished, finished products and goods for resale) are set in relation to the sum of earnings, and input inventories (energy and materials) to the corresponding intermediate consumption components.

Additionally, for some units in ÖNACE 86.1 business reports are used.

3. Units marked as Non-Profit units in the business register, which are not covered by group 1

According to the provisions of ESA 2010 non-profit organisations that are characterized by revenues of more than 50% with respect to their expenditures are classified in sector S.11. For non-profit organisations classified in sector S.11 in the field of human health and social work activities no mandatory survey on a regular basis exists. Data from the turnover tax statistic are used for determining revenues from production (P.11). Values for intermediate consumption (P.2) are based on the non-profit survey (see chapter 10.0.5) and updated annually by using development patterns of selected indicators.

Output of sector S.11 and S.14 is calculated as follows:

Table 3.149: Calculation of output

Output	
	Revenues from produced goods
+	Own-account production including mark up for net operating surplus
+	Revenues from commissions
+	Revenues from rents
+	Revenues from accommodation
+	Revenues from sales of food and beverages
+	Revenues from repairs
+	Revenues from goods for processing
+	Other services
+	Revenues from wholesale trade
+	Revenues from retail trade
+	Revenues from transport services
+	Revenues not further subdivided
-	Purchases of goods for resale
+	Changes in the inventories of semi-finished products
+	Changes in the inventories of goods for resale
=	Output

Intermediate consumption is made up of the following variables:

Table 3.150: Calculation of intermediate consumption

Intermediate consumption	
	Purchases of energy
+	Purchases of materials for treatment and processing
+	Expenditures on repairs
+	Expenditures on goods for processing
+	Expenditures on rents
+	Expenditures on operating leasing
+	Expenditures on non-company workers
+	Expenditures on services for resale
+	Other operating expenditures
+	Intermediate consumption (without breakdowns)
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
-	Changes in energy inventories
-	Changes in the inventories of materials for treatment and processing
=	Intermediate consumption

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18.

Sector S.15

Output (P.1) of non-profit institutions serving households regarding health (hospitals and human health care) and social work activities (residential care and social work) are calculated in the same way as non-market production for the general government sector. More details concerning data sources, methods and values regarding output (P.1) and intermediate consumption (P.2) can be found in chapter 5.8.

3.24. Arts, entertainment and recreation (ÖNACE R)

ÖNACE section R is made up of the ÖNACE divisions 90 to 93. The internal working classification in detail is as follows:

Table 3.151: Classification for ÖNACE R – Arts, entertainment and recreation

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation
90			Creative, arts and entertainment activities
91			Libraries, archives, museums and other cultural activities
92	92.00-1		Lottery and other betting activities
	92.00-2		Casinos
	92.00-3		Operation of gambling machines
93			Sports activities and amusement and recreation activities

Table 3.152: Production account – Arts, entertainment and recreation, year 2017*

ÖNACE R	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section R	On total GVA	On GDP	On GNI
90-92	4,544	-603	3,942	1,251	2,690	64%	0.8%	0.7%	0.7%
93	2,563	-2	2,561	1,067	1,494	36%	0.5%	0.4%	0.4%
Total	7,107	-605	6,502	2,318	4,184	100%	1.3%	1.1%	1.1%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.153: Production account by sector– Creative, arts and entertainment activities; Libraries, archives, museums and other cultural activities; gambling and betting activities, year 2017*

ÖNACE 90-92	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	64.9		32.7	2.3	100.0
- Intermediate consumption at purchasers' prices	63.1		35.7	1.2	100.0
= Gross value added at basic prices	65.8		31.4	2.9	100.0
in million EUR					
Output at basic prices	2,559		1,291	92	3,942
- Intermediate consumption at purchasers' prices	789		447	15	1,251
= Gross value added at basic prices	1,769		843	78	2,690

* including rounding errors

Table 3.154: Production account by sector – Sports activities and amusement and recreation activities, year 2017

ÖNACE 93	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	78.4		16.9	4.8	100.0
- Intermediate consumption at purchasers' prices	80.1		17.4	2.5	100.0
= Gross value added at basic prices	77.2		16.5	6.4	100.0
in million EUR					
Output at basic prices	2,007		432	122	2,561
- Intermediate consumption at purchasers' prices	855		185	27	1,067
= Gross value added at basic prices	1,152		246	95	1,494

Table 3.155: Production account – Arts, entertainment and recreation, in million EUR, year 2017*

ÖNACE R	Output	Intermediate consumption	Value added
Initial data (including S.13)	6,361	2,405	3,956
- Taxes on products, except VAT and import taxes	-605	0	-605
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	0	0	0
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	207	-120	327
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	540	0	540
+ Balancing adjustments	-1	34	-35
Total	6,502	2,318	4,184

* including rounding errors

Sectors S.11 and S.14

There exist no current business statistics surveys for ÖNACE R. Following groups can be distinguished according to data source:

1. Units surveyed in the non-agricultural business census (BZ 95)

The last business statistics survey carried out for ÖNACE R was the BZ 95 (see chapter 10.1.1.1) in 1995. The main data source to determine output is the taxable turnover. Intermediate consumption is calculated on the assumption that the ratio between value added at constant prices and output at constant prices (= net rate at constant prices) remains constant in comparison with the base year. For this, output and value added at constant prices are first calculated, so that the total sum of intermediate consumption at constant prices can be derived as the difference between the two components. The individual components of intermediate consumption are determined on the basis of the structure of the base year. Intermediate consumption at current prices is obtained by inflating individual components of intermediate consumption using a representative price index.

As there are no sources of data for inventories either, they are estimated by using the ratio of BZ 95. Output inventories (semi-finished, finished products and goods for resale) are set in relation to the sum of earnings, and input inventories (energy and materials) to the corresponding intermediate consumption components. Additionally, for some units business reports are used.

ÖNACE 92 is calculated largely in the same way as described above, but here the trade margin has to be taken into account, i.e. the profits paid out must be deducted from the earnings. As taxable turnover includes these profits to a large extent, following methods are used to express output in terms of the margin: All big units are calculated on the basis of business reports. Data for the smaller units of ÖNACE 92.00-1 are produced by extrapolating BZ 95 by means of taxable turnover. ÖNACE 92.00-2 is completely covered by business reports. For ÖNACE 92.00-3 the BZ 95 was not representative. The smaller units are therefore calculated on the basis of the taxable turnover, and the pay-outs are estimated using the ratios derived from business reports of representative units.

2. Units marked as Non-Profit units in the business register

According to the provisions of ESA 2010 non-profit organisations that are characterized by revenues of more than 50% with respect to their expenditures are classified in sector S.11. For non-profit organisations classified in sector S.11 regarding arts, entertainment and recreation no mandatory survey on a regular basis exists. Data from the turnover tax statistic are used for determining revenues from production (P.11). Values for intermediate consumption (P.2) are based on the non-profit survey (see chapter 10.0.5) and updated annually by using development patterns of selected indicators.

Output of sector S.11 and S.14 is calculated as follows:

Table 3.156: Calculation of output

Output	
	Revenues from produced goods
+	Own-account production including mark up for net operating surplus
+	Revenues from commissions
+	Revenues from rents
+	Revenues from accommodation
+	Revenues from sales of food and beverages
+	Revenues from repairs
+	Revenues from goods for processing
+	Other services
+	Revenues from wholesale trade
+	Revenues from retail trade
+	Revenues from transport services
+	Revenues not further subdivided
-	Purchases of goods for resale
+	Changes in the inventories of semi-finished products
+	Changes in the inventories of goods for resale
=	Output

Intermediate consumption is made up of the following variables:

Table 3.157: Calculation of intermediate consumption

Intermediate consumption	
	Purchases of energy
+	Purchases of materials for treatment and processing
+	Expenditures on repairs
+	Expenditures on goods for processing
+	Expenditures on rents
+	Expenditures on operating leasing
+	Expenditures on non-company workers
+	Expenditures on outward freight
+	Expenditures on services for resale
+	Other operating expenditures
+	Intermediate consumption (without breakdowns)
+	Expenditures on small tools
+	Expenditures on FISIM
+	Expenditures on Market Making Services
-	Changes in energy inventories
-	Changes in the inventories of materials for treatment and processing
=	Intermediate consumption

Excursion: Measurement of the output of books, recordings, films etc.

The production of books, recordings, films, software, tapes, disks, etc. is a two-stage process and generates output from both stages: the first stage is the production of originals, the second stage is the use of originals. The original can be used in different ways: The owner of the original may use it directly or produce copies in subsequent periods. If the owner has licensed other producers to make use of the original in production, the fees, commissions, royalties, etc. received from the licenses are the output of services.

Output generated by the first stage is recorded in ÖNACE 59, 60 and 90. See chapter 5.10.3.8 for an explanation of how it is calculated.

Output generated by the second stage is measured by means of the Structural Business Statistics and the taxable turnover.

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in the general government sector in chapter 3.18.

Sector S.15

Output (P.1) of non-profit institutions serving households regarding arts entertainment and recreation (sports) are calculated in the same way as non-market production for the general government sector. More details concerning data sources, methods and values regarding output (P.1) and intermediate consumption (P.2) can be found in chapter 5.8.

3.25. Other service activities (ÖNACE S)

ÖNACE section S is made up of the ÖNACE divisions 94 to 96. The working classification in detail is as follows:

Table 3.158: Classification for ÖNACE S – Other service activities

ÖNACE division	Classification or Internal national accounts level	Subsumed groups	Designation	
94			Activities of membership organisations	
95			Repair of computers and personal and household goods	
96	96.01		Washing and (dry-)cleaning of textile and fur products	
	96.02		Hairdressing and other beauty treatment	
	96.03		Funeral and related activities	
	96.04a	96.04-1		Operation of reducing and slendering salons and massage salons
		96.04-9		Operation of solariums, saunas and baths n.e.c.
		96.09		Other personal service activities n.e.c.
96.04-2		Operation of spas		

Table 3.159: Production account – Other service activities, year 2017*

ÖNACE S	in million EUR					Gross value added in %			
	Output ¹⁾	-Taxes ²⁾	=Output at basic prices	-Intermediate consumption ³⁾	=Gross value added ⁴⁾	On Section S	On total GVA	On GDP	On GNI
94	4,266	0	4,266	1,730	2,535	51%	0.8%	0.7%	0.7%
95	310	0	310	147	162	3%	0.0%	0.0%	0.0%
96	3,306	-1	3,305	1,007	2,298	46%	0.7%	0.6%	0.6%
Total	7,882	-1	7,881	2,884	4,996	100%	1.5%	1.4%	1.4%

* including rounding errors

¹⁾ at producers' prices

²⁾ Taxes on products except VAT and import taxes less other subsidies on products

³⁾ at purchasers' prices

⁴⁾ at basic prices

Table 3.160: Production account by sector – Activities of membership organisations, year 2017*

ÖNACE 94	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	4.2		40.8	55.0	100.0
- Intermediate consumption at purchasers' prices	8.2		47.1	44.6	100.0
= Gross value added at basic prices	1.5		36.4	62.1	100.0
in million EUR					
Output at basic prices	180		1,740	2,346	4,266
- Intermediate consumption at purchasers' prices	143		816	772	1,730
= Gross value added at basic prices	37		924	1,574	2,535

* including rounding errors

ÖNACE division 95 does not contain units from institutional sectors other than S.11 and S.14.

Table 3.161: Production account – Other personal service activities, year 2017*

ÖNACE 96	% of institutional sectors				
	S.11 and S.14	S.12	S.13	S.15	Total
Output at basic prices	98.7		1.3		100.0
- Intermediate consumption at purchasers' prices	96.9		3.1		100.0
= Gross value added at basic prices	99.5		0.5		100.0
in million EUR					
Output at basic prices	3,264		41		3,305
- Intermediate consumption at purchasers' prices	976		31		1,007
= Gross value added at basic prices	2,288		10		2,298

* including rounding errors

Table 3.162: Production account – Other service activities, in million EUR, year 2017*

ÖNACE S	Output	Intermediate consumption	Value added
Initial data (including S.13)	6,996	2,653	4,343
- Taxes on products, except VAT and import taxes	-1	0	-1
+ Other subsidies on products	0	0	0
+/- Various corrections to the initial data	-1	-3	2
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	54	27	28
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	836	205	631
+ Balancing adjustments	-4	3	-7
Total	7,881	2,884	4,996

* including rounding errors

Sectors S.11 and S.14

ÖNACE 94 comprises only associations of companies. According to the provisions of ESA 2010, associations of companies have to be classified in sector S.11. No mandatory survey on a regular basis exists for these entities. Data from the turnover tax statistic are used for determining revenues from production (P.11). Values for intermediate consumption (P.2) are based on the non-profit survey (see chapter 10.0.5) and updated annually by using development patterns of selected indicators.

ÖNACE 95, the estimation of repairs of computers and personal and household goods is based on SBS. The results are validated against expenditure recorded in HBS.

In ÖNACE 96 there exists no current business statistics survey. The last one, the BZ 95 (see chapter 10.1.1.1), was carried out in 1995. The main data source to estimate output is the taxable turnover. Intermediate consumption is calculated on the assumption that the ratio between value added at constant prices and output at constant prices (= net rate at constant prices) remains constant in comparison with the base year. For this, output and value added at constant prices are first calculated, so that the total sum of intermediate consumption at constant prices can be derived as the difference between the two components. The individual components of intermediate consumption are determined on the basis of the structure of the base year. Intermediate consumption at current prices is obtained by inflating individual components of intermediate consumption using a representative price index. To determine inventories, the ratio of the BZ 95 is used. Output inventories (semi-finished, finished products and goods for resale) are set in relation to the sum of earnings, and input inventories (energy and materials) to the corresponding intermediate consumption components.

Additionally, for some units in ÖNACE 96.03 business reports are used.

In addition to the corrections and supplements mentioned already in chapter 3.4 the following need to be carried out as well:

- In ÖNACE 96.02 two supplements are required: first of all there is a 10% supplement on output in order to take account of the tips customary in the branch (see chapter 7.1.3.8.2). Second, a comparison with the household budget surveys showed that there was a markedly higher supply of hairdressing services, so that a further addition had to be made in consideration of the non-characteristic output of hairdressing services in other economic branches (see chapter 7.1.3.1.4).
- In ÖNACE 96.04a a supplement is made for illegal prostitution (see chapter 7.1.3.3.4).

Output of sector S.11 and S.14 is calculated as follows:

Table 3.163: Calculation of output

Output
Revenues from produced goods
+ Own-account production including mark up for net operating surplus
+ Revenues from commissions
+ Revenues from rents
+ Revenues from accommodation
+ Revenues from sales of food and beverages
+ Revenues from repairs
+ Revenues from goods for processing
+ Other services
+ Revenues from wholesale trade
+ Revenues from retail trade
+ Revenues from transport services
+ Revenues not further subdivided
- Purchases of goods for resale
+ Changes in the inventories of semi-finished products
+ Changes in the inventories of finished products
+ Changes in the inventories of goods for resale
= Output

Intermediate consumption is made up of the following variables:

Table 3.164: Calculation of intermediate consumption

Intermediate consumption
Purchases of energy
+ Purchases of materials for treatment and processing
+ Expenditures on repairs
+ Expenditures on goods for processing
+ Expenditures on rents
+ Expenditures on operating leasing
+ Expenditures on non-company workers
+ Expenditures on outward freight
+ Expenditures on services for resale
+ Other operating expenditures
+ Intermediate consumption (without breakdowns)
+ Expenditures on small tools
+ Expenditures on FISIM
+ Expenditures on Market Making Services
- Changes in energy inventories
- Changes in the inventories of materials for treatment and processing
= Intermediate consumption

Sector S.13

Calculation of value added for non-market producers in the general government sector is described in chapter 3.21 and that for market producers in chapter 3.18.

Sector S.15

Output (P.1) of non-profit institutions serving households regarding other service activities are calculated in the same way as non-market production for the general government sector. More details concerning data sources, methods and values regarding output (P.1) and intermediate consumption (P.2) can be found in chapter 5.8.

3.26. *Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (ÖNACE T)*

For the purposes of ESA 2010 this comprises only permanently employed household personnel. Output of ÖNACE T is calculated by multiplying the number of employees by the average wages in the cleaning industry according to the *Umbrella Organisation of Austrian Social Security Institutions* (Dachverband der Sozialversicherungsträger, DV). It is therefore assumed that output comprises only gross wages and the value of intermediate consumption is zero.

Additionally with the change from ESA '95 to ESA 2010 there has been a shift from ÖNACE 68 to ÖNACE 97. The personnel costs for caretakers, which are recorded as operating costs, are split into costs for caretakers who are employed in houses with flats (and deducted from operating costs of rented dwellings) and costs for caretakers who are employed in houses with owner-occupied dwellings. These expenditures on caretakers are excluded from imputed rents and recorded as Activities of households as employers of domestic personell (ÖNACE 97). The rationale behind is to be in line with ESA 2010, since income from imputed rents can comprise only operating surplus and not compensation of employees.

Table 3.165: Production account – private households with employed persons, in million EUR, year 2017

ÖNACE T	Output	Intermediate consumption	Value added
Initial data (including S.13)	171	0	171
- Taxes on products, except VAT and import taxes	0	0	0
+ Other subsidies on products	0	0	0
+/- Conceptual adjustments (FISIM, insurance service charge, small tools, holding gains/losses, own-account software, addition for self-produced additions to fixed assets etc.)	0	0	0
+ Adjustments for exhaustiveness (revenues off the books, underrecording, other)	0	0	0
+ Balancing adjustments	2	0	2
Total	173	0	173

3.27. Activities of extraterritorial organisations and bodies (ÖNACE U)

No description is required here.

3.28. Taxes on products, including VAT

Taxes on products are taxes which are payable per unit of produced or traded goods or services. They can be applied either on the basis of quantity (a certain amount of money per unit by quantity) or value (a given percentage of the price per unit). Taxes on products include:

- value added tax
- taxes and duties on imports excluding VAT
- other taxes on products

Whether a fee is classified as a tax or a purchase of services mainly depends on two criteria: i) does the state truly exert control power over a certain service and ii) is the state truly delivering a service? If yes, the fee is classified as service charge. See chapter 4.8 for more details.

As a rule, ESA 2010 requires production and import taxes (D.2) to be recorded at the time at which the activity, transaction or other event giving rise to the tax liability took place (accrual basis). In public accounts they are generally recorded at the time of payment. Items which are significant in terms of

quantity (VAT, duty on vehicles based on fuel consumption) are time-adjusted so that the amounts can be allocated to the period in which the activity leading to the tax liability is carried out.

3.28.1. Value added tax

According to ESA 2010 value added tax is a part of taxes on products. Output of goods and services is generally recorded without the VAT charged. It is therefore not included in the value added of individual industries.

This basic net principle is set aside in the case of the "**net VAT tax burden**", which comprises VAT amounts which are still due in agriculture because flat-rate items have been entered and are therefore included in value added. This is recorded as "VAT undercompensation, agriculture" in *other taxes on production*. If it constitutes overcompensation it is allocated to *other subsidies*.

As already mentioned production and import taxes, which also include VAT, are recorded at the time of payment with a time adjustment ("January/February adjustment") as "time-adjusted cash". In the closed accounts of the Federal State, VAT receipts are recorded at the time of payment.

The time-adjustment method takes account of the fact that VAT is due two months after the tax liability arises, which means that tax liabilities which have arisen in the year t are payable at the latest by the end of February of the year t+1. For this reason the tax receipts of the months of January and February of the subsequent year are regarded as receipts of the current year.

Broadcasting fees are now accounted for as taxes instead of *purchases of services* as they have to be paid whenever broadcasting equipment is present in a household or in an enterprise irrespective if the broadcasting services are in fact used. As these fees also are subject to VAT and ESA does not foresee VAT on taxes, the VAT associated to broadcasting fees is re-allocated to *other taxes on production* (for broadcasting fees paid by enterprises) and *other current taxes* (for broadcasting fees paid by households).

The VAT payable under the MOSS scheme are already accounted for in the closed accounts of the Federal government on the principle that the tax is accounted for in the country where the customer belongs. For the periods 2015-2018 the net value of the service fee paid or withhold by states for the administrative burden to collect VAT for other countries is added to or subtracted from VAT revenue.

Table 3.166: Calculation of VAT, in million EUR, year 2017

Cash receipts, January to December	28,346
+ January/February – adjustment	16
= VAT receipts	28,362
- VAT undercompensation, agriculture	8
+ Service fees from VAT-Mini-One-Stop-Shop (MOSS)	12
- VAT allocated to broadcasting fees	62
= VAT – national accounts	28,304

3.28.2. Taxes and duties on imports excluding VAT

Import taxes are levied by General Government or EU institutions on imported products which form part of the free trade of the economic territory or on services which are provided by resident or non-resident units. These are made up of duties and import taxes. Consumption taxes on imported products are levied when the same taxes are to be paid on comparable domestic products. The basis for calculating duties is the cash receipts of the Bund. The data source for custom duties is direct information from the final closed accounts of the Bund.

As the single EU market is a customs union, duties on imports from non-EU countries can be levied in the Member State where they first crossed the border (Rotterdam effect) or in the actual country of destination. The proportion of taxes levied at the non-Austrian external border of the EU internal market but borne by Austrian importers and flowing directly into the EU budget has therefore to be estimated and added to the Bund's direct customs duty revenue.

On account of the internal market rules, which also applied to Austria from the year 1995 onwards, the previous basic information for calculating taxes on imports was no longer available at the *Bundesministerium für Finanzen* (BMF – Federal Ministry of Finance). They were therefore determined by updating their proportion of the total volume of the respective duties.

Government revenue statistics / EDP / NTL [gov_10a_taxag], instead, relies on direct data from the closed accounts of the Bund, where the consumption taxes on imported products are subsumed within the various consumption taxes (within "Taxes on products, except VAT and import taxes" (D214 in NTL): Tax on tobacco (D214A C15), Tax on beer (D214A C05), Tax on sparkling wine (D214A C12), Duty on spirit (D214A C02), Tax on mineral oils (D214A C09).

Table 3.167: Import duties, in million EUR, year 2017

Customs duties (S.21 tax)	294
Rotterdam effect (S.21 tax)	193
Import taxes	281
Taxes and duties on imports excluding VAT	769

3.28.3. Taxes on products, except VAT and import taxes

Since production is recorded at basic prices in the ESA 2010, *other taxes on products* are allocated to individual industries using various formulas for each tax based on the taxpayer or the object taxed.

The calculations are based on the cash receipts of federal, regional or local governments. In the case of the duty on vehicles based on fuel consumption, an adjustment is also made for the time lag between the tax liability arising and payment being due. The car registration tax is part of other taxes on products, irrespectively whether it is paid by households or enterprises.

Table 3.168: Taxes on products, except VAT and import taxes, in million EUR, year 2017

Excise duties and consumption taxes	7,954
Tax on tobacco	1,895
Tax on beer	187
Tax on sparkling wine	22
Duty on spirit	51
Tax on mineral oils	4,380
Duty on vehicles based on fuel consumption	473
Levy on sugar (S.21 tax)	4
Tax on energy	926
Contribution to the Agricultural Fund	17
Taxes on financial and capital transactions	1,110
Capital transfer tax	5
Land transfer tax	1,105
Car registration taxes	188
Amusement tax	19
Tax on gambling stakes	349
Insurance tax	1,190
Other taxes on specific services	520
Levy on dangerous waste	62
Flight charge	115
Tax on advertisement	110
Tax on tourism	233
Federal monopolies, gambling	242
Other taxes on products n.e.c.	7
Taxes on products, except VAT and import taxes	11,581

The indicators for allocation are the tax payer and the object taxed as well as the basis for assessment (tax on beer, for example, is a volume tax which is due when the beer leaves the manufacturing establishment; the tax payer is the producer and it is therefore allocated to ÖNACE 11). If insufficient information is available on the tax payer/object taxed or if all industries come into consideration, the tax is distributed amongst the ÖNACE two-digit codes in relation to output. It is clear how to allocate consumption taxes (e.g. mineral oil tax to ÖNACE 19 and 46, tax on tobacco to ÖNACE 46, etc.), as well as entertainment taxes (ÖNACE 55, 56 and 92), betting, gambling and lottery taxes (ÖNACE 92) and insurance taxes (ÖNACE 65). In the case of taxes on financial transactions and investment transactions, ESA 2010 stipulates that these are to be treated as taxes on the services of brokers. However, because the land acquisition tax is not contained in their output, the output of these brokers (ÖNACE 68) is increased by an imputed amount before the tax is allocated.

The distribution of other taxes on products by industries and types of tax is illustrated in Table 3.169.

Table 3.169: Taxes on products, except VAT and import taxes, by industry, year 2017

Industries	NACE	in million EUR	%
Manufacturing	C	2,211	19.1
Electricity, gas, steam and air conditioning supply	D	927	8.0
Wholesale and retail trade; repair of motor vehicles	G	4,858	41.9
Financial insurance activities	K	1,386	12.0
Real estate activities	L	1,110	9.6
Arts, entertainment and recreation	R	605	5.2
Other activities		485	4.2
Taxes on products, except VAT and import taxes, total		11,581	100.0

3.29. Subsidies on products

3.29.1. General

Subsidies are current payments by the General Government or by European Union institutions to resident producers. They are made without any *quid pro quo* and are intended to influence the scale of output, sales prices or payment.

Subsidies on goods add unit rates for goods or services which are either produced or traded. They may be related to quantity (a certain amount of money per unit of quantity) or value (a given percentage of the price per unit). They may also be compensation for the difference between the target price and the market price actually paid by the purchaser.

Subsidies on products are made up of:

- import subsidies
- other subsidies on products

In Austria no subsidies on imported goods or services are paid at present.

In general it is possible to separate *subsidies* from *social transfers in kind*, given that the public accounting data sources for Bund, *Länder* and municipalities are very detailed and rich (see chapter 3.21.2 for the public accounting systems of Bund, *Länder* and municipalities). Most importantly, social transfers in kind in the context of caring, reimbursements of health care costs and other social transfers in kind (schoolbooks, reimbursements for public transportation of pupils and apprentices,...) can be identified.

3.29.2. Other subsidies on products

As ESA 2010 requires valuations to be made at basic prices in the production approach, other subsidies on products must also be assigned to the individual industries. A specific formula was prepared for each subsidy. Allocation is made to ÖNACE two-digit codes in accordance with the recipient principle in the same way as to the taxpayer in the case of other taxes on products. Where

information is not sufficient to allocate the subsidy or the subsidy could be allocated to any of the industries, it was distributed between the ÖNACE two-digit codes in relation to output.

Subsidies are **calculated** on the basis of the corresponding valuations of individual items in the relevant final accounts. EU subsidies in agriculture are paid via the Federal budget but are classified as direct EU subsidies to Austrian companies/establishments in national accounts. The information for the breakdown of agricultural subsidies (AMA subsidies) into subsidies on products and other subsidies is taken from agricultural accounts.

Table 3.170: Other subsidies on products, in million EUR, year 2017

Agrarmarkt Austria (AMA)	9
Nutrition	6
Support for main and secondary railways not owned by the Bund	64
Transfer to ÖBB Rail Cargo (Austrian rail cargo company)	125
Transfer to post and telecommunication services	15
Transfers to Transport associations	77
Transport services, Länder	380
Transport services, municipalities	32
Other subsidies on products, total	709

As the summary of subsidies on products shows, recipients of subsidies are mainly to be found in transport:

Table 3.171: Other subsidies on products by industries, year 2017

Industries	NACE	in million EUR	%
Transport and storage	H	678	95.7
Other activities		31	4.3
Other subsidies on products, total		709	100.0

Other subsidies on products in transport and storage (NACE H) are accrued. Cash flows in the budget of the Bund are corrected with information stemming from final financial statements of the main entity receiving the subsidy (ÖBB Rail Cargo).

There isn't any car scrappage schemes in Austria in 2017.

4. The income approach

4.0. GDP according to the income approach

The income approach calculates the income of all recipients of revenues within the economic territory, both employed and self-employed.

Table 4.1 describes the breakdown of compensation of employees, taxes on products, other taxes on production and imports, subsidies on products and other subsidies on production (for the year 2017) by NACE sections. In Austria gross operating surplus and mixed income are calculated as a residual. Taxes on products are not available by NACE sections.

Table 4.2 shows the breakdown of compensation of employees by institutional sectors.

Table 4.1: Overview of the components of the income approach, in million EUR

NACE Sections	Compensation of employees	Gross operating surplus/mixed income	Consumption of fixed capital	Net operating surplus /mixed income	VAT/taxes and duties on imports	Taxes on products except VAT and import taxes	Other taxes on production	Taxes on production and imports	(Other) subsidies on products	Other subsidies on production	Subsidies	Taxes less subsidies on production and imports	Gross domestic product
	D.1	B.2g/ B.3g	P.51c	B.2n/ B.3n	D.211/ D.212	D.214	D.29	D.2	D.31 (D.319)	D.39	D.3	D.2- D.3	B1*g
A	717	5,295	2,053	3,242		22	183		9	1,724	1,733		
B	385	804	401	403		1	30		0	31	31		
C	33,697	27,514	12,569	14,946		2,211	2,209		6	1,210	1,215		
D	2,344	3,285	2,280	1,006		927	301		0	40	40		
E	1,193	2,150	1,247	903		64	93		0	11	11		
F	12,086	8,511	1,756	6,755		10	798		0	247	247		
G	22,817	13,946	3,943	10,003		4,858	1,638		0	534	534		
H	9,426	8,511	4,919	3,592		123	697		679	53	732		
I	7,937	9,031	1,126	7,905		135	506		0	249	249		
J	6,658	4,768	3,047	1,721		65	408		15	110	126		
K	8,572	3,760	2,641	1,119		1,386	1,525		0	113	113		
L	2,019	30,225	14,463	15,762		1,110	498		0	51	51		
of which imputed rents		17,886		17,886		21							
M	10,074	7,103	1,917	5,186		58	625		0	153	153		
N	7,985	6,176	5,183	993		4	503		0	53	53		
O	13,501	2,683	2,683	0		0	461		0	0	0		
P	14,450	2,828	2,605	223		0	526		0	5	5		
Q	16,935	6,189	2,124	4,065		3	855		0	783	783		
R	1,809	2,383	723	1,660		605	103		0	111	111		

S	3,309	1,526	565	961		1	182		0	20	20		
T	173	0	0	0		0			0		0		
Total	176,086	146,689	66,243	80,445	29,073	11,581	12,141	52,795	709	5,499	6,208	46,587	369,362

Table 4.2: Compensation of employees by institutional sectors, in million EUR

Sector	Compensation of employees	Other taxes on production and imports	Other subsidies on production	Gross operating surplus and mixed income
S.11, S.12, S.14	128,237	10,093	5,499	136,743
General Government (S.13)	39,109	1,603	-	9,604
NPISH (S.15)	8,740	445	-	342
Total	176,086	12,141	5,499	146,689

4.1. The reference framework

When calculating GDP in the Austrian national accounts system, the emphasis is on the output and expenditure approaches. The income approach is partly a residual method and not a fully independent estimate on the basis of surveyed income. The income aggregates like compensation of employees are compiled by the team "Income Approach, Employment", which is part of the national accounts division (see Figure 1.2). The taxes on production and import and the subsidies are compiled by the team "Sector Accounts and Public Finance" and the "National Accounts". The consumption of fixed capital is compiled by the team "Expenditure Approach, Balance Sheets", which is part of the national accounts division (see Figure 1.2), too.

Wage tax statistics serve as the main source of determining the sum of gross wages and salaries. Social contributions (actual and imputed) are taken from additional sources. The Structural Business Statistics (SBS) are used for allocating compensation of employees to industries. Operating surplus is determined residually together with mixed income.

Calculations of compensation of employees (gross wages and salaries and social contributions) are based on the sources of data given in the following Table 4.3.

Table 4.3: Data sources for the income approach

Sources	Data
Annual wage tax statistics	Gross wages and salaries including taxed salaries in kind and stock options, employees' contributions to social insurance
Structural Business Statistics (SBS)	Calculation of compensation of employees by industry (excluding agriculture and NACE sections O to T)
Income and financial statistics of the <i>Umbrella Organisation of Austrian Social Security Institutions (Dachverband der österreichischen Sozialversicherungsträger)</i>	Employees' and employers' contributions to social insurance
Closed accounts of public authorities and the financial management statistics of other public legal entities	Imputed social contributions
Annual reports, individual information	Income by industry: compensation of employees in sections not covered by SBS

Wage class statistics of the <i>Umbrella Organisation of Austrian Social Security Institutions (Dachverband der österreichischen Sozialversicherungsträger)</i>	This source is used for plausibility testing of income by economic activity
Labour cost survey (LCS)	This source is used to allocate D.12 to NACE sections not covered by SBS and to estimate the untaxed salaries and wages.

Further details to the data sources are available in the chapters 7.4.2 and 10 respectively.

4.2. Borderline cases

In the wage tax statistics wages and salaries in kind exclude expenditure that benefits the employer, such as business travel expenses and clothing used mainly at work.(described in chapter 3.2)

- The borderline between gross operating surplus or mixed income and intermediate consumption is described in chapter 3.2.
- The borderline between intermediate consumption and wages and salaries is described in chapter 3.2
- (e.g. The daily allowances received by employees on business trips are fully included in wages and salaries).
- For borderline cases concerning taxes on production and imports and subsidies see the description in the sections 4.8 and 4.9.

4.3. Valuation

In calculating income, all data (including those on payment in kind) are surveyed in monetary terms and processed in this form. No adjustments are necessary. Operating surplus and mixed income are a residual term and are not surveyed in its original form. There is therefore no need for a separate valuation.

Wages and salaries in kind are benefits not consisting of money. They are included in the payroll and for this purpose the valuation works as follows:

- The official monetary value of benefits in kind is taken, if determined by the Austrian Federal Ministry of Finance,
- If not determined by the Federal Ministry of Finance, the valuation consists of the average price which is customary in the respective place.

Compensation of employees is recorded in the wage tax statistics during the period in which the work is done, therefore no adjustment is conducted.

A description of adjustments made to bring recording of taxes on production and import and subsidies to an accrual basis, can be found in chapter 3.3.

4.4. *Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts*

Unlike the production approach, the income approach does not make any overall adjustments to income data. Wage tax statistics are consistent with the ESA 2010 concepts.

A detailed description of the measures taken to ensure a satisfactory transition from private accounting and from government accounting to ESA 2010 concepts can be found in chapter 3.4.

4.5. The role of direct and indirect estimation methods and of benchmarks and extrapolations

Table 4.4 gives a brief overview of the methods used for the calculation of compensation of employees (D.1).

Table 4.4: Overview of the methods used for compensation of employees (D.1)

Compensation of employees	Wages Salaries (D.11)	Employers' actual social contributions (D.121)	Employers' imputed social contributions (D.122)
Non-Financial Corporations	combined	combined	
Financial Corporations	combined	combined	
General Government	administrative	administrative	Extrapolation+Models
Households	combined	combined	
NPISH	combined	combined	

No estimates are necessary to determine the sum of wages and salaries (except for the untaxed tips and the untaxed wages and salaries in kind) and the sum of social contributions.

The total value of the sum of wages and salaries does not need to be extrapolated since exhaustive information is available each year (see 4.7.1). Government data are also available on an annual basis. The results of the calculations are tested for plausibility (inter alia the per capita income of employees).

4.6. The main approaches taken with respect to exhaustiveness

Chapter 7 gives a precise summary of all the calculation stages to ensure exhaustiveness and also gives detailed results of these calculations. Whereas income from revenues off the books and from underground production as well as from illegal activities are relevant for operating surplus/mixed income, additional estimates for untaxed tips and untaxed wages and salaries in kind are relevant for the compensation of employees. Table 4.5 shows the amount of adjustments which are made.

Tips are added to compensation of employees in ÖNACE divisions 55-56 (hotels and restaurants), 49 (operation of taxis) and 96 (hairdressers, beauticians and pedicurists). In the year 2017 the total amount is EUR 1.69 billion. For detailed information on untaxed tips refer to chapter 3.4.2 and chapter 7.

Table 4.5: Adjustments to exhaustiveness, in million EUR*

N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4: Registered legal person is not included in statistics	N5: Registered entrepreneur is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	TOTAL
Adjustment of compensation of employees (D.1)							
in million EUR							
0	0	0	0	0	0	2,112	2,112
% of total compensation of employees (before adjustments)							
0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Adjustment of gross operating surplus/mixed income (B.2/B.3g)							
in million EUR							
3,235	436	1,997			4,849	-386	10,096
% of total gross operating surplus/mixed income (before adjustments)							
2.4	0.3	1.4		0.0	3.5	-0.3	7.4

* including rounding errors

4.7. Compensation of employees

4.7.0. Overview, Definitions and calculation

The following Table 4.6 provides an overview of the components of compensation of employees by NACE sections.

Table 4.6: Overview of the components of compensation of employees by NACE sections, in million EUR, year 2017

NACE	Wages and salaries (including in kind)	Actual emp. contr. D.121	Imput. emp. contr. D.122
A	595	122	0
B	322	63	-
C	28,192	5,505	-
D	1,623	721	-
E	980	213	0
F	10,217	1,869	-
G	18,899	3,919	-
H	7,758	1,668	-
I	6,732	1,204	0
J	5,497	1,157	3
K	6,674	1,899	-
L	1,662	356	1
M	8,390	1,683	2
N	6,612	1,364	9
O	11,119	1,367	1,015
P	11,741	2,076	633
Q	13,741	3,058	136
R	1,514	290	6
S	2,719	588	2
T	151	22	-
Total	145,137	29,143	1,807

The following Table 4.7 provides an overview of the components of compensation of employees by NACE sections for S.13 (general government). The model-based component of D.122 amounts to EUR 1,807 million, the estimated untaxed salaries in kind account for EUR 93 million.

Table 4.7: Overview of the components of compensation of employees by NACE sections for S.13, in million EUR, year 2017

NACE	Wages and salaries (including in kind)	Actual emp. contr. D.121	Imput. emp. contr. D.122
A	3	1	0
B			
C			
D			
E	7	1	0
F			
G			
H	1,331	304	0
I	7	1	0
J	346	105	3
K	14	4	
L	112	26	1
M	411	85	2
N	248	45	9
O	11,119	1,367	1,015
P	10,220	1,744	633
Q	6,728	1,496	136
R	634	133	6
S	638	172	2
T			
Total	31,818	5,483	1,807

Compensation of employees is invariably determined as the sum of gross wages and salaries plus the sum of social contributions. These income data are determined on the basis of wage tax statistics and the closed accounts of local governments and the financial management statistics of other public legal entities (4.7.1 to 4.7.2.3).

Gross wages and salaries (D.11) comprise all remuneration in cash and in kind of all residents and non-residents employed in Austria (workers, salaried employees, apprentices, and people doing military service and alternative service for conscientious objectors) for the work they carry out in the period concerned. Monetary compensation includes basic pay, overtime pay, compensation for periods which are not worked (holidays, public holidays, paid sick days and other paid non-working days), additional allowances (in as far as these are included in ESA 2010), redundancy pay and any social contributions, income tax, etc. paid by the employee, even when these are withheld and directly transferred by the employer.

Gross wages and salaries in the form of payment in kind comprise goods, services and other benefits which are made available by employers either free of charge or at a reduced rate. For employees these represent additional income, since they would otherwise have to pay the market price.

Employers' social contributions (D.12) are made up of actual and imputed social contributions. Actual social contributions (D.121) are paid by employers in order to ensure that employees are entitled to

social benefits. These are payments to insurance schemes (social insurance) and other social security systems which are financed by special funds. The actual social contributions comprise the compulsory and voluntary contributions to insurance against social risks or needs.

Voluntary social contributions are recorded as other social expenditure and comprise contributions to pension reserves on the basis of individual contracts, to in-house or external pension funds or non-statutory insurance premiums (health, accident and life insurance) on behalf of current or past workers or their survivors. This category does not, however, include redundancy reserves and pension payments to past employees and their survivors.

Imputed social contributions (D.122) are primarily in respect of the burden on employers imposed by civil servants' pensions. The government does not actually pay social contributions in the same way as private employers (employers' pension insurance contributions) but it must later pay pensions to retired civil servants. Social contributions are therefore imputed for the purposes of these personnel costs.

Compensation of employees does not include indirect pay-related taxes (especially employers' contributions to the equalisation fund for family allowances and communal tax, i.e. the previous municipal tax on total wages paid). These are recorded as other taxes on production.

Table 4.8 provides an overview of the components of compensation of employees for the year 2017.

Table 4.8: Components of compensation of employees, in million EUR

Components	
Gross wages and salaries	143,024
Untaxed tips and untaxed wages and salaries in kind	2,112
Total gross wages and salaries (D.11), nominal	145,137
Employers' compulsory contributions (D.121)	25,286
Voluntary social contributions (D.121)	3,857
Imputed social contributions (D.122)	1,807
Total social contributions (D.12)	30,950
Compensation of employees (D.1)	176,086

In 2017 gross remuneration accounted for approximately 82.5% of compensation of employees. Social contributions, which accounted for 17.5% of compensation of employees, were made up of 94% actual social contributions and 6% of imputed social contributions in the same reporting year.

In the wage tax statistics both resident and non-resident employees are fully covered so no additional estimates are necessary.

The wage tax statistics as the main data source for compiling compensation of employees has no thresholds, therefore no adjustments for low incomes are required. Also no specific adjustments for tax evasion are done concerning the compensation of employees, as the non-observed economy, which is described further in chapter 7, is within the component "mixed income".

4.7.1. Calculation of total gross wages and salaries

The data for forming the total sum of gross wages and salaries of all dependent employees come mainly from the wage tax statistics. These contain also low pay income and taxed wages and salaries in kind. As mentioned above, a supplementary estimate for untaxed tips is made. However, there are few exceptions, e.g. price reductions obtained in free or subsidised canteens, or obtained by luncheon vouchers, which are excluded from the wage tax statistics. The Labour cost survey is used to estimate these untaxed salaries and wages in order to obtain the total wages and salaries.

The wage tax statistics are based on "pay slips" or forms which must be issued for all employees and pensioners. They are proof of the income and pension received over the whole year for each employment or pension relationship. The financial administration (*Bundesrechenzentrum*) provides *Statistics Austria* with information on all of "pay slips" received in computerised form. This is a full scale secondary statistics survey.

Total gross wages and salaries are determined as the sum of the following remuneration:

- current – i.e. regular – remuneration from an employment relationship, including holiday and Christmas bonuses
- holiday and Christmas bonuses for construction workers²¹
- redundancy pay
- other remuneration subject to regular tax (bonuses, commission based on turnover, etc.).
- taxed salaries in kind, like company cars or stock options

Each pay slip has a *social status* box, identifying the person for whom the pay slip has been issued as an apprentice, worker, salaried employee, civil servant or pensioner. In order to determine total gross wages and salaries, the following types of pay slips are used:

- Employees' pay slips (where social status is identified as "apprentice", "worker", "salaried employee" or "civil servant"), containing details of current remuneration (and possibly redundancy pay).
- Construction workers' pay slips with details of only holiday or Christmas bonus payments.
- Workers' or pensioners' pay slips (where the social status is identified as "pensioner") which only include redundancy pay.

Other types of pay slips are not used to determine total gross wages and salaries, since these refer to income which constitute transfers (pay slips for sickness and maternity benefit, etc.).

4.7.1.1. Calculation of gross wages and salaries by industry

To break down income by economic activities all of the above mentioned sources of the income approach are taken into account, mainly the SBS for the NACE sections B-N.

²¹ These are paid not by the employer but by the construction workers' holiday fund and details are given on separate pay slips.

Wage tax statistics, which are used to determine total gross wages and salaries, are not primarily used to break down income by economic activities since the wage tax register and the business register cannot be completely harmonised for conceptual reasons and the statistical units are partly different. In the wage tax statistics, for example, a large part of the data in the general government sector (S.13) is classified exclusively in ÖNACE division 84. Hence, ÖNACE 85 and 86 in particular are underestimated.

Breaking down gross wages and salaries by industry the SBS, which has been available since reporting year 1997, ensures that income approach data and production and expenditure approach data are consistent with each other. Therefore the SBS is the main source for the breakdown by NACE sections.

In detail, gross wages and salaries are calculated for individual industries as follows:

- Income from the wage tax statistics and the data on employees calculated in accordance with national accounts rules are used to determine gross income in *agriculture, forestry and fishing* (ÖNACE section A) (on the basis of the employment relationships determined by the *Umbrella Organisation of Austrian Social Security Institutions*).
- Data from the SBS are available for calculating income in the industries *mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply, water supply; sewerage, waste management and remediation activities, construction, wholesale and retail trade; repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities, information and communication, financial and insurance activities, real estate activities, professional, scientific and technical activities, administrative and support service activities* (ÖNACE sections B to N).
- Calculations of the income for *education, human health and social work activities, arts, entertainment and recreation and other service activities* (ÖNACE sections P to S) are based on data from various sources (see Table 4.3). These values are updated for the current reporting year on the basis of suitable indicators (preliminary results from the wage tax statistics, development in the index of agreed minimum wages, the data for employees calculated for the purposes of the national accounts, family allowances and childcare benefit fund, annual reports).
- Data for the *general government sector* (S.13, mainly ÖNACE sections O to Q) are produced on the basis of the closed accounts of the public services and broken down by industry and market and non-market producers and made available for the income approach in accordance with ESA 2010.
- For *non-profit institutions serving households* (NPISH), estimates of personnel expenditure and broken down by activity are available from the expenditure approach (see chapter 5.8).
- Income of private households (ÖNACE section T) is calculated using average income values from ÖNACE division 97 according to the *Umbrella Organisation of Austrian Social Security Institutions* and the data on employees determined, plus an estimate for caretakers, who are employed in houses with owner occupied dwellings (see chapter 3.18.1).

The income data for individual industries determined in this manner then undergo plausibility testing to check them against both the respective development in income and consistency with aggregates of the production approach (output and value added). Individual adjustments for each industry are, however, made on the assumption that the sum of income for all industries is identical with the total determined.

The gross wages and salaries calculated in this way are summated by ÖNACE two-digit codes and institutional sectors (non-financial corporations (S.11) including the private household sector (S.14)).

4.7.2. Calculation of employers' social contributions (D.12)

4.7.2.1. Calculation of total actual social contributions (D.121)

Actual social contributions are determined by the following method:

The employers' actual social contributions (D.121) consist of the payments made by employers for the benefit of their employees to insurers (social security and other employment-related social insurance schemes). Such payments cover compulsory and voluntary contributions.

The basis for determining total actual compulsory social contributions is the closed accounts of the *Umbrella Organisation of Austrian Social Security Institutions*, which provide information on the following categories:

- health insurance
- pension insurance
- accident insurance.

Additional information on the employers' social contributions is taken from the closed accounts of the Bund and several other funds (see chapter 3.21.2 for detailed information on the public accounting system):

- workers doing heavy manual work at night
- continued pay under the *Entgeltfortzahlungsgesetz (EFZG – Continuation of Wage Payments Act)* and in accordance with the *Insolvenzentgeltsicherungsgesetz (IESG – Insolvency Pay Guarantee Act)*
- bad weather allowance in the construction industry / *Bauarbeiterurlaubs- und Abfertigungskasse (BUAK – construction workers' holiday and pension fund)*
- information from the closed accounts of the Bund on, for example, contributions to unemployment insurance

The sum of compulsory contributions needs to be adjusted since persons with "non-standard contracts" are classified as self-employed and so their contributions are transferred to the social contributions of the self-employed.

Employment-related voluntary social insurance schemes comprise pension funds ("Pensionskassen"), occupational group insurance ("Betriebliche Kollektivversicherung") and defined benefit pension

schemes managed by the employers in Austria. The employers' voluntary actual social contributions secure social benefits for their employees.

The data for pension funds, staff provision funds and occupational group insurance are acquired from supervising authorities. The voluntary employers' actual social contributions in the context of defined benefits pension schemes are derived from calculations based on balance sheet data of the relevant enterprises.

4.7.2.2. Breakdown by industry and adjustments

The data from the structural business statistics (SBS) is used to determine actual social contributions by industry. The NACE sections which are not covered by SBS are calculated by means of the Labour cost survey (LCS).

The sum of the compulsory contributions and voluntary contributions produces the actual total social contributions (D.121).

Compulsory contributions

1. The calculations for agriculture, forestry and fishing (ÖNACE A) are based on the assumption that the actual social contributions can be estimated from gross wages and salaries via the ratio between total wages and salaries and total social contributions. The way that gross wages and salaries are calculated has already been described in chapter 4.7.1. The actual social contributions are calculated as follows:

$$S_A = \frac{S_{Total}}{BLG_{Total}} * BLG_A$$

where

- S_A..... actual social contributions in industry A,
- S_{Total}..... total actual social contributions from SBS,
- BLG_{Total}..... total gross wages and salaries from SBS, and
- BLG_A..... total wages and salaries in industry A from national accounts.

2. The results of calculations of actual social contributions in the general government sector by industry can be used unchanged. For details refer to chapter 3.21.
3. In order to determine the actual social contributions of sector S.11 (including sector S.14) of industries in ÖNACE sections B to N the survey data in industries covered by the SBS are initially used or, for other industries (P to S), the LCS is used.

$$S_{NA} = \frac{S_X}{BLG_X} * BLG_{NA}$$

where

- S_{NA}..... actual social contributions in industry NA,
- S_X..... total actual social contributions from SBS or LCS,
- BLG_X..... total gross wages and salaries from SBS or LCS, and

BLG_{NA} total wages and salaries in industry NA from national accounts.

Individual adjustments for each industry are, however, made on the assumption that the sum of social contributions for all industries is identical with the total determined.

Voluntary social contributions

To break down voluntary social contributions by NACE sections the SBS and the LCS data on voluntary social contributions are taken into account. They are calculated in a similar way to compulsory contributions.

4.7.2.3. **Imputed social contributions (D.122)**

The various methods for calculating employers' imputed social contributions (D.122 and D.612, respectively) are discussed in ESA 2010, section 4.10. The imputed social contributions consist fully of imputed pension contributions in Austria. In principle, the amount of these imputed social contributions should be estimated on the basis of actuarial calculations. If such estimates lack a sufficient level of reliability, one option is the calculation on the basis of a reasonable percentage of wages and salaries paid to current employees (see chapter 3.21.6).

A fixed percentage of wages (25.1%) is used for the calculation of the imputed pension contributions until 2004. To deliver an overall consistent picture the percentage is based on actuarial analyses as well as on the percentage of the employer pension contribution of the general social security pension scheme. The imputed fixed percentage is considerably higher than the percentage of the social security scheme (12.55%). In 2005 the pension harmonisation act became effective for central government "Beamte" (civil servants with a special employment status) born after 1955. Nearly all state and local governments implemented pension reforms in the following years, though with a different grade of harmonisation. Therefore a different percentage (between 12.55% and 25.1%) is used for every year and every institutional sector based on the pension law in the respective sector from 2005 onwards.

4.8. *Taxes on production and imports*

Taxes on products (including VAT) are described in chapter 3.28.

Other taxes on production are taxes which are levied independently of the quantity or value of the goods produced or traded. They are paid by companies on the basis of their production activity in respect of their land, fixed assets, workforce and specific activities or transactions.

Whether a fee is classified as a tax or a purchase of services mainly depends on two criteria: i) does the state truly exert control power over a certain service and ii) is the state truly delivering a service? If yes, the fee is classified as service charge. For example, the issuing of a driving license, where the state exerts control in the form of a driver license test, is classified as a *purchase of services*. The issuing of a driver's license duplicate (i.e. copying of documents already issued once before) is classified as *other taxes on production*. For the same reason, commercial licences for example are

classified as *other taxes on production* (the documents needed to obtain the commercial license have been acquired when achieving the master craftsman's diploma).

Table 4.9: Other production taxes 2017, in million EUR, year 2017

Taxes on land, buildings or other structures	805
Tax on vacant plots	6
Land tax (except farm land)	675
Land tax A (farm land)	28
Other tax payments by farmers	96
Total wage bill and payroll taxes	9,177
Employer contribution to the family equalization fund (FLAF)	5,487
Disabled persons, equalization levy	154
Tax on sum of wages	3,470
Tax on employment (Vienna underground)	66
Emission trading allowances	63
Under-compensation of VAT (flat rate system), agriculture	8
Certain users fee	2,088
Stamp fees	8
Other fees, taxes on production n.e.c.	170
Motor vehicles tax	53
Contribution to the Road Safety Fund, paid by enterprises	1
Engine-specific insurance tax, paid by enterprises	406
Certain users fee	256
Administration duties	61
Other taxes, taxes on production n.e.c.	141
Financial Institutions Stability Fee	343
Deposit guarantee schemes payments	202
Contributions to Single Resolution Fund (EU) (S.21-tax)	188
Liability remuneration	223
Broadcasting and programming fees of public service broadcasting, paid by enterprises	29
Contribution for the promotion of arts, paid by enterprises	7
Other taxes on production	12,141

Like *other taxes on products*, these are calculated from the cash receipts of public authorities.

Other taxes on production are also allocated to the individual ÖNACE two-digit codes following the same procedure as for taxes on products. Additional information is provided by annual reports (of, for example, the ÖBB) and the closed accounts of public authorities (to determine, for example, the government sector share of employees' contributions to the equalization fund for family allowances).

Other production taxes are broken down by industries as shown in Table 4.10.

Table 4.10: Other production taxes – by industry, year 2017

Industries	NACE	in million EUR	%
Manufacturing	C	2,209	18.2
Construction	F	798	6.6
Wholesale and retail trade; repair of motor vehicles	G	1,638	13.5
Transport and storage	H	697	5.7
Financial and insurance activities	K	1,525	12.6
Professional, scientific and technical activities	M	625	5.1
Human Health and social work activities	Q	855	7.0
Other activities		3,794	31.3
Other taxes on production, total		12,141	100.0

4.9. Subsidies

Subsidies on products are described in chapter 3.29.

Other subsidies which are paid to resident production units and do not count as subsidies on products are paid in respect of the production activities of companies independently of the quantity or value of the products manufactured or sold.

In general it is possible to separate subsidies from social transfers in kind, given that the public accounting data sources for Bund, Länder and municipalities are very detailed and rich. Counterpart information is available in order to disentangle *subsidies* from *social transfers*, *miscellaneous current transfers* or *other capital transfers*.

Allocation formulas in accordance with the recipient principle are used to allocate *other subsidies* on production to individual industries (ÖNACE two-digit codes) in the same way as for *other subsidies on products*. The information used for this is provided by the explanatory notes to chapters of the *Bundesfinanzgesetz* (Federal Finance Act), the Federal Government's report on subsidies, financial management statements and the labour market statistics of the *Arbeitsmarktservice* (Austrian labour market service).

Table 4.11: Other subsidies on production 2017, in million EUR

Agrarmarkt Austria (AMA)	1,543
Labour market policy measures	1,276
Subsidies for publishing and the press	12
Residential care	483
Medical practice	121
Other subsidies, funds	164
Other subsidies, Federal State	902
Other subsidies, <i>Länder</i>	432
Other subsidies, municipality	434
Other subsidies, social insurance funds	133
Other subsidies, total	5,499

Other subsidies are broken down by industry as shown in Table 4.12.

Table 4.12: Other subsidies on production – by industry, year 2017

Industries	NACE	in million EUR	%
Agriculture forestry and fishing	A	1,724	31.3
Manufacturing	C	1,210	22.0
Wholesale and retail trade; repair of motor vehicle	G	534	9.7
78314,2Human Health and social work activities	Q	783	14.2
Other activities		1,249	2.7
Other subsidies, total		5,499	100.0

Other subsidies on products in agriculture, forestry and fishing (NACE A) are accrued. Cash flows in the Federal state budget are corrected with information stemming from (accrued) final financial statements of the entity distributing the subsidy (AMA subsidies).

4.10. Gross operating surplus

This aggregate is calculated as residual, therefore no independent estimates are made.

4.11. Mixed Income

This aggregate is calculated as residual, therefore no independent estimates are made.

4.12. Consumption of fixed capital

In Austria, consumption of fixed capital (CFC) is calculated for all producers by applying the Perpetual Inventory Method (PIM). A geometric depreciation function with a constant annual depreciation rate is used for all capital goods, according to paragraph 3.144 of ESA 2010.

The model includes all fixed assets (AN.11) separated in the following categories: Dwellings (AN.111), Other buildings and structures (AN.112), Machinery and equipment (AN.113), Weapon systems (AN.114), Cultivated biological resources (AN.115) as well as Intellectual property products (AN.117) separated into Research and development (AN.1171), Computer software and databases (AN.1173) and Entertainment, literary or artistic originals (AN.1174). Not covered are the categories Mineral exploration and evaluation (AN.1172) and Other intellectual property products (AN.1179).

The data basis for applying the PIM is investment time series (nominal and real) – broken down by market and non-market producers, types of assets (e.g. buildings, machinery, vehicles, etc.), activities (ÖNACE two-digit codes) and sectors – which are generally available from 1976 onwards. The estimate of an initial capital stock for 1975 is based on relevant studies from the seventies.

As capital stock is valued at replacement prices and not historical purchasers' prices in national accounts – unlike in companies accounts – and consumption of fixed capital on this basis is purely a change in volume which must be kept separate from a change in price or revaluation, the actual calculation (PIM) is carried out at constant prices (base year currently 2010).

At constant prices, the following simplified model is applied for a specific class of capital goods,

$$K_t = K_{t-1} + I_t - D_t$$

where K_t denotes the stock of fixed assets at the end of year t , I_t the gross fixed capital formation during year t and D_t the consumption of fixed capital that occurs during the period. Therefore, the capital stock at the end of the period is calculated as capital stock at the beginning of the period plus gross fixed capital formation and less consumption of fixed capital. If necessary, other changes in volume (like catastrophic losses, etc.) have to be taken into account.

Under the assumption of a constant depreciation rate (r) as well as the simplified assumption, that gross fixed capital formation is distributed more or less equally over the year, the formula can be rewritten as:

$$K_t = K_{t-1}(1 - r) + I_t(1 - r)^{0.5}$$

Consumption of fixed capital at constant prices is then derived by rearranging the formula into:

$$D_t = K_{t-1} - K_t + I_t = rK_{t-1} + I_t(1 - (1 - r)^{0.5})$$

In a last step, consumption of fixed capital at current prices is obtained by multiplying consumption of fixed capital at constant prices with the appropriate price index, which is used to deflate nominal gross fixed capital formation.

When applying a geometrical depreciation model, the only parameter which needs to be determined for the PIM is the annual depreciation rate (r). Here, Austria largely follows international practice – in the absence of sufficient direct information – taking the US Bureau of Economic Analysis (BEA) in particular as a reference. Service lives are continuously reviewed and compared with practices in other countries.²² Generally, the depreciation rates – and hence the implicit assumptions on average service lives – vary depending on the type of asset and also on the activity. Table 4.13 gives an overview of the depreciation rates used in the PIM model:

²² At present Austria is participating in the “Task Force on Fixed Assets and Estimation of Consumption of Fixed Capital Under ESA 2010”. New evidence from this Task Force that would require adaptations of current service lives/depreciation rates is planned to be implemented in the next benchmark revision.

Table 4.13: Depreciation rates for categories of assets

Asset categories	Depreciation rates
Dwellings	0.02
Other buildings and structures ¹⁾	0.02 / 0.024 / 0.03
Machinery and equipment	between 0.059 and 0.273
Transport equipment	0.2
Cultivated biological resources	0.1
Computer software and databases and Entertainment, literary or artistic originals	0.3
Weapon systems	0.055 / 0.083
Research and development	0.12 / 0.14 / 0.17

¹⁾ further split for S.13 in non-residential buildings (AN.112101), roads and bridges (AN.112201) and other underground construction (AN.112203);

The introduction of ESA 2010 involved a number of conceptual changes which had to be incorporated in the PIM model. Most importantly research and development and weapon systems, which are according to ESA 2010 recorded as investment (rather than intermediate consumption) were integrated into the PIM. No changes were made with respect to land improvements as these are already included in the position "Other buildings and structures" (AN.112) and thus are completely capitalized. A separate classification to the new position AN.1123 is not realized at present. Changes in public and private sector classification accruing from ESA 2010 were also accounted for in the PIM. Following the new guidelines of ESA 2010 required the reclassification of assets from non-market to market producers and/or vice versa. These K.6 recordings were done by analysing the available investment data, as well as balance sheet data from enterprises which were reclassified.

The lifetime assumptions for military weapon systems are based on the expected service lives by type of weapon system. The assumed average service lives are 30 years for military aircrafts and 20 years for other weapons (including tanks). By applying a declining-balance-rate of 1,65 this corresponds to depreciations rates of 0.055 and 0.083.

For research and development lifetime assumptions are determined by type of R&D: 13 years for basic research, 11 years for applied research and 9 years for experimental development. By applying a declining-balance-rate of 1,5 this corresponds to depreciation rates between 0.12 and 0.17. Software as well as entertainment, literary and artistic originals are depreciated with a rate of 0.3, which corresponds to an average service life of 5 years (DB-rate of 1,5).

Consumption of fixed capital for non-market output in sectors S.13 and S.15 is calculated in exactly the same way. For the public sector (i.e. state non-market production) investment time series goes back to 1954.

Roads and other civil engineering structures which are regarded as public infrastructures specifically include:

- motorways, federal, regional and municipal roads, forest roads and roads for transport of goods (including bridges)

- other civil engineering structures, as far as these constitute public infrastructure (river regulation, torrent and avalanche control as well as parks and garden installations).

On the basis of the closed accounts of Bund, Länder and municipalities as well as the public accounts statistics of other units of government sector, GFCF in public infrastructure is allocated according to subsectors (S.1311-S.1314), asset categories (AN-Codes) and activities (ÖNACE 2-digit codes). S.13 capital stock of roads and bridges (AN.112201) and other underground construction (AN.112203) in sum accounts for approximately 5% of total net capital stock (S.1).

Consumption of fixed capital is geometric and therefore no explicit retirement function is required. Depreciation is assumed at an annual rate of 0.03 (both for roads and for other civil engineering structures). The depreciation rate chosen for roads is based on detailed estimates of the service life of individual components of roads (pavement, equipment, bridges, etc.) from the infrastructure accounts²³.

The primary data source is the investment time series from 1954. The initial capital stock for 1953 was estimated taking into account, *inter alia*, information on the length of the roadway network at the time.

If a unit and hence its capital stock changes sector or if a unit is transferred from a non-market producer to a market producer or *vice versa* this is taken into account explicitly in the model by reclassifying (components of) the net capital stock.

²³ See also: Max Herry: "Ermittlung des Kapitalstocks für die Straßen Österreichs" (Determining the capital stock for Austria's roads), March 1998.

5. The expenditure approach

5.0. GDP according to the expenditure approach

In addition to the production and the income accounts, GDP and subsequently GNI is also calculated according to the expenditure approach as the total of all final expenditures made in either consuming the final output of the economy, or in adding to wealth, plus exports less imports of goods and services. In the following an overview of the approach representing the use side of the economy is given.

Table 5.1 shows the breakdown of GDP according to the expenditure approach by component.

Table 5.1: Breakdown of GDP according to expenditure approach, in million EUR, year 2017

Final consumption expenditure	Household final consumption expenditure		186,016
	NPISH final consumption expenditure		7,933
	General government final consumption expenditure	Individual final consumption expenditure	45,428
		Collective final consumption expenditure	26,558
Gross capital formation	Gross fixed capital formation	Dwellings	16,557
		Other buildings and structures	22,508
		Machinery and equipment	29,707
		Weapon systems	100
		Cultivated biological resources	130
		R&D	10,192
		Computer software and databases	7,748
		Entertainment, literary or artistic originals	334
	Changes in inventories	Materials and supplies	336
		Work-in-progress	1,131
		Finished goods	276
		Goods for resale	864
	Acquisitions less disposals of valuables		1,861
	Foreign trade	Exports	Goods
Services			59,585
	Imports	Goods	138,912
		Services	49,048
GDP			369,362

5.1. The reference framework

In the expenditure approach GDP is calculated by adding final consumption, gross capital formation, and net exports (exports – imports) of goods and services. The expenditure aggregates are compiled

by the team “Expenditure Approach, Balance Sheets”, which is part of the national accounts division (see Figure 1.2).

Final consumption represents consumption expenditure of resident private households (including persons living in institutional households), non-profit institutions serving households (NPISH) and government. Consumption expenditure of government can be broken down into individual and collective consumption.

Gross capital formation is made up of acquisitions less disposals of fixed assets (including transfer costs), improvements to non-produced non-financial assets, changes in inventories and acquisitions less disposables of valuables.

Exports comprise goods and services transactions of residents to non-residents. **Imports** comprise goods and services transactions of non-residents to residents.

5.1.1. Final consumption

A. Final consumption of private households

ESA 2010 describes final consumption as expenditure of resident institutional units on goods and services which are used for direct satisfaction of individual needs and wants or collective needs of the members of the community. This expenditure can take place on national territory or abroad.

Domestic final consumption of private households is first calculated at a detailed product level in accordance with the ÖCPA classification. After the aggregation to final consumption expenditure following the resident principle, consumption of non-residents on national territory is deducted and overall consumption of residents abroad (not broken down by products²⁴) is added, in order to achieve HFCE following the national concept.

A number of very different methods are used to calculate final consumption of private households with suitable sources being sought for each product, the main one being the Commodity Flow approach (see chapter 5.7.3).

The main sources used for calculating private consumption of households are production statistics, ITGS, Household Budget Surveys, business accounts (SBS), and administrative data like tax statistics and public accounts.

The values for consumption of domestic households abroad and for consumption of non-domestic households on national territory are taken from the items *Travel* and *International passenger transport* in the balance of payments statistics. The two main adjustments made for both imports (consumption of residents abroad) and exports (consumption of non-residents on national territory) are the

²⁴ A product breakdown model for the consumption of non-residents was developed for internal use. Consumption expenditures of residents abroad are derived from balance of payment statistics (travel statistics) and offer only a rough product structure which is broken down to CPA 6-digit using various information and assumptions. This task is mainly done for creating a price index for consumption expenditures of residents abroad. Statistics Austria does not consider the quality of this product structure sufficient enough to make it publicly available.

correction for expenditure on business trips (= intermediate consumption of producers) and expenditure on package tours (which are regarded as intermediate consumption of resident travel agencies or travel organisers) (for more detail see chapter 5.17).

B. Final consumption of non-profit institutions serving households

The sector of non-profit institutions serving households (NPISH, S.15) comprises organisations constituting separate legal entities that provide goods and services for private households that are not sold at market prices. In Austria this sector includes mainly the following organisations: hospitals and human health care, nurseries and schools, residential care (except old people's homes), social work, sports and membership organisations (automobile clubs, religious communities, political parties, trade unions, environmental protection organisations, organisations of development cooperation and other associations).

Final consumption of non-profit institutions serving households (NPISH) equals the value of the goods and services produced by these units, excluding own-account capital formation and expenditure of private households and other units on these goods and services. It is derived from the sector's production account by subtracting revenues from production and output resulting from own-account production from the corresponding total output value. Output itself is calculated as the total costs of production.

For non-profit institutions serving households no mandatory survey on a regular basis exists. The main data sources for obtaining values for final consumption and the calculation process are described in more detail in chapter 5.8.

C. Final consumption of general government

Final consumption of general government comprises, in accordance with ESA 2010, "the sum of their output (P.1), plus the expenditure on social transfers in kind (D.632), minus the payments by other units, market output (P.11) and payments for the other non-market output (P.131), minus own-account capital formation (corresponding to P.12)". In other words: final consumption expenditure of general government is other non-market production plus social transfers in kind and minus payments for non-market output, see chapter 5.9 for more details on calculation process and data sources.

5.1.2. Acquisitions less disposals of tangible and intangible fixed assets (Gross fixed capital formation)

A. Capital formation in construction

According to ESA 2010 capital formation in construction is broken down into "dwellings" and "other buildings and structures" which, in terms of quantity, account for a substantial proportion of gross fixed capital formation. See more details in chapter 5.10.3.1.

B. Machinery and equipment

Weapon systems are calculated separately but published as part of machinery and equipment. Small tools, spare parts, running repairs, servicing and maintenance do not count as capital formation in

equipment. The main sources for calculating capital formation in machinery and equipment are production statistics (short term statistics), ITGS, administrative data, and Structural Business Statistics. See chapters 5.10.3.2 and 5.7.3.

C. Cultivated assets

Cultivated assets are to be recorded as gross fixed capital formation. They include breeding, dairy and draught animals, etc., orchards and vineyards and other trees and bushes which are used for repeated production. The main sources are agricultural statistics (see chapter 5.10.3.4).

D. Intangible Assets

Intangible assets include expenditures on research and development, software and entertainment, literary and artistic originals.

R&D includes freely available R&D and unsuccessful R&D, basic research, applied research and scientific development. A distinction is made between purchased and own-account R&D in order to ensure that they are recorded correctly in the individual national accounts. The main sources are R&D statistics, SBS, BoP statistics and short term statistics (see chapter 5.10.3.6).

Software includes expenditure on computer programs, program descriptions and supporting material for system and application software, etc. which are used for longer than a year. A distinction is made between purchased and own-account software. The main sources are employment statistics for own-account software and SBS, BoP statistics and short term statistics for purchased software (see chapter 5.10.3.7).

Entertainment, literary and artistic originals are originals from the following categories: literature, TV, film, composers and musicians. Basic sources are data from collecting societies, reports of the Austrian Broadcasting Corporation (ORF) and data from the association for film and music industry (see chapter 5.10.3.8).

5.1.3. Changes in inventories

Changes in inventories cover the value of additions to and withdrawals from inventories (including "normal" losses) in accordance with ESA 2010 (section 3.146ff). The sources of data available for most industries are the annual book values for the final inventory of the reporting year and the final inventory from the previous year (which equals the initial inventory of the reporting year). The difference between the final book value and initial book value is used to calculate changes in inventory adjusted for holding gains and losses (see chapter 5.11).

5.1.4. Acquisitions less disposals of valuables

Valuables are non-financial assets which primarily serve as a store of value (not for production or consumption) and normally retain their physical value over time. These include precious metals and stones including jewellery, antiques and works of art and other valuables. The main data source for the calculation of acquisitions less disposals of gold bars, gold coins, gold jewellery and pearl jewellery

or pearls are production statistics, ITGS and business statistics. Short Term Statistics, Structural Business Statistics, turnover tax statistics and ITGS are the data sources used for acquisitions less disposals of work of art and antiques (see chapter 5.12).

5.1.5. Foreign trade

Foreign trade is broken down into imports and exports of goods and services.

Foreign trade in goods is determined by *Statistics Austria* on the basis of the ITGS (Extrastat/Intrastat) and several further additions and adjustments to the ITGS in order to obtain exports and imports of goods according to ESA 2010 rules. Chapters 5.13 and 5.15 give a detailed overview of the necessary additions and adjustments to the ITGS.

Values for exports and imports of services are adopted without any further methodological adjustments from the balance of payments statistics, see chapters 5.14 and 5.16. Chapter 10.3.2 describes the balance of payments statistics and chapter 10.3.2.2 informs on the various sources regarding the compilation of cross border services.

5.2. The borderline cases

5.2.1. The borderline cases for HFCE

In the following, the main borderline cases for household final consumption expenditure (HFCE) and their respective inclusion or exclusion are described and justified.

Dwelling services produced by owner-occupiers are included in HFCE as described in chapter 5.7.3.4.2.2.

Income in kind is part of HFCE, see chapter 7.3.2.2. Goods produced by households for own final use such as food is part of private consumption recorded by HBS. Private use of company cars is included in HFCE as described in chapter 5.7.3.3.1.

Materials for small repairs and interior decoration of dwellings are included in HFCE if they are used for services which are typically done by tenants (see ESA 2010 3.96 (b)).

Materials for repairs and maintenance of consumer durables are part of HFCE as covered in HBS.

The total value of any goods purchased under **hire-purchase agreements** is included implicitly and recorded at the date of the purchase.

Purchases and sales of second-hand goods are included in HFCE if the retailer is a corporation and are valued at the trade margin of the retailer (see chapter 5.7.3.3.1).

Consumption of **FISIM** by private households is included in the calculation of HFCE. The method and the allocation of FISIM to households in the different roles are described in more detail in chapter 3.17.1.4.

Consumption of **Market Making Services** by private households is also taken into account in calculating HFCE. For more detail on method and allocation see chapter 3.17.1.5.

Insurance service charge for life insurance and pension funds is fully recorded as private consumption, service charge of non-life insurance is split between private and intermediate consumption as described in chapter 3.17.2.3.5. In some products such as repair of motor vehicles, legal advice or health services insurance claims are also part of private consumption. Claim payments are treated as transfers of the insurance companies to the households to buy a service such as a car repair. Thus direct payments from insurer to repairer and other service providers are included implicitly.

The car registration tax is treated as a tax on products allocated to the car registration service and thus recorded as intermediate and final consumption depending on whether the buyer is classified as a consumer or a producer (see chapter 5.7.3.4.2.16).

Payments by households for licences, permits, etc. which are regarded as purchases of services are part of HFCE as described in chapter 5.7.3.4.2.17.

Social transfers in kind are excluded from HFCE and recorded as part of final consumption of government, see chapters 5.7.3 and 5.9.

All those payments by households which are to be regarded as taxes (except taxes on products) are not included in HFCE as described in chapter 5.7.3.4.2.17.

Subscriptions, contributions and dues paid by households to NPISH and voluntary transfers in cash or in kind by households to charities etc. are not part of HFCE but treated as other current transfers from the household to the NPISH unit and recorded in the secondary distribution of income accounts (see chapter 5.8).

Expenditure that an owner-occupier incurs on the decoration, maintenance and repair of the dwelling not typically carried out by tenants is treated as intermediate consumption or gross fixed capital formation as described in chapter 5.7.3.4.2.2.

5.2.2. The borderline cases for GFCF

In the following, some borderline cases regarding gross fixed capital formation (GFCF) and their respective inclusion or exclusion are described and justified.

The following cases are to be mentioned regarding inclusion in GFCF:

Own-account production of R&D and **purchased R&D** is included in GFCF in all industries with the exception of market producers in industry 72 (scientific research and development), see chapter 5.10.3.6. The inclusion of R&D in GFCF is ensured by means of R&D statistics, SBS and BoP statistics. Information on own-account production of R&D is provided by R&D statistics. Information on

purchased R&D is provided by R&D statistics, BoP statistics and SBS. It is assumed that all R&D produced by market producers in industry 72 is sold in the market. R&D produced by market producers on own account in industry 72 is not classified as GFCF. R&D purchased by market producers in industry 72 is classified as intermediate consumption with the exception of imported patents. Purchases of imported patents are assumed to be used for several years by the purchasing unit and not sold in the market. Therefore these patents are classified as GFCF. BoP statistics contain information on imported patents.

Data on GFCF in **structures and equipment used by the military as well as light weapons and armoured vehicles used by non-military government units** are obtained from government financial statements.

Expenditures on **mineral exploration and evaluation** are assumed to be negligibly small and therefore are not recorded as GFCF.

The inclusion of **own-account software and databases** is ensured by means of data on labour input. For details see chapter 5.10.3.7.

Entertainment, literary or artistic originals are recorded as fixed capital formation (see chapter 5.10.3.8).

Changes in livestock used for breeding are recorded as GFCF whereas **changes in livestock used for slaughter** are recorded as changes in inventory, see chapter 5.11.

Changes in trees that are used for repeated production (like vineyards) are treated as GFCF whereas changes in trees used for timber are treated as changes in inventory, see chapter 5.11.

Improvements to existing fixed assets beyond ordinary maintenance and repairs are recorded as GFCF. See chapter 5.7.3.4.2.2 for more details.

As in Austria **financial leasing** as defined in ESA 2010 does not exist (see chapter 3.17.1) it is not included in GFCF.

The occurrence of **terminal costs of considerable size** can be ruled out for Austria, as there are no nuclear power stations or oil rigs in the country. Major clean-up costs with respect to landfill sites are recorded as GFCF when they occur.

The following borderline cases are excluded from GFCF:

The **purchase of small tools for production purposes** is not included in GFCF since use of small tools must either be recorded as private consumption or as intermediate consumption. ESA 2010 is quite vague in its definition of small tools, so *Statistics Austria* has decided to interpret ESA 2010 3.89f(1) literally: The goods listed in this paragraph are identified on ÖCPA 6 digit level in the commodity supply and their purchase is split between intermediate or private consumption: The proportion of private consumption of small tools is taken from HBS in the available years and interpolated using trade statistics as an indicators for other years, whereas intermediate consumption is calculated residually (see chapter 5.7.3.3.3).

Ordinary maintenance and repairs is either part of HFCE or intermediate consumption, see chapter 5.7.3.4.2.2. Only if the maintenance results in an increase in the value of the asset, it is part of GFCF.

The **acquisition of fixed assets to be used under an operational leasing contract** is registered as gross fixed capital formation for the unit purchasing the fixed asset, but the leasing rates are registered as intermediate or private consumption for the leasee.

Changes in livestock used for slaughter are recorded as changes in inventory, whereas **changes in livestock used for breeding** are recorded as GFCF see chapter 5.10.3.4.

Changes in trees used for timber are treated as changes in inventory whereas **changes in trees used for repeated production** are treated as GFCF, see chapter 5.10.3.4.

In case of major disasters (like the flooding in 2002) **catastrophic losses** are separately accounted for as other changes in volume.

Values for **machinery and equipment acquired by households for the purposes of final consumption** are part of HFCE.

The amount of **car registration taxes** as part of the taxes on products is split between HFCE and intermediate consumption as described in chapter 5.7.3.4.2.16.

The distinction between HFCE and intermediate consumption or GFCF of unincorporated enterprises is made by the use of different data sources: Intermediate consumption by unincorporated enterprises is covered by business statistics whereas the benchmarks for HFCE mainly draw from HBS data.

5.3. Valuation

With the exception of Household Budget Survey²⁵ (HBS) all components that are part of the expenditure approach are valued on an accrual basis since all data sources follow the calendar year.

Final consumption expenditure of households is recorded at purchasers' prices, see chapter 5.7.3.1. Goods and services supplied as employee compensation in kind are valued at basic prices and at purchasers' prices of the employer when bought in by the employer, see chapter 7.3.2.2. In principle this also applies for final consumption of government and NPISHs, which are valued as described in ESA 2010 3.117. Imputed values are valued at prices of comparable goods observable at the markets or at production costs including a profit mark-up as described in chapter 3.3. Retained goods or services for own consumption are valued at basic prices.

Gross fixed capital formation is valued at purchasers' prices including installation charges and other costs of ownership transfer. Chapter 5.7.3.2.3 offers a detailed description of the transition from producers' prices to purchasers' prices of GFCF. Capital goods from own-account production are valued at production costs including a mark-up (except for non-market producers), as described in chapter 3.3. Own-account investment in R&D and software, for which no observable prices are

²⁵ Adaptions to convert HBS to accrued values are described in chapter 5.7.2.2.

available, are valued at the cost of production plus a mark-up (except for non-market producers) for net operating surplus or mixed income. Purchased R&D and software are valued at purchasers' prices when purchased on the market according to SBS, see chapter 5.10.3.6. Entertainment, literary and artistic originals are valued according to ESA 2010 § 3.136 (see chapter 5.10.3.8).

Imports and exports of goods are valued FOB (free on board), that is to say at their value at the border of the exporting economy. In the commodity flow account, as generally in tables presenting products (input-output, supply and use tables), imports of goods are valued at CIF (cost insurance freight), that is to say at their value at the border of the importing economy. See more details in chapters 5.13 and 5.15. Exports of services are valued at basic prices and imports of services at purchasers' prices, see more details in chapters 5.14 and 5.16.

The valuation of changes in inventories is described in chapter 5.11.

5.4. Transition from private accounting and administrative concepts to ESA 2010 national accounts concepts

The transition of data (this primarily refers to the Structural Business Statistics) from private accounting and administrative concepts to ESA 2010 national accounts concepts is described in detail in chapter 3.4.

5.5. The roles of direct and indirect estimation methods and of benchmarks and extrapolations

Table 5.2 offers a rough overview of the estimation methods in the expenditure accounts, which will be described in the following chapters.

Table 5.2: Estimation methods used in expenditure accounts

GDP expenditure approach	Surveys and Censuses	Administrative records	Combined data	Extrapolation and models
Household final consumption expenditure	X	X	X	X
NPISH final consumption expenditure	X	X		X
General government final consumption expenditure		X	X	X
Gross fixed capital formation	X	X	X	X
Changes in inventories			X	
Acquisitions less disposals of valuables	X			X
Exports of goods and services	X		X	X
Imports of goods and services	X			X

The following table gives an overview of methods dominating the calculations of the various components of the expenditure approach. For each component, the dominant approach(es) in terms of numerical contribution to the aggregate is given.

Table 5.3: Overview of dominant calculation methods used in the expenditure approach by component

Final consumption expenditure	Household final consumption expenditure		Commodity Flow, see chapter 5.7.3
	NPISH final consumption expenditure		Other E&M, Administrative records, see chapter 5.8
	General government final consumption expenditure		Administrative records, see chapter 5.9
Gross capital formation	Gross fixed capital formation	Dwellings	Other E&M, see chapter 5.10.3.1
		Other buildings	Combined data, see chapter 5.10.3.1
		Machinery and equipment	Commodity Flow, see chapter 5.7.3
		Weapon systems	Administrative records, see chapter 5.10.3.3
		Cultivated biological resources	Administrative records, see chapter 5.10.3.4
		R&D	Surveys & censuses, administrative data, Commodity Flow, see chapter 5.10.3.6
		Computer software and databases	Combined data, Commodity Flow, see chapter 5.10.3.7
		Entertainment, literary or artistic originals	Surveys & censuses, see chapter 5.10.3.8
	Changes in inventories		Combined data, , see chapter 5.11
Acquisition less disposals of valuables		Commodity Flow, see chapter 5.12	
Foreign trade	Exports and imports	Goods and services	Surveys & censuses, see chapters 5.13-5.16

Since the main method used in the expenditure accounts is the commodity flow approach combined with the Household Budget Survey that is conducted every five years, benchmark extrapolations play a major role calculating household final consumption within the commodity flow system. The approach is described in chapter 5.7.3. Benchmark extrapolations are also an important issue for calculating consumption expenditure of NPISH, where NPO surveys need to be intra- and extrapolated. This is described in chapter 5.8. In the field of gross fixed capital formation estimations are mainly used to determine the value of GFCF of dwellings within construction. Other aggregates are mainly based on commodity flow calculations as well as on surveys and administrative data.

5.6. The main approaches taken with respect to exhaustiveness

The following table provides a summary showing the size of the various exhaustiveness adjustments broken down by expenditure components that have seen such adjustments and by types of non-exhaustiveness (N1-N7).

Table 5.4: Size of exhaustiveness adjustments within the expenditure approach by components, in million EUR, year 2017*

	N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4&N5: Registered producer is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	Total
HFCE	2,349	897	0	0	4,564	1,693	9,502
GFCF – Dwellings	1,427	0	1,964	0	306	0	3,697
GFCF – Other buildings	0	0	0	0	0	33	33
Inventories: Materials	0	0	0	7	0	0	7
Inventories: Work-in-progress	0	0	0	86	0	0	86
Inventories: Finished goods	0	0	0	3	0	0	3
Inventories: Goods for resale	0	0	0	2	0	0	2
Exports of goods	0	0	0	0	0	0	0
Exports of services	0	84	0	0	0	0	84
Imports of goods	0	231	0	0	0	0	231
Imports of services	370	71	0	0	0	0	441

* including rounding errors

Since the expenditure approach uses both production statistics and the results from the production approach as a source for its calculations, the exhaustiveness methods used in the production approach translate to the expenditure approach. Chapters 3.6 and 7 contain the relevant information on how exhaustiveness is ensured in the production approach.

The conceptual setup of the **commodity flow accounts** as an integrated supply and use framework (described in chapter 5.7.3) itself ensures supply-use balancing: 100% of the supply of each product available in Austria is assigned to one or more expenditure categories. In other words, everything that is produced and imported must also be used. By matching data at product level with the input-output table, gaps can be identified and corrected at a highly disaggregated level. The findings from current supply and use tables are taken into account in the expenditure approach for subsequent years.

Additionally, several other means of checking and correcting the results of the expenditure approach for exhaustiveness are used, mainly by evaluating the results to the Household Budget Surveys and by comparing the commodity flow values for GFCF with the investor accounts that are based on business accounts.

A **Household Budget Survey** is carried out every five years in Austria. It is the most important data source to ensure the exhaustiveness of data on final consumption of private households. Extensive comparisons with the 1999/2000, 2004/2005 and 2009/10 Household Budget Surveys were carried out to this end at both global level and at the level of the individual consumer products. In some cases corrections were made to tally with the Household Budget Survey.

The **investor accounts** are used to verify capital formation values calculated by the commodity flow method. The compilation of investor accounts is a balancing process that joins product data from the

commodity flow accounts with investor-related data from business accounts drawing on business statistics, individual company data and calculations of the non-market sector. It results in balanced goods times industry matrices for the different GFCF components.

Finally, exhaustiveness of all aggregates is ensured by the compilation of supply and use tables. These are available every year with a time lag of three years. For more details on the compilation of supply and use tables see chapter 6.

See chapters 5.14 and 5.15 and especially chapter 10.3.2.1 for detailed information to ensure exhaustiveness **regarding exports and imports** of goods and chapter 10.3.2.2 for an extensive description to ensure exhaustiveness regarding exports and imports of services.

5.7. Household final consumption expenditure (HFCE)

5.7.1. Overview

Household final consumption expenditure is calculated initially on the basis of individual bundles of goods in accordance with the *domestic concept* (final consumption of residents and non-residents on national territory) as described in chapter 5.7.3. After aggregation, total final expenditure of residents abroad is added and consumption of non-residents on national territory is deducted. For travel imports and exports (in accordance with balance of payments statistics) corrections are made e.g. for expenditure on business trips and for expenditure on package tours as described in chapter 5.17.

Final consumption of private households is calculated at ÖCPA 6 digit level. This allows combining the production and expenditure approach in the process of preparing supply and using tables more easily. For the purposes of publication, data are translated to COICOP classification using an ÖCPA/COICOP conversion key.

Table 5.5: Private consumption by COICOP in current prices, in million EUR, year 2017 (domestic concept)

COICOP		Main source/method	2017
1	Food and beverages	Comm. Flow, HBS	18,936
2	Alcoholic beverages and tobacco	Comm. flow, HBS	6,238
3	Clothing and footwear	Comm. flow, HBS	11,335
4	Housing, water, electricity, gas and other fuels	Stratification method (dwellings), Comm. Flow and Combined data, , HBS	43,165
5	Furnishings, household equipment and routine household maintenance	Comm. flow, HBS	12,900
6	Health	Comm. flow, HBS	7,452
7	Transport	Comm. Flow, Other E&M, Combined data	23,650
8	Communication	Comm. flow, HBS	3,634
9	Recreation and culture	Comm. flow	19,326
10	Education	Admin. records	1,784
11	Restaurants and hotels	Comm. flow	25,981
12	Miscellaneous goods and services	Comm. Flow, Combined data, surveys& censuses, HBS	19,350
Total (domestic concept)			186,016

5.7.2. Main data sources and their conversion to national accounts results

5.7.2.1. Overview

The main data sources for the calculation of household final consumption expenditure are:

- Household Budget Surveys (HBS)
- Production accounts
- Short term statistics in the industrial sector
- Economic accounts for agriculture and forestry
- ITGS
- Structural Business Statistics (SBS) (e.g. trade indices)
- Administrative records such as data from social security statistics to cover social transfers in kind
- Tax statistics as indicators for the development of private consumption of services, especially in those ÖNACE sections which are not covered by SBS
- Information from associations like insurance and leasing associations
- Data from market researchers
- Data from business accounts of important enterprises
- Data from ministry of finance on services provided under the Mini One-Stop-Shop (MOSS) Scheme (and any extensions thereof)

5.7.2.2. The role of Household Budget Surveys

Household Budget Surveys are carried out every five years. A description of methods and adjustments can be found in chapter 10.3.1. At the release, comparisons with national accounts data are made in

order to investigate possible level differences. In this process the main question is whether the differences are due to methodological discrepancies, underreporting in HBS or blurs in national accounts figures. The comparison is done at the most appropriate level of detail, which are in most cases 3 or 4 digit levels. To ensure comparable databases conceptual differences like the treatment of insurance payments or games of chance as well as imputations like FISIM are removed and NA data are transferred to national concept. Then the differences of the comparable product bundles are calculated and analysed by using the following criteria. The first criterion is generally, whether the sample of the reporting households in this product class is significant, second, do the numbers fit into the supply use/framework and finally, whether the number is confirmed by additional data sources. The results of these investigations are published to the data users. If HBS numbers for the detailed product bundles have sufficient data quality, they are used as benchmarks leading to corrections in the national accounts data set.

Since HBS do not follow the calendar year, some positions are adjusted to ensure accrued valuation, especially products with major fluctuations in prices and quantities such as energy and fuels where adjustments are made using monthly average HCPIs and statistics of heating days.

The following table shows a comparison between the latest available Household Budget Survey results (2014/15) and the national accounts estimates (pre-ESA 2010 revision) for 2015. To assure comparability, NA data refer to domestic households on national territory.

Table 5.6: Comparison: Household Budget Survey 2014/15 - National Accounts 2015, in thousand EUR

Selected products	Annual expenditures by households			Coverage (NA=100)
	National Accounts 2015	Household Budget Survey 2014/15	Difference	
	in 1.000 Euro			in %
01. Food and non-alcoholic beverages	17,317,408	16,112,790	1,204,619	93.0
Food	15,405,575	14,321,563	1,084,012	93.0
Bread and cereals	3,215,754	2,934,971	280,782	91.3
Meat	3,646,205	3,331,311	314,893	91.4
Fish and seafood	570,481	467,245	103,237	81.9
Milk, cheese and eggs	2,310,597	2,285,881	24,716	98.9
Oils and fats	527,247	505,920	21,327	96.0
Fruit	1,292,218	1,293,970	-1,752	100.1
Vegetables	1,509,141	1,417,651	91,489	93.9
Sugar, jam, honey, chocolate and confectionery	1,400,508	1,175,426	225,082	83.9
Ready-made meals, baby food, Sauces, condiments	933,425	909,188	24,238	97.4
Non-alcoholic beverages	1,911,833	1,791,226	120,607	93.7
Coffee, tea and cocoa	771,649	699,430	72,219	90.6
Mineral waters, soft drinks, fruit and vegetable juices	1,140,184	1,091,796	48,388	95.8
02. Alcoholic beverages, tobacco and narcotics	5,349,349	3,092,867	2,256,481	57.8
Alcoholic beverages	2,306,633	1,415,831	890,802	61.4
Tobacco	3,042,716	1,677,037	1,365,679	55.1
03. Clothing and footwear	9,925,521	6,716,361	3,209,160	67.7
Clothing	8,032,136	5,132,266	2,899,869	63.9
Footwear	1,893,386	1,584,095	309,291	83.7

Selected products	Annual expenditures by households			Coverage (NA=100)
	National Accounts 2015	Household Budget Survey 2014/15	Difference	
	in 1.000 Euro			in %
04. Housing, water, electricity, gas and other fuels	20,469,251	23,085,425	-2,616,174	112.8
Actual rentals for housing	6,505,246	6,833,540	-328,294	105.0
Maintenance and repair of the dwelling	2,244,524	4,703,503	-2,458,979	209.6
Water supply and miscellaneous services relating to the dwelling	4,714,489	5,168,030	-453,542	109.6
Electricity, gas and other fuels	7,004,992	6,380,352	624,640	91.1
Electricity	3,019,549	3,055,336	-35,787	101.2
Gas	1,300,775	967,107	333,668	74.3
Liquid fuels	820,750	889,023	-68,273	108.3
Solid fuels	697,374	793,417	-96,043	113.8
Heat energy	1,166,544	675,468	491,076	57.9
05. Furnishings, household equipment and routine household maintenance	11,752,557	9,594,177	2,158,380	81.6
Furniture and furnishings	5,025,536	4,233,874	791,662	84.2
Household textiles	794,101	670,994	123,107	84.5
Major household appliances whether electric or not	1,909,842	1,586,242	323,600	83.1
Glassware, tableware and household utensils	755,750	553,667	202,083	73.3
Tools and equipment for house and garden	846,878	1,088,336	-241,457	128.5
Goods and services for routine household maintenance	2,420,450	1,461,064	959,386	60.4
06. Health	6,228,599	5,206,562	1,022,036	83.6
Medical products, appliances and equipment	2,686,809	2,450,535	236,274	91.2
Pharmaceutical products (drugs, vitamins)	1,513,894	1,375,316	138,577	90.8
Other pharmaceutical products	76,201	100,407	-24,206	131.8
Therapeutical appliances and equipment	1,096,714	974,811	121,903	88.9
Out-patient services	2,966,513	2,331,162	635,352	78.6
Medical Services	898,696	494,126	404,570	55.0
Dental services	1,195,087	1,435,100	-240,014	120.1
Paramedical services	872,731	401,936	470,795	46.1
Hospital services	575,276	424,866	150,411	73.9
07. Transport	17,877,379	17,606,834	270,545	98.5
Purchase of vehicles	5,785,647	8,006,028	-2,220,381	138.4
Operation of personal transport equipment	9,725,271	8,616,457	1,108,813	88.6
Maintenance and repair of personal transport equipment	3,882,180	3,563,995	318,185	91.8
Fuels and lubricants for personal transport equipment	4,527,634	4,536,855	-9,221	100.2
Other services in respect of personal transport equipment	1,315,457	515,607	799,850	39.2
Transport services	2,366,461	984,349	1,382,113	41.6
08. Communication	3,265,527	2,052,431	1,213,095	62.9
Postal services	291,931	112,707	179,223	38.6
Telephone and telefax equipment	518,520	494,186	24,334	95.3
Telephone and telefax services	2,455,076	1,445,538	1,009,538	58.9

Selected products	Annual expenditures by households			Coverage (NA=100)
	National Accounts 2015	Household Budget Survey 2014/15	Difference	
	in 1.000 Euro			in %
09. Recreation and culture	12,742,550	8,743,211	3,999,339	68.6
Audio-visual, photographic and information processing equipment	2,543,622	1,726,084	817,537	67.9
Equipment for the reception, recording and reproduction of sound and pictures	891,105	649,335	241,770	72.9
Photographic and cinematographic equipment and optical instruments	252,924	164,851	88,073	65.2
Information processing equipment	944,430	668,499	275,931	70.8
Recording media	335,211	208,031	127,180	62.1
Other major durables for recreation and culture	4,305,721	3,323,580	982,141	77.2
Games, toys and hobbies	1,183,579	673,596	509,983	56.9
Equipment for sport, camping and open-air recreation	929,331	724,216	205,116	77.9
Gardens, plants and flowers	1,188,192	900,535	287,657	75.8
Pets and related products, veterinary and other services for pets	1,004,619	1,025,234	-20,614	102.1
Recreational and cultural services	3,860,491	2,242,251	1,618,240	58.1
Newspapers, books and stationery	2,032,717	1,451,296	581,420	71.4
Books	648,306	443,197	205,109	68.4
Newspapers and periodicals	943,861	679,603	264,258	72.0
Miscellaneous printed matter, stationery and drawing materials	440,550	328,497	112,054	74.6
10. Education	1,550,561	1,525,887	24,674	98.4
11. Restaurants and hotels	14,624,757	8,811,841	5,812,916	60.3
12. Miscellaneous goods and services	8,943,969	5,798,370	3,145,599	64.8
Personal care	4,240,792	3,217,257	1,023,535	75.9
Hairdressing salons and personal grooming establishments	1,616,763	1,258,890	357,873	77.9
Appliances for personal care, articles for personal hygiene and wellness and beauty products	2,624,029	1,958,367	665,662	74.6
Personal effects n.e.c.	1,840,310	900,577	939,733	48.9
Jewellery, clocks and watches	972,724	331,507	641,217	34.1
Other personal effects	867,586	569,070	298,516	65.6
Social protection	1,991,117	908,512	1,082,605	45.6
Other services	871,750	772,024	99,726	88.6

Q: STATISTIK AUSTRIA. Volkswirtschaftliche Gesamtrechnungen (Publikationsstand 1995-2016) und Konsumerhebung 2014/15. - 1) Zu laufenden Preisen (= nominell). - 2) Vorläufige Werte.

After this analysis, products respectively those (and only those) product bundles for which HBS was chosen to be the best source were integrated into the commodity flow account as described in chapter 5.7.3.2 as benchmarks for HFCE for the year 2015.

There is an article of the comparison between Household Budget Survey results (2014/2015) and the national accounts estimates published in "Statistische Nachrichten 12/2017" with the title "Privater Konsum, Vergleich der Ergebnisse der Konsumerhebung 2014/2015 mit der Volkswirtschaftlichen Gesamtrechnung 2015".

5.7.2.3. **The role of retail data (SBS and short term statistics)**

Between the Household Budget Surveys, the benchmarks are inter- and extrapolated mainly using retail data (for commodities) and other information available as indices. For a detailed description see chapter 5.7.3. Retail data is hardly used for benchmarks.

SBS offers revenues (sales) at a detailed mainly 4-digit or even 5-digit level of activities. In the case for service industries and parts of retail there is a strong link between the NACE classification and the corresponding CPA product bundles. For example, revenues of NACE 47721 that is retail sale of footwear in specialised stores combined and weighed with the development of e-commerce sales derived from trade statistics offer an indicator for the development of consumption expenditures of footwear in sufficient quality. Adjustments are made for non-observed trades and gross border e-commerce and retained goods.

The calculation of internet trade is split according to whether the origin of the trader is domestic or foreign. Resident retailers are covered by SBS as well as HBS in the benchmark year. Non-resident retailers are covered by ITGS if their revenues exceed a certain threshold (EUR 750,000). Thus trade indices used to extrapolate HBS data are adjusted for trade involving units classified as internet traders such as Amazon which in the Austrian case are mainly foreign units.

Retail data are used to create growth indicators for all tradable goods except for fuels, motor vehicles and pharmaceutical products for which superior information exists as described in chapter 5.7.3.3.

5.7.2.4. **Special cases**

For product bundles where HBS and business statistics do not offer good coverage (especially for accommodation and restaurant services as well as alcohol and tobacco) or where data result from imputations (imputed rents, insurance service charge and FISIM) other sources are used for benchmarks or as indices. In the former case, those sources are described in chapter 5.7.3, in the latter in chapters 3.18 and 3.17 and chapter 7.

Values for consumption of illegal products such as narcotics and other non-observed business are taken from production accounts (for details on methods see chapter 7.1.3) and are mainly recorded in private consumption. HFCE is adjusted to exclude items treated as intermediate consumption of producers of illegal activities.

5.7.2.5. **Conversion from resident to national concept**

Data on purchases of residents abroad and on purchases of non-residents on domestic territory are taken from balance of payment statistics and are adopted for the purposes of national accounts as described in chapters 5.13 to 5.16. For travel imports and exports (in accordance with balance of payments statistics) corrections are made for expenditure on business trips and for expenditure on package tours. This is necessary, because when Austrian travel agencies act as travel organisers, *package tours* are imported as intermediate consumption and then recorded as domestic consumption of *services of travel agencies and travel organisers*. For further details, see chapter 5.17.

5.7.3. Detailed calculations by CPA and COICOP items

5.7.3.1. Overview

Since Household Budget Surveys are carried out only every five years in Austria, alternative means of calculating consumption expenditure must be used in order to bridge the gap.

For this, the main method used is the commodity flow approach. The aim of this method is to split the domestic supply of goods and services into the different use categories. It follows a basic principle of national accounts, namely that all domestic supply of a product, stemming from production or imports, must be used in some way, i.e. consumed, reused in the production process, invested or exported. The domestically available supply therefore forms the point of departure for calculating the use of products using the commodity flow method. It is made up as follows:

Table 5.7: Composition of domestically available supply

Domestic production
+ Imports
- Exports
= Domestically available supply

The essential task for the commodity flow approach is that the domestically available supply must be displayed at a level that is detailed enough to allow unambiguous allocation of products to individual categories of use (private consumption, gross fixed capital formation, social transfers in kind (as part of final consumption expenditure of government), intermediate consumption, valuables and inventories). This functional allocation is done individually for each product based on information from various sources and assumptions that are described in chapter 5.7.2.

Regarding valuation, several steps need to be taken: Domestic production is valued at producers' prices (the price at which the product leaves the factory). Imports of goods are valued CIF plus import duties and exports of goods are FOB (see chapter 5.3). To achieve comparable valuation, in a second step trade and transport margins on exports are deducted.

In order to achieve the use side at purchasers' prices, the following modifications need to be made, i.e. margins and VAT need to be added:

Table 5.8: Calculation of the use of goods and services at purchasers' prices

Allocated expenditures according to the valuation concept described above
+ Wholesale margins
+ Retail margins
+ Transport margins
+ (non-deductible) VAT
= Expenditures at purchasers' prices

Since services do not include margins only non-deductible VAT is added.

The commodity flow approach is used for both goods and services. The calculations for goods are mostly done using a single application (the commodity flow application). For some goods, additional estimation methods exist. For services, individual accounts exist. In the following, these three approaches are described in more detail.

5.7.3.2. The commodity flow application

The commodity flow application (abbreviated to "Comflow") is a SAS-based computer program which calculates the expenditure side of GDP for ÖCPA two-digit codes 01-33, 58-59 and 90-91. It is described in the following.

5.7.3.2.1. Calculation of domestically available supply

As already mentioned, firstly domestically available supply of goods and services is calculated as domestic production (including other taxes on products, excluding subsidies on products) plus imports (including import duties) minus exports (adjusted for margins). The basic sources used for this are (for more detailed description see chapter 10):

- short term statistics in the industrial sector
- the economic accounts for agriculture and forestry
- ITGS

Production data from these three sources are joined in order to determine supply. As the respective stocks are recorded using different classifications (ÖPRODCOM in the short term statistics and CN in the ITGS) they must be translated to one classification, namely ÖCPA, using a recoding system. The account is based on ÖCPA 6-digit level, since this level of detail allows exact attribution of products to the appropriate use categories.

In order to accurately depict total supply, the following alterations are necessary: The figure for domestic production sold resulting from the sources described above is adapted proportionally to the level of production calculated in the production approach. The detailed unit data used to create the production at product level have the same standardized production code and NACE classification code as the production accounts. This combination of production code and classification allows joining the data sets to estimate the uplift factors. Furthermore, production of manufactured goods occurring outside of the manufacturing industry that is not covered by short term statistics is estimated and added. Its product structure is derived from the latest available supply and use tables and applied to subsequent years using the development of manufactured goods production in the manufacturing industry as an indicator.

At all stages of determining supply, plausibility checks and, if necessary, adjustments of the data to compensate for incorrect records by companies in the primary statistics are carried out.

Numerical example of the calculation of domestic supply of pharmaceuticals in 2017:

Table 5.9: Production of pharmaceuticals, in thousand EUR, year 2017

Year	CPA	Text	Short term statistics	Estimate for exhaustiveness	Estimate secondary production	Production
2017	212010	Drugs	1,668,402	-45,122	27,573	1,650,853

Table 5.10: Imports of pharmaceuticals, in thousand EUR, year 2017

Year	CPA	Imports trade statistics	Rotterdam effect	Import duty	Non-resident VAT traders	Imports
2017	212010	2,903,730	-1,965	6,559	33,214	2,959,166

Table 5.11: Exports of pharmaceuticals, in thousand EUR, year 2017

Year	CPA	Export trade statistics	Goods recorded in ITSS	Non-resident VAT traders	Wholesale margin	Trade margin	Supply/Use corrections	Exports
2017	212010	3,350,676	1,000	-82,490	-820,103	-17,537	5	2,430,481

Table 5.12: Domestic supply of pharmaceuticals, in thousand EUR, year 2017

Year	CPA	Domestic supply
2017	212010	2,179,538

5.7.3.2.2. Allocation of supply

As the next step the domestically available supply is allocated to individual categories of use:

- Household final consumption expenditure
- Social transfers in kind (government consumption expenditure)
- Capital formation in machinery
- Capital formation in vehicles
- Capital formation in construction (the share that does not go into products 41-43, see chapter 5.10.3.1)
- Intermediate consumption
- Valuables
- Inventories

The deep level of detail of the data on the domestically available supply allows for most product bundles an exact attribution to the accurate use category simply because of the nature of the product. This is especially the case for goods belonging to intermediate consumption and gross fixed capital formation. A major share of produced goods are semi-finished products like components or basic chemicals which are used for further processing and are therefore necessarily part of intermediate consumption. Also capital goods like special purpose machinery or transportation equipment (apart from motor cars) are often clearly definable. Non-durable goods are mainly recorded as intermediate consumption, while major durables such as cars or washing machines are classified as gross fixed capital formation.

The differentiation of goods attributable to more than one possible use category is more complex. The main sources for information on the allocation of these goods are Household Budget Surveys carried out at five-year intervals. For goods for which the current HBS offers good coverage, its data are used as a benchmark for product allocation for the available years. To ensure quality, detailed investigations are undertaken to compare HBS estimates with national accounts estimates and other available sources and to identify weaknesses like underreporting, underestimations and the like. These investigations are done for every HBS and are published to the users.

Past studies of HBS data have shown that for several goods alternative sources need to be used to determine their allocation to use categories in order to avoid underestimations. This is especially the case for alcohol and narcotics, where detailed statistics for quantity sales structure and prices are available from the associations of breweries and winegrowers. For pharmaceuticals, data are available from the chamber of pharmacists and social security statistics. For these goods, data are calibrated using other sources and then fed into the commodity flow application for further processing. For others, estimates are done completely outside of the commodity application and integrated into the expenditure account in a later step. This is the case for example for purchased vehicles and for solid and liquid fuels (for heating and transport equipment), as described in more detail in chapter 5.7.3.3.

To bridge the gaps between Household Budget Surveys, mainly trade indices on a detailed level are used to inter- and extrapolate. Depending on the revision date of national accounts estimates these trade indices are taken from short term statistics for the current year and from Structural Business Statistics for the first revised year. If trade data suggest a debateable growth rate they are checked against VAT statistics. Additionally, for parts of products in the food group there is an annual survey by the Austrian Paying Agency for Agriculture and Rural Development ("Agrarmarkt Austria") available as well as the supply balance sheets for animal and crop products. Information for the construction of development indicators for intermediate consumption is available from material input statistics. Since cross border ecommerce is not covered by domestic retail statistics, data are adjusted by B2C ecommerce imports.

Table 5.13: Numerical example of how the good "pharmaceuticals" is allocated to different use categories, in thousand EUR, year 2017

Year	CPA	Product	Supply	Use category	Quota	Use at producers' prices
2017	212010	Drugs	2,179,538	Social transfers in kind	66.22	1,443,331
2017	212010	Drugs	2,179,538	Private consumption	31.45	685,570
2017	212010	Drugs	2,179,538	Intermediate consumption	2.32	50,637

5.7.3.2.3. Valuation at purchasers' prices

After allocation, wholesale, retail and trading margins and non-deductible VAT are added to the supply for each category of use and product in order to obtain purchasers' prices.

5.7.3.2.3.1 Calculating trade and transport margins by activity (supply side)

Three sources of data are required to calculate margins by activity. The first are the production accounts which provide data on earnings from and input of tradable goods. Information on the product structure of turnover of goods for resale (i.e. what products are traded) is available from input-output statistics. A third source is information on trade margins for specific products. For some goods, this information is based on expert estimates (e.g. from the chambers of commerce). In some areas it is also possible to use the institutional margin of a specialist trader in order to determine the rate of the underlying trade margin (mark-up of the trader) for a specific product, for example for shoes: The majority of shoe traders' turnover is accounted for by selling a homogenous product, in this instance shoes. This makes it easier to determine the trade margin for shoes as the difference between earnings on turnover and input of goods for resale by using *SBS* data.

To calculate trade margins, the earnings on goods for resale are broken down by product for each activity (using data from the production accounts). On the basis of this proportion of turnover per product, the trade margin for each product is calculated using the rate of the margin applicable for each specific product. This method is applied both to wholesale and retail trade. The total supply of trade margins per product is therefore calculated by aggregating all trade margins for all trading activities. For more details, see chapter 6.1.2.3.1.2.

Transport margins, which are of minor relevance, are calculated as described in chapter 6.1.2.3.1.2.

5.7.3.2.3.2 Margin breakdown in the commodity flow account

Allocation of margins in the commodity flow application is based on two components, the rate of the trade margin for a specific product and the trade channel assumption. The trade channel assumption describes the percentage of a product which is distributed via a specific channel, namely wholesale and retail. Consumer goods are largely distributed via retail trade whilst capital goods very rarely are. The volume of the trade margin to be added to the supply of each product and to the category of its use is obtained as follows:

Wholesale margin = product at producers' prices x rate of the wholesale margin x wholesale trade channel rate

Retail margin = (product at producers' prices + wholesale margin) x rate of the retail margin x retail trade channel rate

This breakdown of trade margins by product to the use category takes place in the course of preparing the supply and use tables.

The formulas to calculate the described margins also include trade channel assumptions. Trade channels define the ratio by which a specific product is traded via the wholesale and the retail trade channel depending on the type of use of the product. This means for example that products which are consumed by private households are traded to a large extent via the retail trade channel while for other uses this is not the case. Trade channels are fixed by plausible assumptions in the first step and checked by empirical information wherever possible (example: imports via wholesale trade vs. direct imports by users help to define wholesale trade channel assumptions). All estimates are reviewed on

a regular basis and adjusted when necessary (example: the increasing importance of online purchases abroad leads to a gradual decrease of the retail trade channel assumption for household consumption expenditure).

The total supply of transport margins is determined by the production accounts or by imports. Allocation by products is done in the process of producing the supply and use tables. Allocation to categories of use is also based on quotas from the supply and use tables.

5.7.3.2.3.3 Addition of the VAT

Adding the margins yields the value of products at purchasers' prices excluding non-deductible VAT. For most components of expenditure for which VAT is not deductible, VAT must be added. Where possible this is done using the turnover tax rate, which is specified for the respective product under tax law. In many cases the product used is, however, not classified under a single heading for tax purposes. In such cases a mixed VAT rate must be calculated. This is also the case if part of the supply comes from non-observed production (e.g. revenues off the books).

Numerical example:

Table 5.14: Addition of trade margins for pharmaceuticals, in thousand EUR, year 2017

Use category	Use at producers' prices	Wholesale distribution channel	Wholesale margin rate	Wholesale margin	Retail distribution channel	Retail margin rate	Retail margin
Social transfer in kind	1,443,331	100.0	31.2	450,543	100.0	18.5	349,838
Private consumption	685,570	100.0	31.2	214,004	100.0	38.5	346,085
Intermediate consumption	50,637	100.0	31.2	15,807	0.0	24.5	-

Table 5.15: Addition of transport margins for pharmaceuticals, in thousand EUR, year 2017

Use category	Transport margin rate	Trade margin	Use net VAT
Social transfer in kind	1.39	31,187.83	2,274,900.5
Private consumption	0.77	9,648.88	1,255,308.6
Intermediate consumption	1.18	785.90	67,229.2

Table 5.16: Addition of VAT for pharmaceuticals, in thousand EUR, year 2017

Use category	Use net VAT	VAT rate	Non-deductible VAT	Use at purchasers' prices
Social transfers in kind	2,274,900	11.6	264,571	2,539,471
Private consumption	1,255,309	6.6	83,290	1,338,598
Intermediate consumption	67,229	5.7	3,838	71,067

5.7.3.3. **Additional estimations for cars, fuels and small tools**

For some goods, the determination of their specific use categories is done outside of the commodity flow application described above, because better data are available. The results of these additional calculations are again used as a basis for allocation quota and fed into the commodity flow application. The concerned goods and the used methods are described in the following.

5.7.3.3.1. Private consumption and gross fixed capital formation of cars (Product 29)

There are separate calculations for new and for second-hand cars.

Two different sources are combined for new cars: on the one hand, the number of cars is based on the statistics on new registrations and, on the other hand, the Eurotax list provides prices for first time registered cars. Both sources are available in a detailed breakdown by model and type of car.

The estimates based on the price x quantity approach provide the breakdown of cars into vehicles registered by self-employed and employees and, hence, into consumption expenditure and capital formation. Cars registered by the self-employed must be adjusted for those cars which are registered by traders in their names for the purposes of single-day or short-term registration.

The adjustments are made on the basis of this breakdown of cars into final consumption and gross fixed capital formation:

Leasing: Leased cars must be allocated to the leasing companies whilst in the case of the customers (private households) only the leasing rates appear as consumption. Those cars registered by employees recorded in the registration statistics as leased are allocated to fixed capital formation.

Private use: According to ESA expenditure of households as owners of unincorporated enterprises for business purposes on, for example, vehicles are not defined as household consumption expenditure. Company cars can, however, also be used privately, which means that part of the investment in vehicles must be transferred from capital formation to private consumption. For the purposes of the GNI this transfer does not have any effect on the balance as it is an exchange between two final categories of use. It is also difficult to determine how large the correction should be as there is no information at all as to how far company cars or cars owned by freelance entrepreneurs (self-employed persons) are also used for private purposes. Therefore, the assumption is made that cars purchased by sole proprietors are used privately for 25% of the time. The 25% is calculated to reflect the time for private use compared to the average weekly working hours. Therefore, 25% of the cars registered by freelancers and sole proprietors are re-allocated from capital formation to private consumption.

Second-hand cars: According to the ESA only the traders' margin is to be recorded as private consumption when second-hand cars are purchased, since sales from private persons to other private persons represent a zero-sum game.

As before, the Household Budget Surveys, from which gross figures for second-hand car sales are available, provide the basis for the calculation. However, only second-hand cars purchased from traders are surveyed. The extrapolation to bridge the years between the Household Budget Surveys is made on the basis of a model using an extrapolation factor based on the price trend and second-hand car statistics. The traders' margin, which is to be allocated to consumption, is obtained from these calculated gross figures multiplied by the institutional rate of the trade margin for industry 451. An exemption is made for cars that are sold after the leasing contract has expired. Since there is a shift in sectors from (non-)financial corporations to households, those cars are valued at the full price (purchasers' price) and not just the margin.

Table 5.17: Composition of GFCF for cars, in thousand EUR, year 2017

Account for GFCF of cars	2017
Sum cars registered by self-employed persons	4,009,369
+ Leased cars registered by employed persons	1,150,312
- Private use	315,438
- Disposals of cars	992,867
= GFCF net non-deductible VAT	3,851,377
+ Non-deductible VAT	193,254
= GFCF new cars	4,044,631
+ Trade margin second hand cars registered by self-employed persons	37,064
+ Leased second hand cars registered by employed persons	579,022
= Sum GFCF	4,660,716

Table 5.18: Composition of HFCE or cars, in thousand EUR, year 2017

Account for HFC of cars	2017
Sum cars registered by employed persons including non-deductible VAT	3,262,065
- Leased cars registered by employed persons	1,150,312
+ Motorhomes	14,260
+ Private use	378,525
= HFC new cars	2,504,538
Disposals of cars registered by employed persons as second hand	983,790
+ Trade margin second hand cars registered by employed persons	1,271,290
+ Purchases of cars with former day-permission	242,709
- Leased second hand cars registered by employed persons	579,022
= HFC second hand cars	1,918,768
= Sum HFCE	4,423,305

5.7.3.3.2. Private and intermediate consumption of fuels (product 19)

Table 5.19: Composition of product 19 (fuels)

ÖCPA	COICOP	Text
192021	07202100	Motor spirit (gasoline)
192026	04503000, 07202200	Gas oils for heating, Diesel
192027	04503000	Medium petroleum oils; medium preparations n.e.c.
192028	04503000, 07202300	Fuel oils n.e.c.
192029	07202300	Lubricating petroleum oils; heavy preparations n.e.c.

Household expenditure on fuel and oil is calculated based on data from the Household Budget Survey which are interpolated for the years in between surveys. The interpolation uses data on quantity and price of gasoline and diesel sold within Austria provided by the Austrian federal ministry of science, research and economy to estimate the value of gasoline and diesel sold.

Because Austrian prices have been lower than prices in surrounding countries for many years, consumption of fuel and oil by foreigners ("fuel tourism") has been significant. It is derived based on the estimation of domestic household consumption using data on border crossings provided by the Austrian motorway operator, data on prices for gasoline and diesel in the countries bordering Austria provided by the European Commission, data on the stock of motor vehicles in Austria and in surrounding countries and data on gasoline and diesel consumption of those motor vehicles.

Table 5.20: Deduction of private consumption of gasoline, in million EUR, year 2017

2017 - Gasoline	in million EUR
Quantity times price →	
Sales	2,819
Using data on kind of vehicle owner (employed or self-employed) →	
Domestic consumption by private households	2,574
Using data on border crossings and price differentials →	
Consumption by non-residents (on national territory)	735
Subtracting from domestic consumption →	
Consumption by residents	1,839

Table 5.21: Deduction of private consumption of diesel, in million EUR, year 2017

2017 - Diesel	in million EUR
Using consumption of gasoline by non-residents and data on distribution of gasoline and diesel vehicles, on vehicle consumption per km and price differentials between gasoline and diesel →	
Consumption by non-residents (on national territory)	326
Quantity times price →	
Sales (quantity x price)	10,328
Using data on kind of vehicle owner (employed or self-employed) →	
Domestic consumption by private households	3,408
Subtracting from domestic consumption →	
Consumption by residents	3,082

5.7.3.3.3. Small Tools

Small tools are calculated via the commodity flow application. Use of small tools must either be recorded as private consumption, or intermediate consumption. ESA 2010 is quite vague in its definition of small tools, so *Statistics Austria* has decided to interpret ESA 2010 3.89f (1) literally. The goods listed in this paragraph are identified on ÖCPA 6-digit level in the commodity supply and their purchase is split between intermediate or private consumption. The proportion of private consumption of small tools is taken from HBS in the available years and interpolated using trade statistics as indicators for other years, whereas intermediate consumption is calculated residually.

5.7.3.4. Additional calculations for services and energy

5.7.3.4.1. Overview

Although the consumption of services and energy is not covered by the commodity flow application the method for their calculation is quite similar. As the calculation of final consumption of private households is done at ÖCPA level, it is possible to allocate many ÖCPA products to the corresponding ÖNACE activity on the basis of the characteristic production. In addition, secondary production derived from the supply/use framework is added. Imports and exports are added from the respective accounts from balance of payment statistics in order to calculate domestically available supply.

Table 5.22: Composition of domestically available supply of services and energy

	Source
Domestic production	Production accounts + supply/use estimates for secondary production
+ Imports	Balance of payment statistics
- Exports	Balance of payment statistics
= Domestically available supply	

The allocation of domestically available supply to use categories follows the procedures described above. It depends on the available information, which category - mainly intermediate and private consumption - is derived from the respective source and which is taken as a residual.

Table 5.23: Numerical example of the calculation of private consumption of services by passenger transport by railway, in thousand EUR, year 2017

	2017
Revenues from the production account	843,623
+ Secondary production taken from S/U tables	0
= Total production	843,623
+ Imports	614
- Exports	0
= Domestic supply	844,237
- Social transfers in kind	23,476
- Intermediate consumption	236,512
= Private consumption net VAT	584,249
+ VAT	60,956
= Private consumption at purchasers prices	645,205

The value of smuggling and illegal products is calculated using different methods (see chapter 7.1.3). Consumption expenditure for smuggled cigarettes and illegal drugs as well as for illegal prostitution is taken from those accounts.

5.7.3.4.2. Detailed calculation by product classes

5.7.3.4.2.1 Energy (Product 35)

Table 5.24: Composition of product 35 (energy)

ÖCPA	COICOP	Text
351100	04501000	Electricity
352200	04502000	Gas
353000	04505000	District heating

Consumption of electricity is calculated on the basis of the quantities of electricity sold to households and the price paid by households and includes payments in kind. It is assumed that half of the sales of electricity at the agricultural rate are used for consumption purposes.

Gas consumption is extrapolated for all household meters in Austria on the basis of information from the "Wiener Gaswerke" (Viennese gas supplier). The number of household meters and quantities sold are extrapolated and valued using average consumer prices. The used data source is the survey "Energy Consumption of Households"²⁶, which is an independent voluntary module linked to the mandatory Labour Force Survey (LFS). District heating (which is not contained in gross rents) is extracted from energy matrices (provided by *Statistics Austria*) in terms of quantity and valued at consumer prices.

5.7.3.4.2.2 Services for current maintenance and repair of dwellings (product 43)

Table 5.25: Composition of product 43 (maintenance and repair of dwellings)

ÖCPA	COICOP	Text
432000	04302000	Building installation works
433000	04302000	Finishing works

Structural Business Statistics or Short Term Statistics for more recent years provide the basis for calculating output of industries 43.2 and 43.3.

The respective Household Budget Survey provides the benchmark for the consumption component which accounts for only a small proportion of total available supply. Since respondents of the survey are not familiar with national accounts rules concerning maintenance and repair of dwelling, the 2009/2010 HBS questionnaire was adapted in order to derive the correct use categories from the responses. The key for proper allocation is the distinction between owner-occupied and rented dwellings. Following ESA 2010 3.96 b), expenditures that an owner-occupier incurs on the decoration, maintenance and repair of the dwelling that is not typically carried out by tenants is excluded from household final consumption expenditure and treated as intermediate consumption in producing

²⁶

housing services. Therefore, only expenditure on services typically demanded by tenants is also recorded as private consumption by owner-occupiers.

The HBS benchmarks are intra- and extrapolated with corresponding revenues from SBS and short term statistics.

5.7.3.4.2.3 Repairs to motor vehicles (product 45)

Table 5.26: Composition of product 45 (repairs to motor vehicles)

ÖCPA	COICOP	Text
452020	07203000	Maintenance and repairs to motorcycles and mopeds
452010	07203000	Maintenance and repairs to private motor vehicles

Maintenance and repairs of motor vehicles include payments by car insurers paid to the households. On the expenditure side, private consumption is calculated by means of an empirical method and underpinned by a functional method. Separate calculations are made for two-wheel vehicles and motor vehicles. The respective Household Budget Survey and data on the claims payments from motor vehicle insurance from insurance statistics which are to be allocated to private consumption provide the framework for consumption of repairs to motor vehicles. This value is checked by calculating the technologically determined average need for repairs of motor vehicles belonging to private owners using data from the motor vehicle statistics on mileage and fuel consumption.

The data are updated separately for invoiced revenues and revenues off the books. Invoiced revenues are calculated using the motor vehicle statistics and price information from the CPI. Revenues off the books are treated as follows: as it is assumed that repairs of motorcycles do not belong to intermediate consumption, the total amount is, in this case, allocated directly to repair consumption. Private consumption of non-invoiced motor vehicle repair services is extrapolated using the development in supply as an indicator.

5.7.3.4.2.4 Transport (products 49-52)

Table 5.27: Composition of products 49-52 (transport)

ÖCPA	COICOP	Text
491000	07301000	Passenger transport by railway
493100	07305000	Tram and trolley bus
493200	07302200	Taxis and rented cars
493910	07302000	Bus transport
493920	09401172	Cable cars, chair lifts and drag lift transport
494200	07306000	Transport of goods by road
503010	07304000	Passenger transport by sea and inland waterway
511010	07303000	Passenger transport by air
522124	07204100	Multilevel car parks and garages + other ancillary and secondary activities for rural transport n.e.c.
522122	07204200	Toll fees
521000	07204700	Storage

Consumption of transport services is calculated according to the commodity flow approach. Consumption is determined as the residual from output as calculated in the expenditure approach minus intermediate consumption taken from supply and use tables minus transfers in kind if applicable. Household Budget Surveys are used for verification purposes. Transport services as part of package tours are not recorded as private consumption, but as services of travel agencies.

Tolls for cars are broken down by use category in two separate types of tolls based on the supply of vignette revenues and special toll revenues by "ASFINAG" (national motorway operator):

5.7.3.4.2.4.1 Vignettes

The basis for estimating the use of vignettes are data from car statistics broken down by cars registered by employees and self-employed workers. On that basis it is assumed that 95% of these vehicles have a vignette although this can be adjusted in the event of more precise information becoming available. It is further assumed that domestic cars have, as a rule, annual vignettes and that the proportion of weekly or monthly vignettes is negligible. The adjusted stock of cars multiplied by the vignette price yields domestic consumption and intermediate consumption for vignettes. Subtracting both of these items from the reported total earnings yields exports as a residual.

Theoretically, two kinds of exports must be distinguished depending on whether the vignettes purchased by tourists and non-resident business travellers are bought in Austria or abroad as they feed into either the current account for services or for travel. Since these values are, however, negligible, the total amounts are recorded in the latter.

5.7.3.4.2.4.2 Special tolls

Special tolls for cars are recorded separately from special tolls for trucks and other vehicles. In the calculation of special tolls for cars it is assumed that half of the total volume is used by non-resident (transit) tourists. This factor is based on a survey on border crossings. The proportion for intermediate consumption is based on the proportion of the total volume of cars registered by self-employed workers. Consumption by residents constitutes the residual.

Domestic consumption is made up of the sum of consumption by residents and non-residents on national territory.

5.7.3.4.2.5 Post and telecommunications services (product 53)

Table 5.28: Composition of product 53 (post and telecommunications services)

ÖCPA	COICOP	Text
530000	08101000	Post and courier services
610009	08301000	Telecommunications services
611050	09402310	Cable, radio and television companies

Annual reports of respective companies provide the basis for calculating output. As in transport, consumption is calculated by the flow concept with any corrections being made via the respective available Household Budget Surveys.

5.7.3.4.2.6 Hotels and restaurants (products 55 and 56)

Table 5.29: Composition of products 55 and 56 (hotels and restaurants)

ÖCPA	COICOP	Text
551010	11210000	Hotel and similar accommodation services
552000	11220000	Holiday and other short stay accommodation services
559000	11230000	Renting out of private rooms
561000	11101100	Restaurant and mobile food serving services
562000	11102000	Event catering services and other food serving services
563000	11101200	Beverage serving services

The estimation of consumption of accommodation and food services is based on the calculation of their production, see chapter 3.15. This calculation makes use of data from business statistics, but supplements them using data on overnight stays and on the development of prices in the sector. Also corrections for underrecording, revenues off the books and tips are made.

The value of consumption is calculated as follows: Imports (package tours and business travels) are added to domestic output, exports are subtracted. Intermediate consumption is subtracted as well as final consumption of general government. This yields private consumption of products 55 and 56. The quotas for imports and intermediate consumption stem from supply and use tables.

5.7.3.4.2.7 Cinemas & television (products 59 and 60)

Table 5.30: Composition of products 59 and 60 (cinemas and television)

ÖCPA	COICOP	Text
591400	09402100	Service of cinemas
600009	09402300	Radio & television fees

Data for cinemas are based on figures from the Austrian Film Commission, which surveys box office sales (cinema tickets). Radio and television fees are taken from the annual report of the "ORF" (Austrian broadcasting corporation) supplemented by an estimate for pay TV based on VAT statistics.

5.7.3.4.2.8 Bank services (product 64)

Table 5.31: Composition of product 64 (bank services)

ÖCPA	COICOP	Text
641910	12610000	Fees for bank services (FISIM)
641920	12620000	Fees for bank services (non-FISIM)
641921	12620000	Market making services

Bank services consist of financial intermediation services indirectly measured (FISIM) and other bank services such as account maintenance fees, etc. The calculation of FISIM is explained in detail in chapter 3.17.1.4. Other bank charges are calculated on the basis of the item *other services* in the

domestic banking sector's profit and loss account published in banking statistics by the Austrian National Bank.

5.7.3.4.2.9 Insurance services (product 65)

Table 5.32: Composition of product 65 (insurance services)

ÖCPA	COICOP	Text
651100	12501100	Life insurance services
653000	12501200	Pension fund services
651240	12502100	Insurance services in connection with housing
651212	12503100	Health insurance
651211	12503200	Accident insurance
651220	12504100	Motor vehicle insurance
651290	12505100	Other insurance services

Statistics of the financial market supervisory authority for insurance are the main sources of data for the calculation of insurance services. The service charge for life and health insurance and pension funds calculated in the production approach is recorded entirely as private consumption. The service charge for non-life/accident insurance is broken down at the level of the individual insurance lines and then allocated to consumption and intermediate consumption. This allocation is based on a survey done by the insurance association (see chapter 3.17.2.3.5).

5.7.3.4.2.10 Real estate (product 68)

Table 5.33: Composition of product 68 (real estate)

ÖCPA	COICOP	Text
682011	04100000	Actual rental payments (excluding operating costs)
682012	04200000	Imputed rental payments (excluding operating costs)
682011	04407000	Operating costs for actual rentals
682012	04405000	Operating costs for imputed rentals
682011	12502100	Insurance for actual rents
682012	12502100	Insurance for imputed rents
683110	12701300	Brokerage service for housing

In Austrian national accounts actual and imputed rents are functionally defined. Calculations start using the housing stock, regardless of the activity classification of the producers of housing. The most important data sources are the buildings and dwellings register (which has replaced the housing census, launched in 2004) and - based on this register - the microcensus, which is carried out quarterly with a sample of 22,500 dwellings.

Calculations are made by using a stratification method. Thereby the entire stock of occupied dwellings is broken down into rented dwellings and other dwellings, which are again broken down in accordance with the stratification characteristics, construction period, type of municipality and usable floor area.

A distinction between rent for business premises and housing is already made in the production approach, since renting of business premises is recorded in a separate account (see chapter 3.18). Data on housing insurance are taken from insurance statistics of the Austrian Financial Market Authority.

5.7.3.4.2.11 Legal advice (product 69)

Table 5.34: Composition of product 69 (legal advice)

ÖCPA	COICOP	Text
691000	12701320	Legal advice

Consumption expenditure of legal advice is derived by using a commodity flow approach. The benchmark results from HBS amended by claims of legal expenses insurance transferred to households. The share of the claims belonging to HFCE is determined by using a survey conducted by the Austrian Insurance Association (see chapter 3.17.2.3.5). Claims expenses are available from insurance statistics on an annual basis. The data taken from HBS are extrapolated for the following years using the trend of the corresponding production account as an indicator.

5.7.3.4.2.12 Photographic processing (product 74)

Table 5.35: Composition of product 74 (Photographic processing)

ÖCPA	COICOP	Text
742000	09402400	Photographic processing

In the course of the last decade photographic processing has become a shrinking profession. Since HBS do not have a good coverage of this branch any more, the HBS 2000 is extrapolated using data on revenues from VAT statistics.

5.7.3.4.2.13 Veterinary and other services for pets (product 75)

Table 5.36: Composition of product 75 (veterinary and other services for pets)

ÖCPA	COICOP	Text
750000	09305000	Veterinary and other services for pets

Consumption expenditure on veterinary and other services for pets is mainly based on HBS figures, extrapolated by the development of production in ÖNACE 75.

5.7.3.4.2.14 Rental, leasing (product 77)

Table 5.37: Composition of product 77 (rental, leasing)

ÖCPA	COICOP	Text
771110	07101300	Motor vehicle – operating leasing
772000	09401173	Rental of durables

The data source for motor vehicle leasing is the leasing association's database "Motor vehicle leasing in Austria", which is available every year. It provides both monetary and quantitative data on new business but also on the stock of leased vehicles broken down by owner (self-employed/employees). Earnings of leasing companies from the SBS are quoted on the basis of the ratio between cars leased by private individuals and companies.

The data source for consumption of rented durables is the taxable turnover of five-digit codes in groups ÖCPA 77.11 & 77.2, which typically includes consumer articles, as well as video renting outlets, libraries and rental of sports equipment and clothing.

5.7.3.4.2.15 Services of travel agents and travel organisers (product 79)

Table 5.38: Composition of product 79 (business services)

ÖCPA	COICOP	Text
791000	09601110	Services of travel agents and travel organisers

Product 79 consists of package tours and commissions. Services of travel agents and travel organisers are not recorded sufficiently in HBS. Household final consumption is therefore derived as the residual from the commodity flow approach, based on the latest available supply and use tables, production accounts and foreign trade data.

5.7.3.4.2.16 Security and investigation services, cleaning services, car registration tax (products 80 - 82)

Table 5.39: Composition of products 80 and 81 (detective and protective agencies, cleaning industry, car registration tax)

ÖCPA	COICOP	Text
800000	12701400	Security and investigation services
812100	05602120	Cleaning services
829900	07243000	Car registration services

Private consumption of services of detective and protective agencies is calculated by the commodity flow approach as a residual whereby the figures for intermediate consumption are taken from the most recent supply and use tables.

The same method is used for calculating consumption of cleaning services, but in that case results are tested on the basis of the respective Household Budget Surveys. In addition, an estimate for the production of the informal economy is done which covers services of self-employed household personnel (e.g. cleaning personnel). These services are estimated on the basis of the most recent Household Budget Survey and calculated for further years on the basis of the number of employees according to the *Umbrella Organisation of Austrian Social Security Institutions* (Dachverband der SozialversicherungsträgerDV), the index of agreed minimum wages and the number of households in Austria.

In Austria the cars registration tax is levied by insurance companies on behalf of the state. Thus the car registration tax consists of the product tax and the service charge withheld by the insurance

company. The calculation of consumption of car registration services (including taxes) is based on the number of new and second hand cars and motorbikes registered by households as consumers multiplied by the overall fee (tax + service charge).

5.7.3.4.2.17 Charges for government services (product 84)

Table 5.40: Composition of product 84 (charges for government services)

ÖCPA	COICOP	Text
840000	12701310	Fees

In 2005, *Statistics Austria* carried out a project to distinguish between taxes and purchases of services (fees). This project resulted in a coding of government finance statistics to split fees from taxes. Only fees are registered as private consumption.

5.7.3.4.2.18 Education (product 85)

Table 5.41: Composition of product 85 (education)

ÖCPA	COICOP	Text
855311	07204400	Services of driving schools
851000	10101100	Services of nurseries
852000	10200000	Services of schools
852000	10500000	Private lessons
854200	10400000	Services of the tertiary education institutions (universities, technical colleges and academies)
855000	10500000	Other adult education

5.7.3.4.2.18.1 Pre-primary education (product 85.1)

Consumption of CPA 85.1 (pre-primary education services) is derived from data from primary statistics for the purpose of calculating education expenditure. Moreover, for public producers of pre-primary education services detailed transactions are recorded in federal budgets from which private consumption expenditure figures for this product can be derived.

5.7.3.4.2.18.2 Primary education services + secondary education services (products 85.2 and 85.3)

For primary and secondary education services of privately run schools, data from primary statistics for education expenditure serve as the data base. Private consumption for products by public education institutions are comparatively low and are taken from federal budgets.

5.7.3.4.2.18.3 Tertiary education services (product 85.42)

Tuition fees by private households are recorded in annual accounts of public as well as private institutions of tertiary education.

5.7.3.4.2.18.4 Other education services (product 85.5)

The calculation of private consumption of other education services is based on a commodity-flow approach by deducting intermediate consumption and exports from very detailed figures of domestically produced and imported supply.

5.7.3.4.2.19 Health (product 86)

Table 5.42: Composition of product 86 (health)

ÖCPA	COICOP	Text
862100	06301000	Medical services
862310	06202000	Dental services
869010	06203000	Services of non-medical health occupations
861010	06301000	In-patient health services (hospitals)

Private consumption in the health sector is calculated by the commodity flow method. Social transfers in kind derived from the *Umbrella Organisation of Austrian Social Security Institutions* (Dachverband der Sozialversicherungsträger DV) and intermediate consumption according to supply/use tables are deducted from output. In this way all patients' or other contributions involved in social transfers in kind are captured.

The only exception to this method refers to hospital services, where output was very volatile as there have been several changes in sector classification over the years. Therefore, payments by private health insurance companies are now used as the main source instead. Extrapolated values for payments made by patients taken from the earning structure of "Landesgesundheitsfonds-finanzierte Krankenanstalten" (state health funds financed hospitals) issued by the responsible Federal ministry, are added. The sum is checked against the value for payments made by patients recorded in the Household Budget Survey.

5.7.3.4.2.20 Residential nursing care services & residential care services for the elderly and disabled (products 87 and 88)

Table 5.43: Composition of product 87 & 88 (Social services)

ÖCPA	COICOP	Text
870000	12401110	Social services, stationary
880000	12401120	Social services, outpatient

Detailed calculations for the production of the CPA divisions 87.1 (residential nursing care services) and 87.3 (residential care services for the elderly and disabled) are taken from production accounts. In Austria these products are exclusively derived from sales figures and there is no other non-market output. Values on private consumption of this product are calculated as a residual after deducting social transfers in kind from domestically available supply in the product account. For both of these components concise and detailed data sources are available. Transactions concerning the supply of products 87.1 and 87.3 can be unequivocally assigned to the respective single statistical units and the associated local kind of activity units. The underlying data come from federal budgets by public authorities, national tax statistics, pay slips to employees, business reports and annual financial statements or profit and loss accounts. Data on social transfers in kind come from accounts of public territorial authorities that offer a detailed structure by product.

For CPA divisions 87.2 and 87.9 as well as for outpatient services (CPA 88) private consumption is calculated by deducting social transfers in kind from supply which is taken from the production approach. In addition, an underground production for outpatient care services on national territory by non-residents is estimated as an import. It is assumed that old people in Austria that are in need of care and live at home employ approximately 25,000 non-registered, non-resident nurses, which are considered to be self-employed. Their average income for a continuous work period of two weeks during a given month is estimated to be around EUR 1,200 and is treated as an import of health services in the rest of the world account (see also chapter 10.3.2.2.5).

5.7.3.4.2.21 Services of interest groups and religious and other associations (product 94)

Table 5.44: Composition of product 94 (services of interest groups and church and other associations)

ÖCPA	COICOP	Text
940000	12701200	Services of interest groups and church and other associations

Again production figures are used as the basis for calculation of private consumption. However, only the revenues of churches (for baptisms, weddings, etc.) and automobile clubs are recorded as private consumption.

5.7.3.4.2.22 Culture, sport and entertainment services (products 90 – 93)

Table 5.45: Composition of product 90 – 93 (culture, sport and entertainment services)

ÖCPA	COICOP	Text
932000	09401171	Other services for entertainment, recreation and leisure
900000	09402100	Other cultural and entertainment services
910000	09402200	Libraries, archives, museums, botanical and zoological gardens
931000	09401100	Sports services
920013	09403000	Betting, pools and lotteries
920011	09403000	Casinos
920012	09403000	Operation of gambling machines

Data for betting, pools and lotteries are based on the annual reports for (example of the Austrian lotteries), supplemented by the taxable turnover of alternative betting providers. Data for casinos are also based on annual reports. The service charge is recorded as the difference between bets and payouts. The other items are based on VAT statistics.

5.7.3.4.2.23 Repairs of durables (product 95)

Table 5.46: Composition of product 95 (repair of durables)

ÖCPA	COICOP	Text
952911	03104000	Repair of clothing
952310	03202000	Repair of shoes
952210	05303000	Repair of household goods
952110	09105000	Repair of audiovisual and photographic equipment
951110	09105000	Repair of information processing equipment

The levels for private consumption of repairs of durables are derived from the output approach based on SBS data.

5.7.3.4.2.24 Other services (product 96)

Table 5.47: Composition of product 93 (other services)

ÖCPA	COICOP	Text
960100	03104100	Dry cleaning, laundry, rental of clothing
960200	12101000	Hairdressing services and other personal care services
960410	12101310	Baths, saunas and solarium
960300	12701100	Funeral services
960420	06302100	Spas
960900	12201100	Services n.e.c.

For other services detailed production accounts are the starting point. In the case of hairdressing services, nearly the whole production is recorded as private consumption. Household Budget Surveys are used for verification, especially for estimating underground production and non-taxed tips (see chapter 3.25). The same procedure is used for baths, saunas and solariums as well as funeral services. For spas, private consumption is calculated by deducting social transfers in kind from characteristic output whilst in the case of dry cleaning data are broken down into intermediate consumption and private consumption. The quota for the breakdown is determined by the supply and use tables.

Consumption of illegal prostitution, which is part of services n.e.c., is described in chapter 7.1.3.

5.7.3.4.2.25 Services of private households (product 97)

Table 5.48: Composition of product 97 (services of private households)

ÖCPA	COICOP	Text
970000	05602100	Services of private households and other domestic services
970000	04200000	Caretaking

Private consumption of services of domestic assistance is calculated by the method described in chapter 3.26. As the value of intermediate consumption is zero, output equals gross value added. Total output of services of household assistance is recorded as private consumption. Services of caretaking are described in chapter 3.26.

5.7.3.4.2.26 Digital communication services (MOSS)

The integration of digital communication services resulting from transactions covered by the MOSS scheme is described in chapter 10. Imports of MOSS transactions are part of private consumption expenditures.

5.8. NPISH final consumption expenditure

5.8.1. Definition of non-profit institutions serving households (NPISH)

Final consumption of non-profit institutions serving households (NPISH, S.15) is defined as the value of the goods produced by these units, excluding own-account production and expenditure of private households and other units on these goods.

The NPISH sector comprises organisations constituting separate legal entities that provide goods and services for private households that are not sold at market prices. In Austria the following organisations are included in this sector: hospitals and human health care, nurseries and schools, residential care (except old people's homes), social work, sports and membership organisations (automobile clubs, religious communities, political parties, trade unions, environmental protection organisations, foreign aid organisations and other associations).

Non-profit institutions which are controlled and largely financed by government are allocated to the government sector. According to the regulations of ESA 2010, associations of companies and - on the basis of the 50% criterion - non-profit organisations in the field of research, adult education, residential care (old people's homes), social work, arts and entertainment as well as cultural organisations are classified as non-financial corporations (S.11).

Non-profit hospitals that are funded by the so called state health funds (SHF) are classified as non-market units in sector S.15²⁷. All payments through this system are recorded as transfers.

5.8.2. Classifications

The results of the calculations are classified according to ÖNACE for the output approach and according to COPNI and ÖCPA for the expenditure approach.

5.8.3. Sources

The business register contains all NPISH that show economic activity. Economic activity in this context is defined as having at least one paid employee or revenue from sales that is relevant for the VAT statistics.

For NPISH no mandatory survey on a regular basis exists. The data sources described in Table 5.49 are used as a basis to obtain values for output, intermediate consumption, compensation of employees, production taxes, gross fixed capital formation/ consumption of fixed capital and revenues from production. For information regarding own-account production values in the field of R&D and

²⁷ Social Insurance, central government, state governments, local governments and private households finance the nine state health funds (SHF) that have been established at the state government level. The purpose of the nine SHF is the financing of different hospital services. In addition to the money provided by the SHF there are some additional funds available for hospitals outside of the SHF framework. Contributions to the SHF are regulated by national law.

computer software see chapters 5.10.3.6 and 5.10.3.7. In Austria no social transfers in kind regarding non-profit institutions serving households are recorded.

Table 5.49: Data sources for calculating the sequence of accounts for NPISH

NPISH	Source
ÖNACE 85 - Nurseries and schools	Primary survey (education expenditure statistics), Wage tax statistics, turnover tax statistic, non-profit survey ²⁸
ÖNACE 86 - Hospitals	Annual data from the Austrian Federal Ministry of Health
ÖNACE 86 - Human health care	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 87 - Residential care	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 88 - Social work	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 90 - Creative, arts and entertainment	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 91 - Libraries, archives, museums	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 93 - Sports	Wage tax statistics, turnover tax statistic, non-profit survey
ÖNACE 94 - Membership organisations	Wage tax statistics, turnover tax statistic, annual report of the "ÖAMTC" (Austrian drivers association) and "ÖGB" (Austrian trade union federation), annual reports of the nine dioceses, non-profit survey

5.8.4. Calculation of final consumption

Final consumption of NPISH is derived from the sector's production account by subtracting revenues from production and own-account production from the corresponding output value.

By using information from wage tax statistics, paid gross wages by NPISH can be obtained for each organisation. To obtain total compensation of employees, employers' social contributions are added. Other taxes on production for non-profit institutions serving households are considered to be a certain percentage of compensation of employees, namely approximately 6%.; for hospitals, no production tax is allocated. Values for intermediate consumption and gross fixed capital formation are based on the non-profit survey (see chapter 10.0.5) and extrapolated annually by using development patterns of selected indicators. Values for FISIM and Market Making activities which are part of intermediate consumption are taken from calculations described in chapters 3.17.1.4 and 3.17.1.5. Consumption of fixed capital is calculated according to the method described in chapter 4.12. Data from VAT statistics are used for determining revenues from production.

²⁸ See Chapter 10.0.5 for more information about the non-profit survey.

Table 5.50 exhibits output values for the reporting year 2017 for NPISH according to their respective ÖNACE classification.

Table 5.50: Output of NPISH, in million EUR, year 2017

ÖNACE	Output	in million EUR
85	Nurseries and schools	1,879
86	Hospitals and human health care	3,194
87	Residential care	182
88	Social work	2,635
90	Creative, arts and entertainment	74
91	Libraries, archives, museums	19
93	Sports	122
94	Membership organisations	2,346
	Total	10,451

Table 5.51 shows how output is calculated and how final consumption is derived for the entire sector of NPISH for the reporting year 2017.

Table 5.51: Derivation of final consumption of NPISH from the production account, in million EUR, year 2017

Transaction	in million EUR
P.2 Intermediate consumption	3,031
+ P.2 FISIM	69
+ P.2 Market Making activities	9
+ D.1 Compensation of employees	6,547
+ D.29 Othe taxes on production	312
+ P.51c Consumption of fixed capital	483
= P.1 Output at basic prices	10,451
- P.11 Revenues from production	2,470
- P.12 Own-account production	48
= P.3 Final consumption	7,933

Table 5.52 gives an overview of how final consumption expenditure is derived for NPISH.

Table 5.52: Deriving final consumption of NPISH, in million EUR, year 2017

Transaction	in million EUR
Surveys and Censuses	789
Administrative Records	5,699
CFC(PIM)	483
Other E&M	3,399
Total sources	10,371
Allocation of FISIM	69
MMS	9
GWG	0
Total conceptual	78
Total exhaustiveness	0
Balancing	2
Total adjustments	80
Output at basic prices P1	10,451
P.11 revenues from production	2,470
P.12 own-account production	48
P.3 NPISH final consumption expenditure	7,933

Table 5.53 displays final consumption of NPISH broken down by ÖCPA for the reporting year 2017.

Table 5.53: Final consumption of NPISH, in million EUR, year 2017

ÖCPA	Final consumption	in million EUR
85	Nurseries and schools	1,411
86	Hospitals and human health care	2,300
87	Residential care	156
88	Social work	2,051
90	Creative, arts and entertainment	60
91	Libraries, archives, museums	14
93	Sports	99
94	Membership organisations	1,842
	Total	7,933

5.9. Government final consumption expenditure

ESA 2010 data for transactions regarding final consumption of the general government sector are derived from the economic breakdown of the closed accounts or are the result of processing of public accounts statistics of other units of general government (see chapter 3.21 on the sources and methods for calculating ESA 2010 data on general government).

A list of general government units is published on the STAT website (http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_NATIVE_FILE&RevisionSelectionMethod=LatestReleased&dDocName=076167). The delimitation of the general government sector in line with ESA 2010 is ensured: On the one hand, the 50%-market/non-market-test is carried out. For this purpose data from annual reports, from the Structural Business Statistics and from the survey for extrabudgetary units in the local government sector are used. On the other hand, also a check for qualitative criteria is done.

According to paragraph 3.117 of ESA 2010, final consumption expenditure of general government is equal to "the sum of output (P.1), plus the expenditure on products supplied to households via market producers, part of social transfers in kind (D.632), minus the payments by other units, market output (P.11) and payments for non-market output (P.131), minus own-account capital formation (P.12)". In other words: final consumption expenditure of general government is other non-market production plus social transfers in kind and minus payments for non-market output. The calculation is done for all subsectors in the same way. The main data sources for general government are described in chapter 3.21.

Capital expenditures as well as social transfers in kind can be identified, given the detailed structure of closed accounts of the Bund, *Länder*, Vienna and the municipalities and the public accounts statistics (see chapter 3.21.2).

By convention (see paragraph 3.49 of ESA 2010), non-market production is calculated as gross value added and intermediate consumption minus output for own final use. Chapters 3.18 and 3.21 describe how the first two components are calculated. Output for own final use mainly consists of self-produced R&D and self-produced software for own use. The calculation of these parts is described in chapters 5.10.3.6 and 5.10.3.7.

The following expenditures are identified as social transfers in kind i.e. payments for goods delivered directly to private households by market producers:

- Central government (Bund): School books and free trips for schoolchildren and apprentices
- State government (*Länder* and social funds on state government level): Measures for social welfare in general and for services for the disabled
- Local government: Measures for social welfare and care (mostly paid by the Social Fund Vienna and social benefit institutions at local government level, to some minor extent also paid by municipalities)
- Social security funds: Expenditure on medical products, equipment and appliances and on in- and outpatient treatment. In the terms of the *Umbrella Organisation of Austrian Social Security Institutions* (Dachverband der Sozialversicherungsträger, DV), these mainly comprise expenditure for medical assistance, medicine, dentistry, accident treatment, therapeutic aid, medical rehabilitation, dental prostheses, travelling and transport costs for recipients of beneficiaries and maternity services.

According to ESA 2010, paragraph 4.109 "Any payments made by the households themselves are to be deducted", e.g. patients' contributions are deducted from social transfers in kind.

The way in which payments for other non-market production are derived is displayed in the following table (see chapter 3.21.2 for the definition of Bund, *Länder* and municipalities and their public accounting systems):

Table 5.54: National accounts transactions x accounts according to public accounting coding rules

ESA 2010 transaction	Accounts according to public accounting coding rules					
	Bund		Länder		Municipalities	
P.131 Payments for non-market output	80..	Receipts from sales	80..	Receipts from sales	80.	Receipts from sales
	81.. (excluding 815. and 817.)	Receipts from services (excluding charges, contributions to costs and reimbursements for government services)	81.. (excluding 819.)	Receipts from services (excluding write-downs and write-offs)	81. (excluding 815 and 819)	Receipts from services (excluding charges for other administrative activities, write-downs and write-offs)
	824.	Receipts from rent and leasing	824.	Receipts from rent and leasing	824	Receipts from rent and leasing
	825.	Receipts from subletting and subleasing	825.	Receipts from subletting and subleasing	825	Receipts from subletting and subleasing
	8260	Current remuneration	8260	Current remuneration		
	827.	Reimbursement for detachment of officials	827.	Reimbursement for detachment of officials	827	Reimbursement for detachment of officials
					850	Interest group contributions
					852	Charges for the use of municipal facilities
					857	Commission fees

The data production for CFC is described in chapter 4.12.

The following table provides detailed data for the year 2017 for the individual components of final consumption expenditure of government (i.e. the corresponding expenditure and revenues of non-market producers in the government sector) by subsectors of government.

Table 5.55: Final consumption expenditure of general government and sub-sectors, in million EUR, year 2017

ESA 2010 transaction	Central government	State government	Local government	Social security	General government
D.11 Wages and salaries	12,776	9,701	7,072	1,671	31,220
+ D.121 Employers' actual social contributions	2,029	1,518	1,537	279	5,363
+ D.122 Employers' imputed social contributions	843	535	364	59	1,801
+ D.29 Other taxes on production	611	489	390	67	1,556
= B.1n Net value added	16,259	12,243	9,363	2,076	39,940
+ P.51c Consumption of fixed capital	4,628	1,560	2,451	179	8,819
= B.1g Gross value added	20,887	13,803	11,813	2,255	48,759
+ P.2 Intermediate consumption including FISIM supplements	8,923	5,254	6,329	1,001	21,506
- P.12 Output for own final use	2,831	352	113	0	3,297
= P.13 Non-market output	26,979	18,705	18,029	3,256	66,969
- P.131 Payments for non-market output	4,115	1,827	3,418	139	9,500
= P.132 Non-market output, other	22,863	16,877	14,610	3,118	57,469
+ D.632 Social transfers in kind - purchased market production	594	2,110	1,694	10,118	14,517
= P.3 Final consumption expenditure	23,458	18,988	16,304	13,236	71,986

Table 5.56: Values derived from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustments for general government final consumption expenditure, in million EUR, year 2017

Sources and adjustments for general government final consumption expenditure	in million EUR
Surveys and censuses	
Administrative records	60,838
Combined data	
Total extrapolation and models	10,619
Total sources	71,457
Data validation	
Total conceptual adjustments	529
Total exhaustiveness	
Balancing	
Total adjustments	529
Final estimate	71,985

5.10. Acquisitions less disposals of produced fixed assets

5.10.1. Overview

Produced fixed assets include buildings, machinery and equipment, military equipment, cultivated assets and intellectual property products. Acquisitions less disposals are recorded. Used produced fixed assets are calculated as the difference between sales and purchases. Improvements to

produced fixed assets (major repairs and conversions) which go far beyond normal maintenance and repairs and self-produced assets are also included in capital formation.

The commodity flow approach (see chapter 5.7.3) is the standard method for calculating gross fixed capital formation, as it is for consumption expenditure.

The **investor account** is a separate method for the gross fixed calculation of capital formation by industry. It shows gross fixed capital formation by investing activity, also broken down by investment category, and forms the basis for calculating **capital stocks** and consumption of fixed capital, and for determining non-deductible VAT. The investor account is prepared each year as described in chapter 5.10.4.

The following table provides an overview of acquisitions less disposals of fixed assets by NACE sections and types of assets for 2017 at current prices.

Table 5.57: Acquisitions less disposals of fixed assets by ÖNACE sections (A*21) and types of assets, in million EUR, year 2017

NACE	AN111 ²⁹	AN112 ²⁸	AN113	AN114	AN115	AN117	Total
A	0	797	1,231	0	130	17	2,175
B	0	22	259	0	0	20	302
C	0	1,592	6,829	0	0	7,626	16,047
D	0	500	2,233	0	0	241	2,974
E	0	627	388	0	0	32	1,046
F	0	208	859	0	0	347	1,414
G	0	1,298	2,192	0	0	1,403	4,893
H	0	3,523	2,675	0	0	393	6,591
I	0	1,182	673	0	0	72	1,926
J	0	311	1,055	0	0	1,857	3,223
K	211	343	992	0	0	1,441	2,987
L	16,345	6,343	336	0	0	74	23,099
<i>of which households</i>	12,914	0	0	0	0	0	12,914
M	0	237	575	0	0	1,519	2,331
N	0	146	6,387	0	0	179	6,712
O	0	1,531	695	100	0	347	2,673
P	0	735	463	0	0	1,986	3,183
Q	0	1,899	1,259	0	0	363	3,520
R	0	535	297	0	0	283	1,114
S	0	680	309	0	0	74	1,063

Major improvements to land within the meaning of ESA 2010 § 3.128 are included in capital formation in construction in national accounts (net output of ÖNACE group 42b (interest groups)). The calculation methods for these activities are explained in chapter 3.12.3. The following table gives a summary.

²⁹ Including costs of ownership transfer

Table 5.58: GFCF in major improvements to land by categories, in million EUR, year 2017

Year	Road building	Land consolidation	Forest development	Regulation of water courses	Torrent and avalanche containment	Total
2017	26.9	7.5	20.9	97.3	87.0	239.7

The following table presents the different categories of Intellectual Property Products.

Table 5.59: GFCF in IPPs (AN.117) by category, in million EUR, year 2017

Intellectual Property Products					
Software		R&D		Entertainment, literary and artistic originals	
own account	purchased	own account	purchased	own account	purchased
2,860	4,887	8,006	2,186	231	103
7,748		10,192		334	
18,274					

The following table provides an overview of acquisitions less disposals of fixed assets by institutional sectors (S.11-S.15) and types of assets.

Table 5.60: Acquisitions less disposals of fixed assets by institutional sectors, in million EUR, year 2017

Sector	AN111	AN112	AN113	AN114	AN115	AN117	Total
S11+S14	16,302	15,936	25,858	0	130	13,526	71,753
S12	211	343	992	0	0	1,440	2,986
S13	43	5,590	2,493	100	0	3,252	11,478
S15	0	638	364	0	0	55	1,058

In the following table, the values for different components of the expenditure approach derived from individual categories of sources and values for conceptual, exhaustiveness and balancing adjustments are shown.

Table 5.61: Values derived from individual categories of sources and values of conceptual, exhaustiveness and balancing adjustments for different components of the expenditure approach, in million EUR, year 2017*

	Surv. & Cens.	Admin. records	Comb. Data	Total Extrap + Models	Other	Total Sources	Data valid	Total concept	Total exhaust	Bal-ance	Total adjust.	Final estimate
HFCE	9,216	8,062	27,574	130,319	0	175,171	0	1,172	9,502	171	10,845	186,016
NPISH FCE	588	3,430	0	3,883	0	7,901	0	30	0	2	32	7,933
Gov. FCE	0	60,838	0	10,619	0	71,457	0	529	0	0	529	71,986
GFCF: Dwellings	0	0	0	12,859	0	12,859	0	0	3,697	0	3,697	16,557
GFCF: Other buildings	0	383	21,050	976	0	22,409	92	0	33	-26	99	22,508
GFCF: Mach. & equip.	0	16	5,134	24,398	0	29,548	11	0	0	148	159	29,707
GFCF: Weapon systems	0	100	0	0	0	100	0	0	0	0	0	100
GFCF: Cult. biol. resources	0	0	130	0	0	130	0	0	0	0	0	130
GFF: Software	0	168	4,660	2,870	0	7,698	-27	0	0	77	50	7,748
GFCF: R&D	4,234	2,340	0	3,580	0	10,154	0	0	0	38	38	10,192
GFCF: intellectual property rights	4,301	2,775	4,660	6,450	0	18,186	-27	0	0	115	88	18,274
Inv.: Materials/supplies	0	45	824	-1	0	868	-16	-523	7	0	-532	336
Inv.: Work-in-progress	0	0	2,274	0	0	2,274	-758	-555	86	84	-1,143	1,131
Inv.: Finished products	0	0	405	0	0	405	63	-196	3	0	-129	276
Inv.: Goods for resale	0	0	1,506	2	0	1,508	-94	-552	2	0	-644	864
Valuables	222	0	0	1,655	0	1,877	0	0	0	-15	-15	1,861
Exports of good	140,870	0	0	9,054	0	149,924	-9,866	0	0	2	-9,865	140,060
Exports of services	37,959	770	0	18,958	0	57,688	70	1,667	84	75	1,897	59,585
Imports of goods	142,399	0	0	2,516	0	144,915	-6,234	0	231	0	-6,003	138,912
Imports of services	35,774	719	0	11,126	0	47,619	-491	1,373	441	106	1,430	49,048
GDP	14,985	75,700	63,556	205,530	0	359,771	-3,800	199	12,743	449	9,591	369,362

* including rounding errors

5.10.2. Main data sources and their conversion to national accounts results

The general approach to calculate GFCF is the commodity flow approach. Some types of GFCF are calculated separately due to the availability of superior data sources. In a second step, the calculations based on products are joined with additional data for GFCF by industries (investor accounts).

The calculations based on products are the following:

For machinery and equipment the commodity flow application as described in chapter 5.7.3 is the main tool for calculating GFCF. Its main data sources are the product information of Short-Term Statistics and ITGS.

For dwellings and other buildings the main data sources for calculation of GFCF are SBS, ITGS and statistics on construction of buildings and dwellings. Further data from the commodity flow application are added.

For the estimation of GFCF in **R&D** the main data sources are BoP statistics, SBS, R&D statistics and short term statistics.

For the estimation of GFCF in **software** the main data sources are employment statistics and SBS.

For calculations of **changes in livestock and trees** data from the economic accounts in agriculture and forestry are used.

Data for **weapon systems** are taken from government accounts.

For the estimation of GFCF in **entertainment, literary or artistic originals**, data are sourced from collecting societies, reports of the Austrian Broadcasting Corporation and from the association for film and music industry – for details see chapter 5.10.3.8.

The data based on industries (investor accounts) are taken from the following sources:

- GFCF data resulting from SBS for S.11 and S.14
- Detailed audit report data for key corporations in S.11
- Data from closed accounts of main units of central and local governments for S.13
- Non-profit surveys, annual reports and additional research for S.15

The results of the different calculations based on products and on industries described above are cross-checked and joined in order to generate the structure of GFCF by economic activities (product x industry-matrices).

For a definition of the goods classified as GFCF see chapters 5.1 and 5.2.2.

5.10.3. Detailed estimation methods used by AN code

5.10.3.1. Capital formation in construction

Table 5.62: Calculation method for capital formation in construction

Components	Designation
1.	Domestic output at basic prices (characteristic and non-characteristic output) by the construction industry at basic prices
2.	+ Non-deductible VAT
3.	+ Other taxes on products less subsidies on products
4.	+ Imports of construction services
5.	- Exports of construction services
	= Supply for domestic use
6.	- Changes in inventories
7.	- Household consumption expenditure for housing maintenance
8.	- Construction services which are recorded as intermediate consumption
	= Supply allocated to gross fixed capital formation
9.	+ Material and architectural services provided
10.	+ Transaction costs (for ownership transfer)
<i>Total</i>	= Total gross fixed capital formation in construction

The method shown in Table 5.62 is used to calculate capital formation in construction. The data sources for the first component are the production accounts of the construction industry (see chapter 3.12). These include output by the construction industry divisions (ÖNACE 41 – 43), output of construction by other industries, revenues off the books, output by interest groups (see chapter 3.12.3), own-account construction and underground production of dwellings.

The next component, “Supply for domestic use” is obtained after adding non-deductible VAT and product taxes less product subsidies. The items “Imports” and “Exports” are based on the balance of payments statistics.

Then adjustments for changes in inventories are made. Furthermore, the items housing maintenance that is treated as private consumption and construction work which is recorded as intermediate consumption are deducted. The latter comprises, for example, repairs to structures which are cleared within the construction industry.

The ninth item comprises material and architectural services provided. Additions are made for materials used in the course of own-account housing construction and for structures which are not part of intermediate consumption (as described above) in the building industry but are built directly, such as prefabricated houses or metal structures for bridges. After adding the transaction costs, the total sum of capital formation in construction is obtained.

Table 5.63 shows the results for capital formation in construction for 2017.

Table 5.63: Construction volume and capital formation in construction, in million EUR, year 2017*

Components	Designation	in million EUR
1.	Domestic output at basic prices (characteristic and non-characteristic output) by the construction industry at basic prices	54,942
2.	+ Non-deductible VAT	2,065
3.	+ Other taxes on products less subsidies on products	10
4.	+ Imports of construction services	645
5.	- Exports of construction services	792
	= Supply for domestic use	56,871
6.	+ Changes in inventories	-305
7.	- Household consumption expenditure for housing maintenance	894
8.	- Construction services which are recorded as intermediate consumption	26,377
	= Supply allocated to gross fixed capital formation	29,294
9.	+ Material and architectural services provided	8,235
10.	+ Transaction costs (for ownership transfer)	1,536
	= Total gross fixed capital formation in construction	39,064

* including rounding errors

In addition, dwellings must be distinguished from other buildings and structures. Information from housing statistics on completed dwellings and the average square metres of dwellings and their prices are used to calculate capital formation in new dwellings including non-deductible VAT. Supplementary estimates for refurbishing of old houses are also calculated with data from housing statistics, and transaction costs are added. The residual constitutes gross capital formation in other buildings and structures. Table 5.64 provides the figures for 2017.

Table 5.64: Housing construction and other capital formation in construction, in million EUR, year 2017*

Investments in dwellings, net of taxes	15,004
+ Transaction costs	432
+ Non deductible value added tax	1,119
= Gross fixed capital formation in dwellings	16,556
+ Other buildings and structures	22,508
= Total gross fixed capital formation in construction	39,064

* including rounding errors

5.10.3.2. Capital formation in machinery and equipment

The value of gross fixed capital formation in machinery and equipment, as well as in transport vehicles, is calculated with the commodity flow application described in chapter 5.7.3.

5.10.3.3. **Capital formation in weapon systems**

The value of gross fixed capital formation in weapon systems for general government is calculated on the basis of military expenditure recorded in the closed accounts of central government. Regarding the acquisition of the fighter aircrafts "Eurofighter" a so-called "accrual adjustment" was made. This is done on the basis of a statement of the payments in connection with the purchase of the fighter aircrafts of the Ministry of Defence and Sports.

5.10.3.4. **Capital formation in cultivated biological resources**

Gross formation of fixed capital is also calculated for cultivated biological resources (tree, crop and plant resources yielding repeat products and livestock used in production year after year).

5.10.3.4.1. **Gross fixed capital formation in tree, crop and plant resources yielding repeat products**

Gross fixed capital formation in tree, crop and plant resources yielding repeat products are calculated for the agricultural industry. They include expenditure on new and re-plantations of commercial fruit plantations and vineyards. Annual capital expenditure is determined on the basis of planted areas and average capital expenditure per hectare. The planting areas are derived from the Survey of Commercial Fruit Plantations³⁰, which is conducted at intervals of about 20 years, and from data on planted areas of vineyards collected yearly for the purposes of the economic accounts for agriculture. Determination of the value is based on economic calculations by the chamber of agriculture and the Federal Institute of Agricultural Economics. Since these are only available at intervals of several years, the value of these costs is adjusted for the missing years using an aggregate price index comprising labour and other costs.

No fixed capital formation in plantations is recorded in Austria for the forestry industry as capital formation in afforestation and reforestation only includes trees planted for repeated production of forestry products (such as cork, resin, etc.). Trees planted for timber and Christmas tree plantations (which only provide a finished product once) are no fixed assets. Plantations for the repeated production of forestry goods (such as cork) play virtually no role in Austrian forestry. In practice this item includes, at most, seed orchards for forest trees, which, however, are on a small scale and of little economic significance and are not documented either. No figures are therefore recorded for forestry under this heading in Austria.

³⁰ The Commercial Fruit Plantations survey takes place every five years according to EU legislation. The most recent results refer to the year 2012 and are implemented in the estimates. Another survey is conducted in irregular intervals and covers plantations that are not primarily for commercial purposes (so-called extensive plantations). The most recent one also refers to the year 2012 and is implemented in the estimates, too.

5.10.3.4.2. **Gross fixed capital formation in productive livestock**

Gross fixed capital formation is calculated for animals which are used repeatedly and continuously to produce products such as milk, calves, piglets ("fixed asset livestock"). Animals for slaughter, including poultry, do not constitute capital assets and are recorded under changes in inventory.

For the purposes of the Austrian agricultural accounts, gross fixed capital formation in animals – given the data which are available – is calculated for cows and breeding sows using an "indirect method": Gross fixed capital formation is calculated via the changes in livestock population (final stock less initial stock) and the computed replacement investments (corresponding to total slaughtered animals plus foreign trade balance for live animals). Monetary valuation of these replacement investments is made by means of a culling discount, i.e. the difference between the value of the animals as fixed asset animals and as animals for slaughter. This takes account of the singular situation of animals which are not only fixed asset animals but ultimately – at the end of their lives – also saleable animals for slaughter. For the purposes of calculating gross fixed capital formation, other losses of productive livestock and costs of transfer of ownership have to be added.

Table 5.65: Calculation of gross fixed capital formation

	Change in the number of animals between the end and the beginning of the accounting year valued at the annual average price
+	Culling discount
+	Other productive livestock losses
+	Costs associated with the transfer of ownership
=	Gross fixed capital formation

cf. Regulation (EC) No. 138/2004 as amended, Annex 1, 2.155ff

5.10.3.5. **Costs of ownership transfer on non-produced assets (transaction costs)**

In order to meet the requirements of ESA 2010, a separate estimate for transfer costs is made and recorded as capital formation. The estimate is based on the assumption that the costs of land transfer are approximately 10% of the total value of transferred land, which is derived by transaction cost rates as shown in Table 5.66. The value is shown in the derivation of capital formation in construction in Table 5.63.

The data for the underlying transfers can be taken from the items acquisitions of land and buildings from the Structural Business Statistics.

Table 5.66: Transaction cost rates for transfers

Components	Cost category	Value in percent	
		Minimum	Maximum
1	Broker's fee Maximum of 3% per party (for real estate with a higher current value lower charges are customary)	2 x 2% = 4%	2 x 3% = 6%
2	Land acquisition tax	3.5%	3.5%
3	Charge for registration of title to land	1%	1%
4	Charge for drawing up the contract It is difficult to indicate a percentage for this item since the tariff for notaries ¹⁾ depends on the contract value and is different for rural and urban areas. Examples: Town Country up to approximately 5 million 1.3% 1.2% 5 to 10 million 0.88% 0.86% 10 to 50 million 0.35% 0.35%	0.35%	1.3%
	Total	8.85%	11.8%

¹⁾ See Austrian Notaries Tariff Act, page 21ff.

5.10.3.6. Capital formation in research and development (R&D)

GFCF in R&D consists of R&D from own-account production and purchased R&D. Basically all R&D is included in GFCF. This also includes government expenditure on freely available R&D. The only exceptions to the treatment of R&D as GFCF are market producers in industry 72 (scientific research and development). It is assumed that all R&D produced by market producers in industry 72 is sold in the market and that all purchased and own-account R&D are inputs for R&D sold on the market within the same period. Therefore, own-account production of R&D by market producers in industry 72 is not classified as GFCF. Additionally, R&D purchased by market producers in industry 72 is classified as intermediate consumption with the exception of imported patents. Purchases of imported patents are assumed to be used for several years by the purchasing unit and not sold in the market. Consequently, the determined patents are classified as capital formation. BoP statistics contain information on imported patents.

In order to estimate GFCF in R&D, templates agreed by the EUROSTAT Task Force on Capitalisation of Research and Development were used (see Table 5.67 and Table 5.68). The complete inclusion of R&D in GFCF is ensured by means of R&D statistics, SBS, BoP statistics and government statistics.

Own-account R&D in sector S.13 is estimated on the basis of administrative data. Since own-account R&D is valued at costs of production, cost items of government expenditure that are identified to be expenditures on R&D according to COFOG (classification of government expenditure according to type of expenditure) are used. The cost items in question are intermediate consumption, compensation of employees, consumption of capital and taxes and subsidies on production. R&D for sale in the market is subtracted from total costs of production in order to estimate own-account R&D in sector S.13.

Own-account R&D is valued at total production costs (plus a mark-up – except for non-market producers – for net operating surplus or mixed income). The main source for the calculation of own-account R&D is R&D statistics.

Purchased R&D is valued at purchasers' prices when purchased in the market. It is estimated by means of a supply and use table for R&D sold in the market based on SBS, BoP statistics, short term statistics and R&D statistics. Information on R&D sales by specialized commercial research laboratories and institutes is provided by SBS for industry 72 (scientific research and development). Respondents of SBS with R&D as principal activity report revenues from sales, commissions, contracts or fees. R&D produced by non-market producers is valued as the sum of costs of production. Revenues from the sale of R&D by non-market producers of R&D are recorded as revenues from secondary market output.

The overlap between GFCF in R&D and GFCF in software is subtracted from GFCF in R&D. It is estimated by means of a quota – the number of R&D personnel in relation to the number of software developers in industries 62 and 63. Thus a percentage of own-account software investment in industries 62 and 63 is identified and assumed to be R&D investment. The corresponding amount is subtracted from own-account R&D investment in this industry to avoid double counting.

The mark-up for net operating surplus of market producers of own-account R&D includes unsuccessful R&D because it is added to all current expenditures on R&D according to R&D statistics.

According to the recommendations of the Task Force on the Capitalisation of R&D a geometric depreciation function is applied in the calculation of CFC. Furthermore, data on R&D allow a separation into the different types of R&D according to the Frascati Manual: Basic research, applied research and experimental development. The assumptions on service lives/depreciation rates are inspired by a study from the Australian Bureau of Statistics, which has examined for how long patents are maintained. According to these results service lives of 13 years for basic research, 11 years for applied research and 9 years for experimental development are assumed. By assuming a declining-balance rate of 1.5 this corresponds to depreciation rates of about 0.12, 0.14 and 0.17.

Table 5.67: Transmission from Frascati Manual intramural expenditures according to R&D statistics to output of R&D, in thousand EUR, year 2017

		S11		S12		S15	
		+	-	+	-	+	-
1	Frascati Manual (FM) intramural expenditures on R&D	7,878		10		8,6	
2	Subtract payments for licenses to use intellectual products (principally R&D assets, such as patents) that should be recorded as GFCF)		0		0		0
3	Subtract expenditure on own-account production of software		8,5		0		0
4	Add payments to postgraduate students not included in FM data	0		0			
5	Subtract capital expenditures		496		0,4		0,6
6	Add other taxes on production not included in FM data	0,8					
7	Subtract other subsidies on production		989		0,1		0,9
8	Add extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	409				0,4	
9	Sub-Total (1 to 8): Current expenditures		6,794		10		7
10	Add estimate of consumption of fixed capital plus a return to capital (for non market producers only consumption of fixed capital):						
11	- Option 1: As percentage of current expenditures (line 9) or compensation of employees					0,6	
12	- Option 2: As cost of capital services measured with a PIM	131		5			
13	Adjustment for exhaustiveness						
14	Other adjustments	6		1			
15	Balance : output of R&D		8,105		14		8

Table 5.68: Transmission from R&D output to GFCF R&D, in thousand EUR, year 2017

		S11		S12		S15	
		-	+	-	+	-	+
1	R&D output		8,105		14		8
2	Add imports of R&D		1,090		0		0
3	Add trade margins		0		0		0
4	Add taxes on products		8		0		0
5	Subtract subsidies on products	0		0		0	
6	Subtract extramural purchases of R&D that should be recorded as intermediate consumption. Applies only to R&D industry	409		0		0,4	
7	Subtract acquisitions of R&D not expected to provide a benefit	0		0		0	
8	Subtract changes in inventories of finished R&D	32		0		0	
9	Subtract exports of R&D	1,568		1		0,1	
10	Add net purchases of R&D between domestic sectors		376		3		-2,6
11	Sub-Total						
12	Balance: Total GFCF of R&D		7569		15		5
13	Add/subtract capital transfers of R&D assets between sectors in capital account						

Table 5.69: Transmission from government data to GFCF of R&D for S13, in thousand EUR, year 2017

		S13
1	Intermediate consumption	939
2	Compensation of employees	2,029
3	Other taxes on production	73
4	Other subsidies on production	-
5	Consumption of capital	262
6	Adjustment for exhaustiveness	-
7	Other adjustments	5
8	TOTAL = OUTPUT	3,307
9	Add net purchases of R&D between domestic sectors	-704
10	TOTAL GFCF	2,603

Table 5.70: Results of GFCF in R&D for all sectors, in thousand EUR, year 2017

	S11	S12	S13	S14	S15	TOTAL
TOTAL GFCF	7,569	15	2,603		5	10,192

5.10.3.7. Capital formation in computer software and databases

For the sake of simplicity in the inventory the term GFCF in software is used as an abbreviation for gross fixed capital formation in computer software and databases. Databases that are used for more than one year are included but not accounted for separately. GFCF in software is composed of purchased software and own-account production of software and estimated according to GNI Expert Group's recommendations on Software (GNIG/026A). It includes expenditures for packaged and custom software which is used for more than one year, expenditures for planning, design, programming, change of ownership, installation and testing as well as expenditures on extension or changes to the software system (e.g. new facilities, replacement of parts of the software code, move of the software to another platform). 77%³¹ of the supply of custom software sold in the market and 37% of the supply of packaged software sold in the market is treated as GFCF.

However, subcontracting of software services (custom software integrated in other software) is treated as intermediate consumption as well as expenditures on software to be used in production for less than one year as well as maintenance and repair of software and software purchased for embedding in or bundling with computers and equipment. 29%³¹ of the supply of packaged software is treated as private household consumption (2017).

The estimation of GFCF in own-account production of software is based on employment statistics by means of a supply side approach according to the OECD Handbook on Deriving Capital Measures of Intellectual Property Products 2010.

³¹ The percentages for GFCF and for custom software are the results for the year 2017. They do not remain the same and reflect the result of the balancing procedure.

The first step of the estimation is to identify occupations engaged in software production. For Austria the occupations 2512, 2511, 3512, 3511, 2521, 4132, 2522 (ISCO08) were identified (see Table 5.71). Adjustment factors³² are applied to estimate the time spent on software development. Non-wage costs and non-labour costs are added to the wage costs of software developers. In order to estimate GFCF of own-account software, software sold in the market is subtracted and a mark-up for net operating surplus or mixed income (except for non-market producers) is added.

Table 5.71: Production of software following the ISCO classification

ISCO08-Code	Profession
2512	Systems analysts
2511	Software developers
3512	Information and communications technology user support technicians
3511	Information and communications technology operations technicians
2521	Database designers and administrators
4132	Data entry clerks
2522	Systems administrators

Average wage costs of software developers are estimated by means of data for the determined ISCO occupations provided by Employment Statistics. Non-wage costs and non-labour costs are estimated using quotas derived from the software industry (NACE 62.01). The latter include also estimation for CFC.

In the industry NACE 62 most of the output is production of custom software and not included in the calculation of own account output. A small part (approx. 4% in 2017) of software production is assumed to be own account production (software originals, ...).

The estimation of GFCF of purchased software is derived from supply and use tables based mainly on SBS, BoP-Statistics and an estimation of the secondary production of software by non-software industries. In order to identify GFCF of purchased software in data on exports and imports, data from foreign trade statistics and foreign trade in services statistics are examined including data on computer services, royalties and license fees. Exports and imports of software are valued at the full value and not at the value of the carrier only.

³² "The Adjustment Factors for ISCO 08 for the time spent on software development are the following: 2512 (85%), 2511 (35%), 3512 (15%), 3513 (20%), 3511 (5%), 2521 (50%), 4132 (5%), 2522 (5%). Basically the adjustment factors for time spent on software development are taken from a UK ONS Survey (See OECD Handbook on IPPS, page 116). However, the UK ONS Survey published an estimation for occupations based on UK-SOC.

The results for UK SOC are, therefore, transformed into an estimation for ISCO 08. In two cases this was not possible and additional assumptions had to be made. In the case of ISCO 08 2512 "software developers" it was assumed that the time spent on software development should be between 100% and the 70% for UK SOC 2132 "software professionals". In the case of ISCO 2521 "Developers of Database developers and administrators" the factor was assumed to be 50% in the absence of any better information. The UK survey was conducted by Chesson, Adrian, Chamberlin, Graeme. 2006. Survey-based measures of software investment in the UK."

In contrast HFCE expenditure on software including games is made independently of the output estimates. The estimation is based on data from the HBS, that is organised every 5 years. In between data from retail trade statistics are used to do an Interpolation. However, in the end the results of the supply side approach and the demand side approach are reconciled using the instrument of the commodity flow as described in chapter 5.7.3.

Consumption of fixed capital on investment in software is included in the output of non-market producers.

5.10.3.8. **Capital formation in entertainment, literary and artistic originals**

In Austria, entertainment, literary and artistic originals are regulated by the "Urheberrechtsgesetz" (Copyright Act) which stipulates in §1(1) that works which are protected by the act are "original intellectual creations in the fields of literature, music, the fine arts and film".

Statistics Austria includes in originals the following categories: Literature, TV, films, as well as works by composers and musicians. Radio plays, photographs, images and maps and the fine arts are not included.

The items considered for GFCF in entertainment, literary or artistic originals meet the following general criteria:

- Coverage by copyright
- Original being the end product (primary artistic intent)
- Compliance with capitalisation criteria (life length of more than 1 year)
- Not covered elsewhere in national accounts (e.g. as software originals or valuables)

The following items are excluded from GFCF in originals:

- Sections and unedited shots of films (that do not satisfy the copyright criterion)
- TV and radio flow programmes (e.g. news and sports programmes, advertisement) (usually used for less than a year)
- Originals for newspaper and magazine articles (usually used for less than a year)
- Advertising jingles (usually used for less than a year)
- Technical and architectural drawings and prototypes (mostly not produced with primary artistic intent)
- Paintings, sculptures, antiques (recorded under valuables)

5.10.3.8.1. **Double-counting**

If a piece of music is used in a film, the payment for the so called synchronisation right is directly negotiated with the owner of the composition. On the other hand, the value of the original music (GFCF) is estimated from the royalties paid by copyright collecting agencies to the composer for the right to copy or broadcast the music. Since copyright collecting agencies are not involved in granting synchronisation rights, double counting cannot occur. This is also backed by the report of the task force on entertainment, literary and artistic originals, which states that "the use of royalties flows to

measure the original held by the performer and the original held by the composer involves a low risk of double-counting."

5.10.3.8.2. Valuation of originals

ESA 2010 proposes the use of the following methods to value originals:

- The price paid by the purchaser when it is sold,
- At a basic price for similar originals if it is not sold,
- The sum of its production costs plus a mark-up (except for non-market producers) for net operating surplus if it is not sold,
- The discounted value of expected receipts

This means that it is primarily the sales price of the original (if it is sold) which is to be used for the purposes of valuation. However, under the economic conditions in this branch it is by no means clear what is to be interpreted as the sale of an original. In accordance with §23(3) "*Urheberrechtsgesetz*" (copyright law), the rights cannot be transferred (only bequeathed). This regulation refers to personal copyright. However, material copyright certainly can be transferred and comprises the following exploitation rights:

- rights of reproduction
- distribution rights
- broadcasting rights
- performance rights

and the, economically less important, rights to payments such as the blank tape levy and payment for retransmission on cable networks.

Sale of the original comes closest to the sale of all exploitation rights (i.e. the granting of exclusive rights) both in economic terms and certainly for the purposes of the new ESA provisions. If the method of assessing sales proceeds is totally unsuitable, the second method for valuing the original, using comparable basic prices, can be applied. However, this approach can only be used for the industrial production of works of art (such as feature films and radio productions) because individual artists have no bookkeeping system by which basic prices could be determined.

The third assessment method, using the production cost, has the same weaknesses as the basic prices approach. Here again, bookkeeping data or similar methods of recording costs are required. In Austria TV and film originals are measured by production costs.

The majority of works of art can thus only be valued by the final method proposed by ESA 2010, namely valuation on the basis of the discounted net present value of future receipts from the economic exploitation of the original. This method is used in all cases where art is produced in non-industrial form and where the original is not sold for a single payment. However, future receipts have to be determined by means of estimates. In Austria this method is used in measuring of the values of literature and music (composers and musicians).

5.10.3.8.3. Depreciation rates

In Austria, consumption of fixed capital is calculated by the Perpetual Inventory Method (PIM). A geometrical depreciation model with a constant annual depreciation rate is used for all capital goods.

Concerning entertainment, literary and artistic originals depreciation is assumed at an annual rate of 0.3 which corresponds to an average service life of 5 years (by applying a declining-balance rate of 1.5). For details see chapter 4.12 (consumption of fixed capital).

Payments for licences to use entertainment, literary and artistic originals are recorded as sales and purchases of services (ESA 2010 §3.86).

5.10.3.8.4. Data and calculations

5.10.3.8.4.1 Literature

Since authors regularly assign the rights to economic exploitation of their works to publishers, they can, as a rule, be said to "sell" their originals. Originals must be recorded as assets of the authors who sell them to publishers as soon as they are completed. The proceeds from the sales of licences to use the work and the consumption of fixed capital on the originals are to be recorded in the publishers' production accounts.

Since neither a one-off sales price nor a comparable basic price or production costs can be used to value the original, the only option is to discount net present value of the artist's future receipts.

If we look at the sources of returns, it is primarily the publishers who are the most significant economic exploiters of literary art. Authors normally grant their publishers exclusive rights which are unlimited in space and time, which is quite similar to the sale of an original. In return the author is entitled to a share of between 5 and 10% of the net book price. For calculation purposes a share of 8% is assumed and recorded by the publisher as expenditure which is transferred to the author.

In order to determine the value of sales in the book trade the following calculation is made:

Table 5.72: Calculation of the share of book sales to be paid to the author

Book sales
- Book imports
+ Book exports
= Book sales of books published in Austria
x 8% share in sales for authors
= Share to be paid to authors

The second source of proceeds to authors is the literary company exploiting third party rights, "*Literar Mechana*". This company negotiates licences to use works for publishers and authors. In return, they transfer payments accruing from these rights to authors and publishers. Furthermore, the company exploiting third party rights must also make payments to foreign companies which are not to be included in the calculation. Due to data restrictions, these receipts used to be interpolated.

All other sources of receipts to authors, such as payments by radio companies and theatres to authors for literature not yet published (not even by theatre publishers) are not considered due to the lack of accurate data and the fact that they are economically insignificant.

However, capital formation does not only consist of the payments to authors in a year. Authors' income is composed of receipts on originals produced in the current year and in past years. Neither the publishers nor the companies exploiting third party rights keep records of which receipts accrue from which production years. However, in order to be able to capitalise the receipts, not only the future receipts have to be calculated, but also the share attributable to the current year.

Capital formation is calculated according to the German assessment model, which assumes that the net present value of royalty flows (I) depends on the payment of royalties (H) over a calendar year, the growth rate of royalties (g) and the interest rate (i), where g and i are calculated from a single year. The following formula is applied:

$$I=H*(1+g-i)$$

where

I = net present value of royalty flows / capital formation

H = payment of royalties

g = rate of increase of payment of royalties compared to previous year

i = Average government bond yields weighted by outstanding amounts (the value for 2017 was 0,63%)

In Austria, far less literature is produced than in Germany and for this reason there are only slight differences between royalties paid and capital formation. Table 5.73 shows the results of estimates of royalties paid to authors and the capital formation for 2017.

Table 5.73: Estimate of royalties paid to authors and capital formation, in million EUR, year 2017

Calculation of expected value of royalties (capital formation) for authors	
Discounted royalties paid by <i>Literar Mechana</i>	28
8% share of sales for authors	34
Total	62
Capital formation by authors	63

5.10.3.8.4.2 TV

Capital formation for TV consists of productions commissioned and own productions including a mark-up for operating surplus. The value of productions commissioned is taken from the annual report of the ORF (Austrian Broadcasting Corporation) and an estimation on own productions (used for more than one year) is provided directly by the "ORF". Radio is not included as entertainment originals because it does not satisfy the criterion of use for more than one year.

Table 5.74: Capital formation "ORF" and Austrian Private Broadcaster, in million EUR, year 2017

Capital formation ORF and Austrian Private Broadcaster	
Productions commissioned	64
Own productions	26
Capital formation ORF	90
Austrian Private Broadcaster	26
Capital formation TV total	116

5.10.3.8.4.3 Composers and musicians

For composers and musicians data are obtained from the companies exploiting third party rights in the same way as for authors. Data on payments to domestic beneficiaries, payments to foreign companies and payments received from foreign companies are provided by the two largest companies in Austria – "AKM" (the state-approved company for authors, composers and music publishers), "Austro Mechana" (a company for the administration and exploitation of mechanical/musical originals) and LSG (exploitation company for performers and producers of recording media and music videos). Capital formation is calculated similarly to the method used for literature originals by valuation on the basis of the discounted net present value of future receipts.

Table 5.75: Capital formation for composers and musicians, in million EUR, year 2017

Capital formation for composers and musicians	
Capital formation AKM, Austro Mechana and LSG	109

5.10.3.8.4.4 Films

In order to calculate the value of literary and artistic originals in the film industry, basic prices are used. Data are sourced from the association for film and music industry. Furthermore, an Austrian Private Broadcaster in ÖNACE 59 was assigned to this category. SBS (LSE) serves as data source.

Table 5.76: Capital formation films, in million EUR, year 2017

Capital formation films	
Austrian feature films (at least 79 minutes long)	31
Commercial, cultural, educational and teaching films (of which 50% have a service life of more than one year)	2
Austrian Private Broadcaster in ÖNACE 59	13
Capital formation	46

Capital formation for all categories of originals is shown in the following table:

Table 5.77: Capital formation of all categories, in million EUR, year 2017

Capital formation of all categories	
Literature	63
Composers and musicians	109
Films	46
TV	116
Total	334

5.10.4. Investor account

As described in chapter 5.10.1, supplementary to the calculations of gross fixed capital formation at product level based on the commodity flow model, additional information is used to verify and complete the calculations. Acquisitions less disposals of produced fixed assets by NACE sections are available from SBS if the NACE section is covered, otherwise from government statistics, or business reports. These data are not used to calculate the benchmarks of GFCF, they are the main source for the breakdown by industry.

GFCF data from business accounts do not fully meet the requirements of ESA 2010, since the recording principles are different. In business accounts GFCF is recorded when capitalized by the investor, whereas in national accounts capitalization occurs at the time of the ownership transfer. This may not be a problem for machines and motor vehicles, but for structures where the construction process lasts longer than a year.

Thus investor related business accounts data are mainly used for plausibility checks and to structure GFCF by industries. GFCF data by product are joined with investor data and adjusted in a balancing process.

5.11. *Changes in inventories*

In accordance with ESA 2010 (paragraph 3.146) changes in inventories record the value of the entries into inventories less the value of withdrawals (including recurrent losses). For most industries the data available for a reporting year are the book values for the stock of inventories at the end of the current year and the stock of inventories at the end of the previous year (= the stock of inventories at the beginning of the current year). In order to determine changes in inventories the difference between the book values of the opening and the final stock of inventories is adjusted for holding gains/losses.

The Austrian business accounting rules require either a physical stock-taking of inventories or the application of statistical methods the results of which are equivalent to physical stock-taking. The statistical methods applied have to be assessed regularly by actual physical stock-taking. Thus, the survey data based on enterprise book-keeping information take into account recurrent losses.

The main sources of data for estimating changes in inventory are the 1995 non-agricultural business census and annual Structural Business Statistics. The inventories at the end of the reporting year and at the end of the previous year are surveyed, the ending stock for the previous year being recorded as the opening stock of the reporting year. A distinction is made between five different types of inventories:

- Fuels
- Other materials and supplies
- Goods for resale
- Work in progress
- Finished goods (from own production)

For industries covered by Structural Business Statistics (ÖNACE divisions 06 to 82 and 95) annual information on the book values of inventories is available from 1997 onwards. However, detailed information on the type of inventories is provided by the structural business statistics only at enterprise level. Enterprise data therefore form the basis for the breakdown by types of inventories at establishment level. The major benchmarks for these estimates are again the 1995 non-agricultural business census and Structural Business Statistics which is processed in detail. In ÖNACE divisions 85 to 93 and 96, which are not covered by Structural Business Statistics, inventories surveyed in the 1995 non-agricultural business census are extrapolated which are assessed in the annual supply and use tables (see for example chapter 3.23).

There is no information on inventories for ÖNACE division 64 (Financial intermediation) and 65 (Insurance), since inventories were not surveyed for these activities in the 1995 non-agricultural business census, nor are they surveyed in the annual Structural Business Statistics. The divisions 84 (Public administration and defence, social security) and 94 (Activities of membership organisations) are outside the scope of both the 1995 non-agricultural business census and the Structural Business Statistics, and, hence, inventories are not recorded, either. Nevertheless, inventories in these activities are considered negligible.

The estimates for the changes in inventories made in the production accounts to derive output and intermediate consumption from sales and purchases are recorded as expenditures of the same amounts. Hence, there is full consistency and no separate methods (e.g. residuals) need to be applied for estimating the change in inventories.

Inventories/changes in inventories in agriculture and forestry are based on technical assumptions of the proportion of production which is in stock at the end of the year or specific information on stored quantities (wood, fire wood, wine, etc.), which are valued at suitable prices. Changes in the inventories of animals are determined by animal censuses and changes in price and recorded either as changes in inventories (animals for slaughter, including poultry) or gross fixed capital formation (animals used repeatedly and continuously for production of e.g. milk, calves, piglets).

Unfinished buildings are recorded as fixed capital formation since the entries can be based on sales contracts or partial payments for interim accounts which can be capitalised as fixed assets (i.e. the buyer is known).

The stocks of inventories are deflated by type of inventory and activity (at previous year's prices) using specific price indices (for energy, raw materials, goods for resale, work in progress and finished products). It is therefore ensured that valuation is carried out in accordance with ESA, i.e. valuation is consistent with that of output and intermediate consumption. Also, work-in-progress is valued in the same way as finished goods (at current basic prices). The actual inventories at the end of the previous year (beginning of the reporting year) and the end of the reporting year are used to determine the actual change by industry and type of inventory which is adjusted for inflation using the annual average price index in order to calculate the nominal change in inventories. The difference between changes in inventories according to the book-keeping accounts and the nominal change in inventories is used to adjust the outputs recorded (output inventory) and intermediate consumption (input inventory), eliminating holding gains and losses.

The nominal change in inventories is therefore determined as follows for each type of inventory:

$$\Delta L_{nom} = \left(\frac{bwL_t}{\phi pi_t} - \frac{bwL_{t-1}}{\phi pi_{t-1}} \right) * \phi pi_t = bwL_t - bwL_{t-1} * \frac{\phi pi_t}{\phi pi_{t-1}}$$

bwL = book value of the closing stock of inventories

ϕpi = annual average price index weighted by product

The holding gains and losses as the difference between the book value of the change in inventories and the nominal change in inventories can be derived as follows:

$$(bwL_t - bwL_{t-1}) - \left(bwL_t - bwL_{t-1} * \frac{\phi pi_t}{\phi pi_{t-1}} \right) = bwL_{t-1} * \frac{\phi pi_t}{\phi pi_{t-1}} - bwL_{t-1}$$

Hence, holding gains or losses are equal to the difference between the previous year's book value of the closing stock of inventories inflated by an average annual price index for the current year and the original book value.

This procedure is also used for inventories in goods for resale. For the purposes of calculating the trade margin this means:

$$\text{trade margin} = \text{revenue from goods for resale} - \text{input of goods for resale}$$

where

$$\text{input of goods for resale} = \text{purchases of goods for resale} - \text{nominal change in inventories of goods for resale}$$

and

$$\text{nominal change in inventories of goods for resale} = \text{the book value of changes in inventories of goods for resale} \pm \text{holding gains/losses.}$$

Example ÖNACE 471

For ÖNACE 47.1 (Retail sale in non-specialised stores), the numerical adjustment for change in inventories of goods for resale in 2017 is as follows:

$$bwL_{2016} = \text{EUR } 1,097 \text{ million}$$

$$bwL_{2017} = \text{EUR } 1,115 \text{ million}$$

$$\varnothing pi_{2016} = 100.8$$

$$\varnothing pi_{2017} = 102.4$$

$$\text{Holding gains in million EUR} = (1,115 - 1,097) - \left(1,115 - 1,097 * \frac{102.4}{100.8}\right) = \left(1,097 * \frac{102.4}{100.8} - 1,097\right) = 17.41$$

The adjustment for holding gains and losses for the entire economy which is carried out separately for output and intermediate consumption produces the following result for 2017:

Table 5.78: Adjustment of output and intermediate consumption for holding gains and losses, total economy, in million EUR, year 2017*

Total economy	
Output with book value of change in inventory	680,739
- Holding gains on semi-finished product inventories	-555
- Holding gains on finished product inventories	-196
- Holding gains on goods for resale inventories	-552
= Output, adjusted	679,436
Intermediate consumption with the book value of change in inventory	349,497
+ Holding gains on energy inventories	21
+ Holding gains on material inventories	501
= Intermediate consumption, adjusted	350,020
Gross value added, unadjusted	331,242
Gross value added, adjusted	329,417
- Compensation of employees	176,086
- Other taxes less other subsidies on production	46,587
- Consumption of fixed capital	66,243
= Net operating surplus and net mixed income, unadjusted	42,326
= Net operating surplus and net mixed income, adjusted	40,500

* including rounding errors

Table 5.79: Changes in inventories by ÖNACE division, in million EUR, year 2017*

ÖNACE	P52	ÖNACE	P52	ÖNACE	P52	ÖNACE	P52
01	60	26	1	52	-22	79	-6.82
02	43	27	254	53	-1	80-82	18.882
03	-9	28	141	55-56	-42	84	14.28
05-07	-6	28	347	58	3	85	2.216
08-09	112	29	67	59	0	86	6.192
10	5	30	36	60	0	87-88	0.159
11-12	0	32	-17	61	-27	90	-2.632
13	17	33	48	62-63	-125	91	0.713
14	3	35	71	64	-6	92	-0.017
15	-17	36	0	65	-	93	0.923
16	19	37-39	-5	66	-	94	0.105
17	4	41	28	68	147	95	0.657
18	3	42	-12	69	20	96	0.555
19	-117	43	290	70	33	97	-
20	67	45	500	71	14	TOTAL	2,607
21	62	46	323	72	41		
22	40	47	-59	73	3		
23	27	49	9	74-75	9		
24	21	50	0	77	85		
25	67	51	0	78	17		

* including rounding errors

Table 5.80: Changes in inventories by category, in million EUR, year 2017

	Basis for NA Figures					Adjustments					Final estimate
	Surveys & Censuses	Administrative Records	Combined Data	Total Extrapolation & Models	Total sources	Data validation	Conceptual	Exhaustiveness	Balancing	Total adjustments	
							Holding gains and losses	N4+N5			
Changes in inventories		45	5,009	2	5,055	-805	-1,826	98	84	-2,447	2,607
Materials and supplies		45	824	-1	868	-16	-523	7	0	-532	336
Work in-progress			2,274	0	2,274	-758	-555	86	84	-1,142	1,131
Finished goods			405	0	405	63	-196	3	0	-129	276
Goods for resale			1,506	2	1,508	-94	-552	2	0	-644	864

5.12. Acquisitions less disposals of valuables

Valuables are non-financial goods that are not used primarily for production or consumption, do not deteriorate (physically) over time under normal conditions and are acquired and held primarily as

stores of value. These include precious stones and metals such as gold and silver bars and coins, antiques and other art objects, such as paintings, sculptures and other valuables (see ESA 2010, Annex 7.1).

Table 5.81: Acquisitions less disposals of valuables by different categories (AN.131 - AN.133), in million EUR, year 2017

Valuables (AN.13)	2017
Precious metals and stones (AN.131)	1,360.51
Antiques and other art objects (AN.132)	221.98
Other valuables (AN.133)	278.69
Acquisitions less disposal of valuables	1,861.18

Valuables are calculated on the basis of goods, which are allocated to activities in the balancing process of supply and use tables.

The estimation of gold and silver bars and coins, gold jewellery and pearl jewellery or pearls is based on the Commodity Flow approach and calculated with the Commodity Flow application described in chapter 5.7.3.2. The Commodity Flow calculation also contains acquisitions less disposals of museum collections, which mainly consist of restitutions. For acquisitions less disposals of works of art and antiques Short Term Statistics, Structural Business Statistics, Turnover Tax Statistics and ITGS are used as data sources.

Exhaustiveness is ensured for those valuables which are calculated using the Commodity Flow application, see chapter 5.7.3. Because the Commodity Flow approach uses domestically available supply (domestic production plus imports minus exports) as a starting point, double-counting and under-reporting is avoided. As there is no commodity exchange in Austria, transactions in precious stones and metals traded on international bullion markets are not included in the calculations. Thus physical cross-border transactions between resident and non-resident enterprises regarding non-monetary gold and other precious metals are captured by ITGS (see chapter 5.13 and 5.15), whereas cross-border movement of monetary gold is not included in ROW, because no change of ownership takes place. Potential acquisitions and disposals of precious stones and metals abroad by resident units are surveyed by ITSS under merchandising activities.

Table 5.82: Acquisitions less disposals of valuables, by categories, methods and sources, in million EUR, year 2017

Categories	Values	Methods and data sources
Gold bars	600	Commodity Flow
Gold coins	760	Commodity Flow
Art objects	143	Structural business statistics, turnover tax statistics, ITGS
Trade margins on valuables	46	Structural business statistics
Jewellery of precious stones and pearls	279	Commodity Flow
Antiques	33	Structural business statistics, short term statistics, turnover tax statistics, ITGS
Total	1,861	

5.13. Exports of goods

The main data source for compiling the item exports of goods is the ITGS (Intrastat and Extrastat), where goods are valued on a FOB (free on board) basis. The ITGS is described in detail in chapter 10.3.2.1. Applied methods for estimating exports (and imports) regarding unit non-response can be found under the subchapter “Methods used to impute for missing data” and for transactions below the threshold under the subchapter “Gap estimates for data below the assimilation threshold”. ITGS also includes exports (and imports) of non-monetary gold and exports (and imports) of software products are reported as the total value of the data carrier and the license fee that are also used for national accounts purposes where exports (and imports) of software products is identified and used.

Transactions between affiliated enterprises according to §3.163 of ESA 2010 are also included in exports (and imports) of goods. For all reported transactions in ITGS between affiliated enterprises a change in economic ownership is implied as it is presumed that the receiving units are actual responsible for crucial price and supply decisions.

Transactions regarding goods produced by resident units operating in international waters that are directly sold to non-residents in foreign countries (§3.164a) are considered to be not relevant as Austria is a landlocked country and has therefore no fishing fleet, any oil or gas platforms in the north sea.

Goods according to transportation equipment or other movable equipment not tied to a fixed location (§3.164b) are also included in Austrian exports of goods as in the context of reconciliation of sources and supply use balancing ITGS data are compared and analysed at product level with information at firm level from PRODCOM statistics, Structural Business Statistics, VAT statistics and individual business reports. In the case of discrepancies between ITGS values and information from these complementary sources, because e.g. transportation equipment or other moveable goods are being sold to non-residents without a physical border crossing and are therefore not reported in ITGS, ITGS values are adjusted to the more plausible figures from the complementary sources.

Transactions according to goods after changing ownership, which are lost or destroyed before they have crossed the frontier border of the exporting country (§3.164c) are part of Austrian exports of goods as in the context of reconciliation of sources and supply use balancing ITGS data are compared and analysed at product level with information at firm level from PRODCOM statistics, Structural Business Statistics, VAT statistics and individual business reports. In the case of discrepancies between ITGS values and information from these complementary sources, because e.g. goods that are being sold to non-residents are lost or destroyed before crossing the Austrian border and are therefore not reported in ITGS, ITGS values are adjusted to the more plausible figures from the complementary sources.

For capturing transactions that are below the threshold mentioned in §3.165I a summary of the applied ITGS estimation model for exports and imports of goods within the EU (Intrastat) can be found in chapter 10.3.2.1. For compiling exports (and imports) of goods with non-EU countries custom data (Extrastat) are used where no additional estimates for transactions that are below the threshold is

necessary. Cross border transactions noted in §3.165l that are related to gifts (banknotes in envelopes) are being recorded under remittances in the secondary income account.

According to §3.166f exported (and imported) goods on consignment are responsible only for a very small fraction of total ITGS values (137.051 Mio. €, 142.271 Mio. €) respectively of goods exports (and imports) according to ESA 2010 (140.060 Mio. €, 138.912 Mio. €). As the corresponding value for freight insurance, that is charged by insurance companies and used for the CIF/FOB adjustment is around 0,05% of the total exported and imported goods value, it can be assumed that overall considerably less than 0,05% of the total value of exported and imported goods are actual being destroyed. Therefore, the whole value of exported or imported goods on consignment that are being destroyed after crossing the border is negligible for Austria. In order to obtain exports of goods according to ESA 2010 several additions and adjustments to the ITGS have to be made. Under ESA 2010 rules transactions involving processing as well as maintenance and repair work are no longer part of exports of goods. In ITGS goods sent abroad for processing have two distinctive transaction codes³³ and can therefore be exactly identified and excluded. To ensure that all relevant transactions regarding processing activities are being captured a comprehensive check is being carried out on a quarterly basis whether all enterprises that report cross border transactions regarding processing of goods in ITGS are also reporting the corresponding received or paid processing fees at the quarterly cross border services survey among non-financial corporations and vice versa. The received fees resulting from processing and also maintenance activities are recorded under exports of services. Table 5.83 shows the corresponding adjustments and additions to compile exports of goods according to ESA 2010 and Table 5.84 displays intra-EU and extra-EU values for exports of goods:

Table 5.83: Exports of goods according to ESA 2010, in million EUR

Transaction	
Exports of goods in accordance with ITGS including net exports of goods under merchanting and excluding goods for processing	140,870
- Corrections of ITGS concerning non- resident units (VAT-trader)	-9,753
+ Exports of goods without crossing the border	9,054
+/- Supply use corrections	-112
= Exports of goods according to ESA 2010	140,060

Table 5.84: Intra-EU and extra-EU values for exports of goods according to ESA 2010, in million EUR, year 2017

Transaction	
Intra-EU exports of goods	105,379
Extra-EU exports of goods	34,681
Total exports of goods	140,060

In order to validate data and ensure exhaustiveness, bilateral asymmetries in foreign trade data are also analysed.

³³ Type of transaction:

4 exports and imports of goods for processing

5 exports and imports of goods after processing

5.13.1. Net exports of goods under merchanting

According to ESA 2010 merchanting has to be recorded as net exports of goods and is defined as the purchase of goods by a resident (of the compiling economy) from a non-resident, combined with the subsequent resale of the same goods to another non-resident without the goods being present in the compiling economy. Therefore, merchanting transactions are not included in ITGS data as ITGS conceptually only capture transactions related to goods that cross the border physically. The item "net exports of goods under merchanting" represents the difference between sales over purchases of goods for merchanting. This item includes merchants' margins, holding gains and losses, and changes in inventories of goods under merchanting.

Merchanting is identified through inconsistencies between SBS, Company Reports and Balance of Payments Statistics on a company level. Any suspected case is reported to the experts in Business Statistics, who contact the MNE in order to get a complete picture of the arrangement in question and if necessary, include them in the survey of cross-border services. As a result, the transactions regarding merchanting activities are mainly obtained by surveying relevant non-financial corporations on a quarterly basis as part of the survey on cross-border services.

5.13.2. Corrections of ITGS concerning non-resident units (VAT-traders)

ITGS only record goods that are physically crossing the border, regardless of whether a change of ownership takes place or not. Therefore, ITGS have to be adjusted for those transactions that do not involve resident units. This treatment excludes all transactions without change of ownership to a resident unit. Only those transactions by so-called VAT traders are included that can be identified in VAT statistics as sales to resident units (=imports to resident units) and purchases from resident units (=exports by resident units).

The identification of non-resident units in the Business Registers is obtained by using a decision tree that incorporates the criteria in BPM6 on identifying non-resident companies (BPM6 §4.113 - §4.115, §4.134, §4.135) using all accessible information in Business Registers and across different statistical data sources.

5.13.3. Exports of goods without crossing the border

For goods exports (and imports) that do not physically cross the Austrian border, another addition to the ITGS is necessary. Since ITGS only include transactions of goods that physically cross the Austrian border, all transactions of goods where a change of ownership between a resident and a non-resident takes place outside of Austria are not captured. This occurs whenever processing of goods (that are owned by a resident) takes place outside of Austria and the processed goods are not resold in Austria or the goods (that are owned by a resident) used for processing outside Austria are also bought outside of Austria. In these two cases the corresponding values for exports of goods (reselling the processed goods outside Austria) or imports of goods (buying the goods that are being processed outside Austria) have to be added to the total of exports of goods (and imports of goods).

In order to make sure that such global production arrangements are properly identified and accounted for, a regular exchange of information takes place between experts from Business Statistics, National Accounts and Financial Accounts including experts in profiling and classifications. Special cases of global production arrangements are discussed in detail and if necessary the Multinational Enterprises involved are contacted directly.

In general, global production arrangements are identified in the course of plausibility checks and consistency checks between different data sources. In the case of inconsistencies or peculiar patterns in data sources, the units will be investigated in detail on the basis of company reports, websites and media reports. Finally, direct contact is established via the department of Business Statistics. The arrangements of exports of goods without crossing the border can be identified when units report exports or imports of services related to goods for processing in balance of payments statistics.

5.13.4. Balancing adjustments in the supply and use tables

In the context of the supply/use balancing process ITGS data are validated at the product level taking into account also firm level information stemming from PRODCOM statistics, Structural Business Statistics, VAT statistics and individual business reports. In the case of large discrepancies between supply and use of goods ITGS are corrected according to information from these complementary sources, whenever results from trade statistics seem to be implausible.

5.14. Exports of services

Values for exports of services are compiled according to BPM6/ESA 2010 rules and are adopted without any further methodological adjustments from balance of payments statistics. Chapter 10.3.2.2 provides information regarding the balance of payments statistics and gives an overview of the various surveys and sources that are needed to compile exports of services according to BPM6/ESA 2010.

Table 5.85 gives an overview of the main items regarding exports of services that are compiled for balance of payments statistics including their numerical values for 2017. Table 5.86 shows intra-EU and extra-EU values for exports of services:

Table 5.85: Values for main items of exports of services, in million EUR, year 2017

Transaction	
Processing services on physical inputs owned by others	1,526
Maintenance and repair services not included elsewhere	756
Transport	13,998
Travel	18,112
Construction	778
Insurance and pension services	618
Financial services	2,436
Charges for the use of intellectual property not included elsewhere	1,140
Telecommunications, computer, and information services	5,766
Other business services	13,369
Personal, cultural, and recreational services	585
Government goods and services not included elsewhere	502
Total exports of services	59,585

Table 5.86: Intra-EU and extra-EU values for exports of services according to ESA 2010, in million EUR, year 2017

Transaction	
Intra-EU exports of services	45,830
Extra-EU exports of services	13,755
Total exports of services	59,585

5.15. Imports of goods

Like for exports of goods the main source for compiling imports of goods is foreign trade (Intrastat and Extrastat) statistics, where goods are valued on a CIF (cost insurance freight) basis. Again, in order to obtain imports of goods according to ESA 2010 rules several additions and adjustments to ITGS have to be made as described in chapter 5.13.

Table 5.87 shows the corresponding adjustments and additions to compile imports of goods according to ESA 2010 and Table 5.88 displays intra-EU and extra-EU values for imports of goods:

Table 5.87: Imports of goods according to ESA 2010, in million EUR, year 2017

Transaction	
Imports of goods according to ITGS including adjustments for CIF/FOB and for paid taxes on imports at EU external borders and excluding goods for processing	140,445
+ Illegal imports	231
- Corrections of ITGS concerning non- resident units (VAT-traders)	-5,726
+ Imports of goods without crossing the border	4,470
+/- Supply use corrections	-509
= Imports of goods according to ESA 2010	138,912

Table 5.88: Intra-EU and extra-EU values for imports of goods according to ESA 2010, in million EUR, year 2017

Transaction	
Intra-EU imports of goods	104,602
Extra-EU imports of goods	34,309
Total imports of goods	138,912

In order to validate data and ensure exhaustiveness, bilateral asymmetries in foreign trade data are also analysed.

5.15.1. CIF/FOB adjustment

According to the definition the difference between the CIF value and the FOB value is constituted by the aggregate cost of all freight, insurance, and other charges incurred in transporting merchandise from the border of the exporting country to the national (Austrian) border. That implies that imports from neighbouring countries are not affected by this adjustment, because the border of the exporting country equals the national border and so the CIF value equals the FOB value.

The calculation of the CIF/FOB adjustment is carried out for each mode of transport separately by using a "volume-freight rate method". This approach consists of the costs of transport as a product of the trade volume, the distance and the according freight rates, and the transport insurance. The costs of transport and the transport insurance then add up to the final total value of the CIF/FOB adjustment.

Two cases have to be distinguished when the import of goods in a CIF valuation is adjusted to FOB valuation:

Transportation of imported goods is carried out by a domestic carrier. This implies a CIF/FOB adjustment where the imports of goods and exports of services are reduced by the same amount. So the total imports and the total exports are reduced by the same amount and drop in the level.

Transportation of imported goods is carried out by a foreign carrier. This entails a CIF/FOB transfer from imports of goods to imports of services, where the total imports remain at the same level.

The total value of the CIF/FOB adjustment is deducted from the imports of goods. The contained transportation part of the domestic carriers is deducted from the exports of services and the part of foreign carriers is added to the imports of services both according to the mode of transport and insurance. Information about the share in percent of the nationality of the carrier is gained from the Transport Statistics. Values for freight rates and insurance rates are updated annually.

5.15.2. Adjustments for paid taxes on imports at EU external borders

As the internal European market constitutes a customs union, customs fees on imports from non-EU countries may be charged by the member state at the EU external border or by the member state of destination. Hence, it is necessary to estimate the value of customs fees levied at the non-Austrian external border of the EU which is carried by Austrian importers, and to deduct this amount from the imports of goods recorded in ITGS. These estimates are performed on the basis of ITGS: The volume of domestic imports is divided into direct imports and imports via another EU member state. In the case of direct imports, any customs fees are paid directly in Austria. In the case of imports via another EU member state, any customs fees are paid on declaration at the EU external border in the other member state.

For example: Bananas originating in Guatemala are cleared through customs in Rotterdam and sold in Austria. In this example, Guatemala is the country of origin and the Netherlands are the country of consignment.

To calculate the value for customs fees paid at EU external borders, the relation between imports via another EU member state and direct imports to Austria is translated to Austria's customs revenues as disclosed in the final budget account. The resulting amount is deducted from imports of goods and additionally recorded in primary income accounts on the debit side.

5.15.3. Illegal imports

Imports of illegal goods such as narcotics or cigarettes smuggled from abroad are not captured by ITGS and are estimated annually. These estimates are based on a demand-side approach and on various assumptions.

Regarding the estimation of smuggled cigarettes the micro census concerning the state of public health provides data on the number of smokers and on their smoking habits. Based on this

information, it is possible to estimate the theoretical overall demand for cigarettes in Austria, which is then compared with the official sales figures. The resulting difference is assumed to be the amount of cigarettes not purchased and taxed officially in Austria. Deducting the value of cigarettes imported directly by households as part of their travel expenditure yields the number of cigarettes imported illegally. The value of smuggled cigarettes can be obtained by multiplying the volume by the corresponding price.

Based on information on the number of Austrian drug users and their habits (drug reports of the Health Ministry and the Interior Ministry) and on information on import prices for various drugs (UN World Drug Report) the imported value can be derived by multiplying the demand volume by the corresponding drug prices.

5.15.4. Corrections of ITGS concerning non- resident units (VAT-traders)

In analogy to exports of goods, a correction of ITGS regarding transactions of non-residents units (VAT-traders) is made as described above.

5.15.5. Imports of goods without crossing the border

In analogy to exports of goods an adjustment of ITGS for imports of goods that do not physically cross the Austrian border is made as described above.

5.15.6. Balancing adjustments in the supply and use tables

In analogy to the case of exports of goods, imports of goods are validated and corrected using a supply use framework, as described above.

5.16. Imports of services

Values for imports of services are compiled according to BPM6/ESA 2010 rules and are adopted without any further methodological adjustments from balance of payments statistics. Chapter 10.3.2.2 provides information regarding the balance of payments statistics and gives an overview of the various surveys and sources that are needed to compile imports of services according to BPM6/ESA 2010. Table 5.89 gives an overview of the main items regarding imports of services that are compiled for balance of payments statistics including their numerical values and Table 5.90 shows intra-EU and extra-EU values for imports of services:

Table 5.89: Values for main items of imports of services, in million EUR, year 2017

Transaction	
Processing services on physical inputs owned by others	2,071
Maintenance and repair services not included elsewhere	707
Transport	14,570
Travel	9,515
Construction	659
Insurance and pension services	644
Financial services	1,966
Charges for the use of intellectual property not included elsewhere	1,468
Telecommunications, computer, and information services	4,460
Other business services	11,669
Personal, cultural, and recreational services	1,218
Government goods and services not included elsewhere	100
Total imports of services	49,048

Table 5.90: Intra-EU and extra-EU values for imports of services according to ESA 2010, in million EUR, year 2017

Transaction	
Intra-EU imports of services	38,869
Extra-EU imports of services	10,179
Total imports of services	49,048

5.17. Conceptual adjustments of imports and exports of services regarding consumption of private households

To fulfil the requirements of ESA 2010 concerning the transition to the national concept of household final consumption expenditure, additional adjustments have to be carried out in the rest of the world account with regard to consumption expenditure by resident households abroad and non-resident households in Austria. In order to obtain exhaustive final consumption expenditure by households according to the national concept it is necessary to adjust the consumption expenditure by non-resident private households in Austria and by resident private households as shown in the following

tables. The derivations take into account international passenger transport services, as well as services in travel and other travel related transactions that have to be treated as intermediate services.

All business related expenditures by business travellers are recorded as intermediate consumption whereas non-business related expenditures are treated as final consumption by non-residents in Austria or final consumption by residents abroad. Information for deriving the corresponding values shown in Table 5.91 and Table 5.92 in order to obtain consumption of non-residents in Austria and consumption of residents abroad methodological correctly are taken from the survey regarding services in travel (chapter 10.3.2.2.3 of the inventory) and from the quarterly cross border services survey among non-financial corporations (chapter 10.3.2.2.1 of the inventory).

Table 5.91: Consumption of non-residents in Austria, in million EUR, year 2017

Consumption of non-residents in Austria	
Exports of passenger transport services	1,843
- IATA-payments between domestic and foreign airlines	16
- Payments between domestic and foreign train companies	201
- Payments regarding exported flight ambulance services	44
- Intermediate consumption of exported transport services for package tours	278
- Exported transport services for business travels	371
= Consumption of exported passenger transport services	904
+ Exported services in travel	15,672
- Intermediate consumption of exported travel services for package tours	1,096
+ Expenditure by non-resident seasonal and border workers	529
+ Expenditure by non-resident business travelers	284
= Consumption of exported services in travel	15,389
Total consumption of non-residents in Austria	16,293

Table 5.92: Consumption of residents abroad, in million EUR, year 2017

Consumption of residents abroad	
Imports of passenger transport services	1,863
- Refueling services for domestic airlines abroad	169
- IATA-payments between domestic and foreign airlines	16
- Payments between domestic and foreign train companies	31
- Payments between domestic and foreign bus companies	135
- Payments between domestic and foreign shipping companies	11
- Intermediate consumption of imported transport services for package tours	7
- Imported transport services for business travels	127
= Consumption of imported passenger transport services	435
+ Imported services in travel	933
- Intermediate consumption of imported travel services for package tours	8,047
+ Expenditure by resident seasonal and border workers	799
+ Expenditure by resident business travelers	184
= Consumption of imported services in travel	191
Total consumption of residents abroad	7,623

6. The balancing or integration procedure and validation of the results

6.0. Introduction

6.0.1. General remarks

Supply and use tables are used to validate the results of the national accounts. In the supply- and use balancing process the preliminary results of the GDP calculations from the production, expenditure and income approaches are confronted and reconciled. A single estimate of GDP is entirely reached by supply and use balancing. There is no alignment to a dominant GDP approach.

The production and expenditure approach are calculated independently, for the income approach compensation of employees, taxes/subsidies on production and consumption of fixed capital are calculated directly while operating surplus/mixed income is derived as a residual (see details in chapters 3, 4 and 5).

6.0.2. Changes to components of GDP and to activities

In the two following tables the changes to GDP by components and the changes to activities are depicted. The PRE column contains the preliminary results while the POST column shows the final results of the balancing process. The changes made to the initial estimations are divided in two columns: IO Data validation, where changes after analysis of data on the firm level are depicted and IO Balancing, where all other adjustment are summarised. The values of the POST system are fully balanced which is also confirmed by the 0 entry in the row Statistical discrepancy.

6.0.2.1. Changes to the components of GDP in the balancing process

Table 6.1: Changes to components of GDP, in million EUR, year 2017

ESA	CAT	PRE	IO DATA VAL	IO BALANCING	POST
B1*g	GDP	370,623	92	-1,353	369,362
B2n/B3n	Operating surplus	81,677	92	-1,353	80,416
D1	Compensation of employees	176,086			176,086
D21	Taxes on products	40,654			40,654
D29	Taxes on production	12,141			12,141
D31	Subsidies on products	-709			-709
D39	Subsidies on production	-5,499			-5,499
P51c	Consumption of fixed capital	66,273			66,273
P3	Consumption of households, domestic concept	193,579		173	193,752
P3	Consumption of government	71,985			71,985
P3	Consumption if NPISH	7,933		-1	7,932
P51g	GFCF cultivated biological resources	130			130
P51g	GFCF means of transport	8,720		-192	8,528
P51g	GFCF machinery and weapons	20,938		340	21,279
P51g	GFCF dwellings	16,557			16,557
P51g	GFCF other construction	22,534		-26	22,508
P51g	GFCF intellectual property rights	18,159		115	18,274
P52	Changes in inventories	2,525		84	2,608
P53	Aquisition less disposal of valuables	1,877		-15	1,861
P61	Export of goods, FOB	140,346	-288	2	140,060
P62	Export of services*	43,236	64	75	43,375
P71	Import of goods, CIF	140,661	-13		140,668
P72	Import of services**	38,836	-104	106	38,838
	Statistical discrepancy	1,602			0

*Excl. purchases on the domestic territory by non-residents, incl. CIF/FOB adjustment for resident carriers

**Excl. direct purchases abroad by residents and CIF/FOB adjustment for non-resident carriers

6.0.2.2. Changes to activities in the balancing process

Table 6.2: Changes to activities, value added, in million EUR, year 2017

ESA	NACE	PRE	IO DATA VAL	IO BALANCING	POST
B1	A	4,456	0	16	4,471
B1	B	1,085	92	11	1,188
B1	C	62,303	0	-92	62,211
B1	D	6,246	0	-356	5,890
B1	E	3,424	0	0	3,424
B1	F	21,232	0	-84	21,148
B1	G	38,423	0	-555	37,868
B1	H	18,734	0	-153	18,581
B1	I	17,283	0	-57	17,225
B1	J	11,765	0	-42	11,723
B1	K	13,725	0	19	13,744
B1	L	32,641	0	49	32,691
B1	<i>L Imp Rents</i>	<i>17,887</i>	<i>0</i>	<i>-1</i>	<i>17,886</i>
B1	M	17,639	0	10	17,650
B1	N	14,684	0	-74	14,610
B1	O	16,644	0	0	16,644
B1	P	17,805	0	-6	17,798
B1	Q	23,195	0	1	23,196
B1	R	4,219	0	-35	4,184
B1	S	5,003	0	-7	4,996
B1	T	171	0	2	173

Table 6.1 depicts the changes in the balancing process for the year 2017 made to the components of GDP according to the production, income and expenditure approach.

It can be seen that there were substantial adjustments of GDP according to the production (and income) approach. Also the figures of Table 6.2 which show the changes to value added in the various NACE sections confirms this picture. Adjustments can be found in most of the industries, but the really substantial changes were made in trade and energy supply.

The largest adjustments on the expenditure side can be found in foreign trade, GFCF and household expenditure. Compared to the adjustments on the production side, these changes were rather small.

Details of the compilation and balancing process in general and the major changes made in the various years are discussed in detail in the following chapters.

6.0.3. Values of GDP before and after balancing

Table 6.3: GDP before and after balancing, in million EUR

YEARS	ESA	APPROACH	PRE	POST	CHANGES
2013	GDP	Production	325,156	322,540	-2,616
2013	GDP	Expenditure	320,758	322,540	1,782
2013	GDP	Income	325,156	322,540	-2,616
2014	GDP	Production	331,814	333,147	1,333
2014	GDP	Expenditure	331,273	333,147	1,874
2014	GDP	Income	331,814	333,147	1,333
2015	GDP	Production	345,637	344,272	-1,365
2015	GDP	Expenditure	344,089	344,272	183
2015	GDP	Income	345,637	344,272	-1,365
2016	GDP	Production	357,589	357,609	20
2016	GDP	Expenditure	355,844	357,609	1,765
2016	GDP	Income	357,589	357,609	20
2017	GDP	Production	370,623	369,362	-1,261
2017	GDP	Expenditure	369,022	369,362	340
2017	GDP	Income	370,623	369,362	-1,261

Table 6.3 depicts the changes in the balancing process according to the three approaches for calculating GDP for the years 2013-2017. As can be seen the total changes to the income approach normally correspond to the changes of the production approach since there are in most years no changes made to compensation of employees and taxes/subsidies on production. Consumption of fixed capital is of course recalculated after changes were made to gross fixed capital, but these adjustments are counterbalanced by the recalculation of operating surplus/mixed income.

As a general rule the results of the production approach are considered as more reliable than the results of the expenditure approach. It can easily be seen, though, that in many years also the results of the production approach had to be adjusted because of a large variety of inconsistencies discovered. Examples for corrections to the production approach are presented in the discussion of the results in Table 6.4.

The compilation of the expenditure approach is based to a large extent on commodity-flow-calculations. Results for household consumption from annual National Accounts based on the commodity-flow-calculations are directly transferred into the supply-use accounts and in a further step adjusted in the balancing process when necessary.

In the supply and use tables gross fixed capital formation was in a first step calculated on the basis of the institutional values by industries reported in Structural Business Statistics and only in a second step confronted with the results of the commodity-flow-calculations and subsequently balanced. This was in the past a cause for relatively large balancing adjustments which had to be made to gross fixed capital formation. To reconcile the differences between the institutional values and the commodity-flow results at an earlier stage a reconciliation step has been introduced already in annual National

Accounts. This procedure improved the quality of the initial estimations and reduced the balancing needs for gross fixed capital formation considerably in recent years.

Corrections to imports and exports were made in the past on an ad hoc basis depending on the findings in the balancing process. In the light of the international discussions on the treatment of non-resident units registered for VAT only a correction step for the transactions of these units with other non-residents was introduced at a very early stage of the annual National Accounts compilation process. This improved the quality of the initial estimations very much and reduced the need for supply-use balancing adjustments. The identification of other adjustment needs for imports and exports in the supply-use balancing process was increasingly based on micro data linking exercises which led to a better coherence between the different statistical areas and therefore to an increase in quality of the balanced National Accounts figures.

6.0.4. Largest balancing adjustments to activities and products

Table 6.4: Largest balancing adjustments to activities, in million EUR

YEARS	ESA		NACE	PRE	POST	CHANGES
2017	P1	Output	09	1,273	1,737	464
2017	P2	Intermediate consumption	09	763	1,133	370
2016	P1	Output	29	15,550	15,815	265
2016	P2	Intermediate consumption	28	13,793	13,676	-117
2015	P1	Output	47.7	7,699	7,507	-192
2015	P2	Intermediate consumption	35.2	5,515	5,309	-206
2014	P1	Output	47.7	7,732	7,505	-227
2014	P2	Intermediate consumption	46.7	4,916	4,737	-179
2013	P1	Output	45.2	3,097	2,861	-236
2013	P2	Intermediate consumption	45.2	1,475	1,313	-162

The largest adjustments to output and intermediate consumption in 2017 can be found in ÖNACE 09 Mining support service activities. The adjustments on both sides were caused by the same problem: the registration of a new firm led to a substantial reporting of import and export of services in ITSS. The following micro-data linking exercise revealed that no corresponding figures were reported in SBS which resulted in an incomplete estimation on the production side for ÖNACE 09. Since at the time of balancing no information on output and intermediate consumption was available from SBS or business reports, it was decided to include the value added of this unit on a preliminary basis on the assumption that the total of exports was recorded as output and the total of imports was recorded as intermediate consumption. This assumption was to a large extent confirmed in following years when SBS figures and business reports for this firm became available.

In 2016 the largest adjustment to output was made in ÖNACE 29 Manufacture of motor vehicles, trailers and semi-trailers. A comparison of SBS figures for a large producer with the business report made clear that a large increase in inventories of finished products was not correctly reported in SBS. The following balancing adjustment led to an increase of output in ÖNACE 29. On the expenditure side this increase was reflected by a corresponding increase in changes in inventories.

For intermediate consumption in ÖNACE 28 a newly introduced detailed grossing up procedure on the ÖNACE-5-digit level for material inputs reported in material inputs statistics revealed an overestimation of this use category. After taking account of counterbalancing effects this resulted in a final reduction of intermediate consumption in this industry by 117 mill. Euro.

In 2015 the highest adjustment to output was found in ÖNACE 47.7 Retail sale of other goods in specialised stores. High adjustments in trade are not uncommon, they are identified by a detailed comparison of supply and use of trade margins. After the initial calculation of the supply of trade margins the results are confronted with the use of trade margins calculated in the commodity-flow-approach. The use of trade margins is determined by the supply of tradeable goods, the trade margin and assumptions about trade channels. This detailed analysis is carried out every year and the outcome in most years is that supply of trade margins exceeds use. In 2015 this was the cause for the largest adjustment to output in ÖNACE 47.7.

The largest adjustment to intermediate consumption in 2015 was found in ÖNACE 35.2 Manufacture of gas; distribution of gaseous fuels through mains. A large gas trader reported a sharp increase of intermediate consumption of storage services in SBS which led to a substantial imbalance in the product accounts. This increase could not be verified by other sources and was therefore eliminated from the accounts.

In 2014 the largest adjustment to output was again detected in trade. In ÖNACE 47.7 Retail sale of other goods in specialised stores the production of trade margins was overestimated. For further explanations see 2015.

For intermediate consumption the largest adjustments in 2014 were made in ÖNACE 46.7 Other specialised wholesale. In two separate cases an overreporting of various kinds of intermediate consumption categories by large merchanting firms was identified which led to substantial imbalances in the accounts. Also these reporting patterns could not be verified by other sources and were therefore deleted from the accounts.

In 2013 the adjustments to both output and intermediate consumption in ÖNACE 45.2 Maintenance and repair of motor vehicles were caused by the same problem: A newly introduced grossing up method in SBS led to highly overestimated values for output and intermediate consumption in this industry. This problem was discussed with the experts from SBS and it was commonly agreed to reduce the values for output and intermediate consumption and to change the grossing up method in SBS for the following years.

Table 6.5: Largest balancing adjustments to products, in million EUR

YEARS	ESA		CPA	PRE	POST	CHANGES
2017	P1	Output	71	9,639	10,313	674
2016	P1	Output	28.99.1	775	184	-591
2015	P7	Imports	06.1	3,102	2,266	-835
2014	P2	Intermediate consumption	35.1	17,077	17,881	804
2013	P1	Output	29.3	9,613	9,159	-454

Although in general the estimations of the production approach are considered to be more reliable than those of the expenditure approach, in recent years also substantial changes to output and intermediate consumption had to be made.

In 2017 the largest balancing adjustment on the product level was made for ÖCPA 71 Architectural and engineering services; technical testing and analysis services. One of the first stages of the supply and use compilation process is a detailed comparison of exports with production. Since there is no trade involved, all exports of services have to be domestically produced. This comparison showed a substantial underestimation of ÖCPA 71 in production. With the adjustment of EUR +674 mill. production figures were brought in line with exports.

The largest balancing adjustment in 2016 was caused by an inconsistency in the allocation of PRODCOM codes to ÖCPA positions. In PRODCOM statistics firms have got the option to report bundles of goods and services which cannot be easily separated under artificial codes 44x. For these codes no official link to ÖCPA exists. In the past values reported under these codes were rather small. They were by default linked to ÖCPA 28.99.1 Printing and bookbinding machinery. Over time there was a constant increase of values reported under PRODCOM 44x and by 2016 there had to be found a solution which linked PRODCOM 44x more precisely to the machines actually produced. This analysis linked PRODCOM 44x to a greater variety of products and led to a substantial reduction in the production of ÖCPA 28.99.1.

In 2015 the largest balancing adjustment was found in imports of ÖCPA 06.1 Crude petroleum. This product account is not very complex. There is only one industry which uses this product in intermediate consumption and the data base for the estimation of the required input of crude petroleum is very good. Like in most other years corrections were therefore made on the supply side of this product account which led to a substantial reduction of imports by EUR 835 mill..

The largest balancing adjustment in 2014 had to be made in intermediate consumption of ÖCPA 35.1 Electricity. The balancing process was carried out in several steps: in the first step intermediate consumption was brought in line with the results of material input statistics in industries for which this type of information is available. In a second step intermediate consumption in ÖNACE 35 was adjusted in order to create plausible input coefficients in ÖNACE 35.2 and ÖNACE 35.3 for the secondary production of electricity in these industries. In this step also intermediate consumption in ÖNACE 35.1 was increased because of the required inputs in trade and distribution of electricity. In a

third step the remaining discrepancy on the product account was distributed on a pro rata basis to all industries not already adjusted.

In 2013 the largest adjustment on the product level referred to ÖCPA 29.3 Parts and accessories for motor vehicles. The supply side had to be reduced by a considerable amount of 454 mill. Euro. There were two reasons for this adjustment: the smaller part was caused by an asymmetry in the reporting in PRODCOM statistics and ITGS which had to be corrected. The larger part of the reduction was caused by a substantial overestimation of the supply of trade margins on ÖCPA 29.3. This excess supply of trade margins became clear when the preliminary supply side results were confronted with the use side trade margins in the commodity-flow approach. In the commodity-flow approach the initial estimations on trade channels had to be revised, because a detailed analysis of imports by importing activities revealed that the share of direct imports by the users of this product was considerably higher than previously expected. Since in direct imports no trade is involved the assumptions on trade channels had to be reduced for a number of positions on the ÖCPA-6-digit level.

6.1. GDP balancing procedure

6.1.1. General description

Supply and use tables are used to validate the results of the national accounts. They are the platform on which the results of the three approaches to GDP are confronted and reconciled. The production and expenditure approach are calculated independently, for the income approach compensation of employees, taxes/subsidies on production and consumption of fixed capital are calculated directly while operating surplus/mixed income is derived as a residual (see details in chapters 3, 4 and 5).

The results of the three approaches from annual national accounts form the starting point for the compilation of supply and use tables. In the balancing process the results from the production approach are considered to be the most reliable figures since the statistical basis in this case is the most comprehensive. However, this does not mean that the results from the production approach cannot be changed at all. If there is evidence that the initial calculations for the production approach are not adequate, adjustments can be made also to the figures in the production accounts. In practice, the majority of changes in the balancing process are made to the use categories of the expenditure approach. The components of value added of the income approach are normally included in supply and use tables without further adjustments. Operating surplus (or government/NPISH consumption) is of course recalculated after changing the results of the production approach.

The balancing procedure is intended to detect and correct any possible inconsistencies. Where necessary, departures from the original data, even substantial ones, are permissible. Major corrections are made in close coordination with the annual national accounts experts responsible for the preliminary calculations.

Exhaustiveness adjustments are already made in the compilation process of annual national accounts. These results are transferred into the supply and use tables and are there analysed and balanced if

necessary. Exhaustiveness adjustments are treated as independent product flows in the balancing process and can therefore easily be separated from other transactions.

Conceptually balanced items like FISIM, non-market output of central banks, own-account production etc. can be easily distinguished from other product flows since they are included in the system as separated products or flows of goods and services. Any inconsistencies in this context are therefore immediately visible and can be corrected. Changes in inventories are generally not used as a balancing item.

All parts of the supply and use system can in principle be changed in the balancing process. There are, however, some parts of the system for which the hurdles are higher. Results from government statistics are only adjusted in close cooperation with the responsible experts, also the production accounts for agriculture and forestry and other parts of the system calculated by a functional approach (owner occupied housing etc.) are normally not changed in the balancing process.

It is compulsory for the supply and use tables to be produced at purchasers' price valuations. Another version is also published at basic prices. The original data on the use side are already valued at purchasers' prices but a comparable valuation basis needs to be created on the supply side.

6.1.2. Supply and use tables and annual national accounts

Supply and use tables are produced – in accordance with the reporting provisions of ESA 2010 – for the **reporting year [T-3]**, with the values for the reporting year only being reconciled each year. Values and structures from previous years are used for the purposes of comparison and plausibility checking. Preliminary product and production accounts are compiled for years T-2 and T-1. These accounts are not balanced systematically and serve for analysis purposes only. Supply and use tables are published at **current** and **previous year's** prices.

Supply and use tables are used to determine the final level of GDP. They are intended to be entirely compatible with the annual national accounts in terms of methodology and data. In order to ensure that the data are integrated, the preliminary results of the annual national accounts form the point of departure for preparing the supply and use table and, in turn, the results of the coordinated supply and use table define the final results for the annual national accounts. It follows from this that there is no benchmarking to an existing level of GDP.

To begin with, the boundary values for the production accounts and the final demand components are therefore taken from the annual national accounts. The following comments deal with the estimate for preparing the products dimension required to prepare the supply and use tables and the subsequent comparison of products supply and use with the associated balancing procedures.

6.1.2.1. **Classifications**

The production and goods and services accounts breakdown covers 277 goods and services and 137 activities. Flows of goods and services are further broken down into

- processing fees
- material/final products purchased/sold abroad for/after processing
- merchandising
- own account production
- inner-enterprise deliveries
- government/NPISH consumption
- exhaustiveness adjustments
- illegal production
- mini-one-stop-shop-transactions
- regular production not mentioned before.

Activities are further broken down into

- government sector's market producers
- government sector's non-market producers
- NPISH's non-market producers
- other sector's market producers.

It is at this level that the goods and services accounts and production accounts are analysed and balanced. However, some of the supply and use information on goods and services is available at a considerably more detailed level (CPA 6-digit-level) from commodity flow calculations.

The goods and activities classifications are presented in detail in chapter 9.4.

6.1.2.2. **Data sources**

The original data for preparing the supply and use tables are the results of the annual production, expenditure and income approaches. All data sources used for the calculation of the annual national accounts results are therefore also an indirect data source for the compilation of supply use tables (see chapters 3, 4 and 5).

Some of these data are already available at the level of product breakdown required for balancing but for most of them this product dimension has to be added. Additional data sources for supply and use tables are therefore all statistics which provide some information on the product structure of supply and use. The following statistics are relevant in this context:

- short term business statistics/PRODCOM statistics
- material input statistics
- international trade in goods statistics (ITGS)
- international trade in services statistics (ITSS).

All these statistics are available on an annual basis. The procedure for estimating the supply and use of products is presented below.

6.1.2.3. **Supply of products**

The supply of products is made up of domestic production and imports. A series of steps is required to estimate all its components, broken down by products. A further key stage is valuing supply at purchasers' prices, i.e. estimating the total margin and the product taxes and subsidies on products.

6.1.2.3.1. **Domestic production**

This chapter deals with the supply of goods and services from domestic production and the trade and transport margins for goods.

6.1.2.3.1.1 Production of goods and services

Data on the **production of goods and services** come from the annual production approach. They are initially valued at market prices and are generally not available at the required level of product breakdown. Output is, however, already broken down into large categories of goods and services. These large categories of goods are surveyed in primary surveys or – where necessary – introduced in the course of the preliminary calculations. All the possible types of earnings are listed below on the earnings side of the production accounts. Which of these items are actually surveyed for the respective activities is determined by basic technical considerations.

Table 6.6: Production accounts: types of earnings

Designation
Earnings (sales) on self-produced goods
Earnings from production and on construction services
Earnings from agricultural production
Earnings from the supply and retransmission of energy
Market earnings not broken down
Non-market earnings
Own consumption
Proceeds from self-produced additions to fixed assets
Earnings from construction and ancillary construction services
Own account software
Earnings from product support services
Earnings from trading intermediary business and consignment business (commissions)
Earnings from renting of buildings
Earnings from accommodation
Earnings from the sale and provision of food and beverages
Earnings from repairs assembly and installation
Earnings from jobbing work carried out
Earnings from other activities
Earnings from transport services and communications
Transport services, entered as outward freight
Goods transport margins
Trade margins
Commissions, expenditure and own charges received
FISIM
Output from insurance services

Obviously, some of these codes quite clearly match specific products in the classification. For others, however, additional information is required to enable products to be assigned properly. As a rule, this information can be obtained from the following sources:

- short term business statistics
- information from the closed accounts of the Federal State and the Länder
- annual reports of large companies
- classification of products from tables in the previous year

The **short term business statistics** provide information on the make-up of output in manufacturing and thus cover ÖNACE activities 05 to 43. They are compiled from a sample survey which does not cover small units. Reports are made monthly at a very detailed level of products (ÖPRODCOM). As the sum of the individual monthly samples does not normally tally with the results for the annual reports (Structural Business Statistics), the values are adjusted to match the total values from the annual national accounts ("make-matrix preparation").

An important step prior to the make-matrix preparation is a detailed comparison of produced goods in short term business statistics with exports by products from ITGS and ITSS on a firm level in order to detect asymmetries in the product breakdown.

Some conclusions regarding the make-up of output in the sector of general government can be drawn from the **closed accounts of local authorities** and an attempt was made to assign individual items to specific goods. However, many items were not defined accurately enough for this to be feasible. Nevertheless, the budgetary publications are still useful as a source of selected information.

Information from **annual reports** and the like can be used in individual cases for determining the make-up of output, particularly in branches which are dominated by several large companies whose annual reports are sufficiently detailed.

All codes which cannot be clearly broken down by products using exogenous information are assigned on the basis of the product breakdown from the most recent supply and use table. This product breakdown is crosschecked on an activity level with information on exports by products from **ITGS and ITSS**. The underlying assumption is that all goods and services which are exported have to be produced (with the exception of goods which are traded).

6.1.2.3.1.2 Supply-side trade and transport margins

In order to ensure that both the use side, which is valued at purchasers' prices, and the supply side are valued in the same way, the trade and transport margin for each product must be estimated. The make-up of trade and transport margins in terms of product is discussed in more detail below.

Wholesale and retail trade margins are broken down by product at a very detailed activity-related classification level (down to ÖNACE three-digit codes). Information on breakdowns of products in wholesale and retail sales is collected in 5-yearly surveys.

The supply of wholesale and retail margins for products is calculated in three stages. In the first stage, the structural information from the most recent table is transferred to current wholesale and retail turnover and crosschecked with information from the survey of wholesale and retail sales by products. Next, the trade margin rates for specific goods are applied to the wholesale and retail turnovers broken down in terms of goods and an initial estimate was made of the volume of margin by product. Trade margin rates for specific products are derived using a number of sources: the opinions of experts and press reports are important sources of information but institutional margins (both on an activity or on a firm level) are used when the structure of the goods traded in individual trading activities or firms are relatively uniform. The institutional margin of the retail trade in shoes can, for example, be used as an approximate value for the specific retail trade margin rate for shoes. In a third stage, the margin supply per ÖNACE three-digit code is adjusted to the institutional margin supply for this code on a *pro rata* basis. These preliminary results are compared with the wholesale and retail trade margins allocated to uses in the commodity flow account. If any discrepancies arise the calculations are modified by adjusting the turnover structure or the specific trade margin rate for a product or even by means of modifying the boundary values of the institutional margin supply.

The structure for **transport margins** is estimated at a much less detailed level. The observed flows are already divided up into domestic or imported flows.

The transport margins are also broken down into various types of margin depending on the means of transport used. The categories are as follows:

- rail
- road
- air
- shipping
- forwarding agent
- pipeline
- transport insurance

For the purposes of structuring the margins by product, information from the last balanced supply and use table is used. These structures are transferred to current values and checked for plausibility by means of various reference values, such as commodity flow calculations, etc.

6.1.2.3.2. Imports

This deals with the procedure for structuring imports (by goods and services). The original value for imports is based on the ITGS for goods and ITSS for services as well as data provided by the Austrian National Bank. All flows are broken down into imports from EU respectively non-EU countries. For the former, a distinction is made between imports from the EURO and non-EURO zones.

Classifying **foreign trade of goods** by products is no problem, since the corresponding flows are already recorded in the form of very detailed primary statistics (CN eight-digit codes). This classification can be transferred – with only minor problems cropping up – to the ÖCPA product classification system and then to the relevant balancing classification. These import values are available at the CIF valuation required for supply and use tables.

Main data source for imports of goods is International Trade in Goods Statistics (ITGS). ITGS records imports (and exports) of goods when the merchandise crosses the national border. In National Accounts (and BoP) foreign trade flows are to be recorded when a change of ownership takes place. These differences in concepts require certain adjustments to be made to ITGS in order to bring the figures in line with National Accounts definitions (for details see chapter 5.15).

The estimation of a product breakdown is more difficult with regard to imports of **services**. ITSS provides an initial framework, since it is divided up into EPOS items:

- sea transport
- air transport
- rail transport
- road transport
- other passenger transport
- inland waterway transport
- pipeline transport
- travel
- postal and courier services
- telecommunications services
- processing services
- repair services
- construction services
- insurance services
- financial services
- computer and information services
- royalties and licence fees
- merchanting
- other trade related services
- operational leasing services
- legal services
- bookkeeping and tax consultancy services
- business consulting and public relations services
- advertising, market research and public opinion polling
- research and development
- architectural, engineering and other and other technical services
- waste treatment and depollution
- agricultural, mining and other on-site processing services
- other business services
- audiovisual and related services
- other personal, cultural and recreational services
- government services

The foreign trade flows of transport services are broken down into the categories passenger transport, goods transport and ancillary services, which makes it possible to identify the transport margin and the classification by product without too much trouble.

Travel is broken down into imports for package tours and business travel (i.e. intermediate consumption) and a private consumption component. The intermediate consumption component is

broken down by product on the basis of information from the travel statistics. The private consumption component is not yet published broken down by product.

All other items are in keeping with the methodology of the supply and use tables and can be allocated to various products without any major problems.

6.1.2.3.3. **Taxes/subsidies on products**

In order to be able to record output or use at basic prices at a later stage, **other taxes and subsidies on products** are classified in terms of products and entered in the supply and use tables as separate items. These taxes' and subsidies' names (such as tobacco tax) mostly enable them to be assigned to a specific product, but not always. However, since these taxes/subsidies are already assigned to specific activities for the purposes of detailed calculation of production taxes and subsidies in the annual national accounts, it is assumed that these items coincide with the characteristic product for this activity.

Import taxes are another area which has to be broken down by products in order to be integrated in the supply and use tables. The sum values come from government statistics whereby taxes which can be allocated to a product immediately on the basis of their designation (e.g. "mineral oil tax") are allocated to the corresponding product. Taxes with a non-specific designation ("duties" including "Rotterdam duties") are broken down in line with the overall (non-EU) structure of imports.

Non-deductible value added tax by product is calculated via the expenditure side. This is explained in chapter 6.1.2.5.1.

6.1.2.4. **Use of products**

The approach to product structuring on the expenditure side is dealt with separately for intermediate consumption and final consumption in the following two sections.

6.1.2.4.1. **Intermediate consumption**

The overall values for intermediate consumption come from the annual national accounts. They are, like the relevant primary statistical surveys, broken down into rough categories of products. Table 6.7 gives a summary of the various intermediate consumption categories. Some of these categories can obviously be assigned to specific products. For the others, information must be obtained from other sources:

- material input statistics
- closed accounts of the Federal State and the Länder
- annual reports
- structures from tables from the previous year

Table 6.7: Production accounts: intermediate consumption

Designation
Purchases of fuels and of electrical energy and district heating
Purchases of materials
Expenditure on repairs and maintenance contracted out
Expenditure on jobbing work contracted out
Expenditure on subcontracting contracted out
Expenditure on rent (of buildings, machinery and means of transport)
Expenditure on operational leasing
Expenditure on agency personnel
Expenditure on non-company workers (including commission for freelance representatives)
Commission for self-employed representatives
Expenditure on commissions and expenses
Remaining purchases of services for resale unchanged
Expenditure on outward freight
Other operating expenditure
Small tools
Intermediate consumption not broken down any further

Input of raw, ancillary and operating materials for activities 05 to 43 at ÖCPA six-digit level is determined when the annual material input statistics are prepared and is used to classify the intermediate consumption code "Purchase of materials.

Information from the closed accounts of local authorities can, in some cases, provide valuable indications of how intermediate consumption in government sector's activities is made up.

Annual reports can also be used to classify products in some isolated cases.

For the other intermediate consumption components, structures from other sources must be used. In some cases, they come from the commodity flow account (cotton is, for example, entered in the textile industry etc.) or from import statistics but they are largely based on the structures of the last balanced supply and use table.

From the past balancing procedures it is known that *other operating expenditure* includes value added components reported incorrectly as intermediate consumption which have to be eliminated in the annual national accounts. The basic values for other operating expenditure have now been adjusted for these components of value added. Likewise, insurance expenditure in other operating expenditure has already been converted to the service charge concept, i.e. contains gross premiums paid less any settlements of insurance claims.

6.1.2.4.2. Final consumption expenditure

6.1.2.4.2.1 Final consumption expenditure of private households

Consumption of private households is estimated in very detailed form by product in national accounts in the course of preparing the commodity flow account and other approaches (see chapter 5.7). The

results of this account are fed into the balancing process without any further adjustment. Balancing is carried out on the basis of consumption of private households in accordance with the "domestic concept", with the conversion to the "national concept" being made only later.

6.1.2.4.2.2 Final consumption expenditure of general government and non-profit institutions serving households

The final consumption expenditure of general government and non-profit institutions serving households is primarily calculated as a balance on the supply side of the non-market production account which also provides the breakdown by product (see chapters 5.8 and 5.9).

Goods purchased by the State on the market which are made available to private households as social non-financial transfers are also recorded as final consumption expenditure by government. The sources of this information are the closed accounts and the social security statistics. Expenditure on free school books and free trips for school children is, for example, taken from the closed accounts of the Federal State. Government statistics provide valuable information on the product make-up of social transfers in kind in the health sector.

6.1.2.4.2.3 Gross capital formation

The basic values for gross fixed capital formation are available by branch of investor and various categories from the Structural Business Statistics. Table 6.8 lists these categories. The total volume of gross fixed capital formation in each category is determined by the results of the commodity flow account. Values already calculated in the production approach are entered in the categories *cultivated assets*, *own account software*, *research and development services* and *literary and artistic originals* (see chapter 5.10). The product classification is already laid down in this source.

Table 6.8: Investment categories

Designation
Other machinery and mechanical plant
Telecommunication equipment
Computers
Other construction and civil engineering
Housing construction
Means of transport
Cultivated biological resources
Purchased software
Own account software
Purchased research and development services
Own account research and development services
Literary and artistic originals
Weapons systems

Other categories of gross fixed capital formation are classified on the basis of other information sources. *Self-produced additions to fixed assets* of an activity are recorded in the corresponding investment category for the same activity. The results of the commodity flow account are, where possible and appropriate, used unchanged (such as machinery for production of food in the gross

fixed capital formation in equipment of the food industry). Sometimes business reports also provide information on the breakdown of capital formation goods.

For components which cannot be broken down on the basis of other sources, the preliminary classification is made on the basis of structures from previous years. These structures form a serviceable basis for a preliminary estimate, since they have been checked several times in past balancing procedures.

Acquisitions less disposals of valuables are estimated separately for individual components (works of art, gold, jewellery and pearls, antiquities), which also has the effect of determining the relevant products. Inventories for each activity are broken down in the same way as the associated output or intermediate consumption components (e.g. the energy input inventory is based on the energy supply structure, etc.) with storable products only being included in the breakdown.

6.1.2.4.2.4 Exports

The same procedure as for imports is also used for exports. ITGS and ITSS provide the data, exports of goods from ITGS is adjusted to meet National Accounts definitions and exports of services are classified according to the EPOS items, with the same adjustments being made as for imports.

6.1.2.4.3. **Use-side trade and transport margins**

Trade and transport margins which are attributed to the components of the use side are calculated in the commodity flow system. In this system the supply of goods at producer's prices on the CPA-6-digit- level is allocated to intermediate and final uses and subsequently transformed into total uses at purchasers' prices by adding trade and transport margins as well as non-deductible VAT. The amount of margins to be allocated to the various use components is defined by a product specific margin rate (from the supply-side margin calculation) and an assumption about the trade channels (the amount of each product which is traded via wholesale or retail trade). Margin rates vary of course between wholesale and retail trade, assumptions about trade channels vary between wholesale and retail trade as well as between uses. The amount of margins per product allocated to uses is systematically compared to the supply of margins per product. Any discrepancies are eliminated by either changing the assumptions made about trade channels or the supply of margins per product. When the results of the commodity calculations are ready to be transferred to the supply and use system all margins are already balanced.

6.1.2.5. **Balancing**

6.1.2.5.1. **Valuation**

The above methods provide a supply and use value for each of the products which are compared in a supply and use table. At this stage, the two sides are not entirely comparable in terms of valuation since use is still valued at purchasers' prices including VAT. In order to balance them properly, the non-deductible VAT must first be deducted from the values for use. This is done using a detailed set of assumptions on the activities and products concerned and an assumption of a rate of VAT which may either be statutory VAT or a mixed rate. Exceptions to these cases are defined separately giving the

activity and product concerned and the VAT rate and the use categories to which these assumptions are to be applied. The values calculated in this way are adapted to the actual VAT supply and deducted from total use for each product. Only after this step are the supply and use sides fully comparable in terms of valuation and any differences that do arise can be attributed exclusively to inconsistencies in the data.

Obviously the non-deductible VAT is calculated again after coordinating the product accounts. These values calculated on the use side are entered both on the supply and use sides which produces the relevant valuation for final results at purchasers prices both for product supply and for product use.

It follows from this that the balancing is carried out at the valuation level of purchasers' prices excl. non-deductible VAT. The advantage of this approach is the direct comparability of basic statistical sources and survey data with the figures in the supply and use system.

6.1.2.5.2. **The balancing process and the role of the commodity flow system**

The commodity flow system plays a central role in the compilation and balancing process of supply and use tables. The investigation of discrepancies between supply and use of products starts with the analysis of the results of the commodity flow calculations. The total values for intermediate consumption and final uses per product are defined in the commodity flow system and are subsequently transferred into the supply and use tables.

The results for the components of final uses are in most cases taken over into the supply and use system without any further changes, the results for intermediate consumption from the commodity flow calculations are compared with the results for intermediate consumption derived from the production approach of annual national accounts. Any discrepancies are analysed and cross-checked with other statistical sources and subsequently altered.

In this context both the results of the commodity flow calculations as well as the results of the supply and use tables (which in this initial stage are entirely based on the results of annual national accounts) may be adjusted. In the process of identifying the reasons for inconsistencies the following checks are carried out:

A **basic check** of the data for each goods and services account is carried out – irrespective of the size of the difference between supply and use – with specific characteristic figures of the new table being compared with the final results of the last two supply and use tables published and the preliminary tables for the most recent years. This general check covers both the goods and services accounts and the production accounts.

During the process of checking the goods and services accounts, the structure and development of supply and use are examined, with the following type of questions being answered:

- How have the components of product supply and use developed in comparison with the previous table?
- Have there been any changes in the proportions of intermediate consumption and the various categories of final consumption in the use of products?

- Is the total margin on products plausible in relation to the volume of products which can be traded or transported?

When the production accounts are checked, the following types of questions are asked:

- Has the structure of non-characteristic production in a given activity changed considerably?
- Are all the necessary input goods available for new non-characteristic production?
- When a production line is discontinued, has the volume of input goods required been reduced accordingly?
- How have the input coefficients changed?

If any implausible structures and developments are ascertained, a more detailed check is carried out on the data on which they are based. During the checking process, it is assumed that some data are more reliable than others. As a rule, supply data are generally regarded to be "harder" than use data, information from primary annual surveys more reliable than information transferred from previous years, etc. The check itself is carried out in several stages:

First of all the "hard" information from the annual surveys is checked once again, going back to the original sources of information to examine, for example, the production reports from the business statistics, the raw, auxiliary and operating materials input from the material input statistics or private consumption from the commodity flow account, if necessary at a very detailed level.

In this context it is important to note that these checks are carried out at the unit level whenever possible. Micro-data linking became increasingly important in recent years and serves as a major tool for detecting inconsistencies not only in the supply and use system but also in the underlying surveys.

Typical errors detected in this stage are, for example, inconsistent product classification for output and exports on the unit level, missing or too high export values for a certain unit compared to production, inconsistencies between intermediate consumption and imports on the unit level etc.

If there are still major differences once this check has been carried out, not only the structures but also the basic values for output and intermediate consumption from the annual national accounts, which were originally regarded as fixed, are checked. Detailed discussions are conducted with the experts to decide how reliable the basic values are. In this connection detailed documentation – often even at unit level – is produced in order to collate the reported data from the various surveys with administrative data (turnover tax statistics) and other information which has been found and offer proposals for solutions on this basis.

In the final stage, the focus shifts to the "soft" factors, which include incorrect assumptions on margins and trade channels in the commodity flow account, or errors resulting from transferring previous product structures which have to be corrected because, for example, input coefficients change over time. The latter is often the case with products for which drastic price changes can happen in a short period of time (crude petroleum and natural gas, refined petroleum products etc.) or for which input coefficients are strongly influenced by economic growth or decline (temporary employment agency services etc.)

All these corrections are carried out manually for each individual goods and services account; as a rule, differences are not eliminated by being reassigned on a *pro rata* basis or by any other automatic procedures.

Any corrections are discussed with the experts of national accounts in order to ensure that no unacceptable breaks in the time series or other implausible results will be published. All corrections made are documented and transferred with the system in such a way as to enable the processing status to be reconstructed at any time. Whenever possible, documentation traces back the findings to the units which caused the inconsistencies. Feed-back is given also to the experts who conduct the business surveys. Major changes are explained to users when the final results are published.

6.1.3. Factors that can reduce the adequacy of the balancing, integration and validation procedures

No such factors known.

6.2. *Other approaches used to validate GDP*

6.2.1. Use of all existing sources to validate the data and estimates

The main validation procedure is based on the analysis of inconsistencies of product flows. In this context all available information from surveys and from administrative data is used and confronted with each other. This is done either directly in the supply and use system (e.g. for construction) or already at a previous stage in the commodity-flow calculations (e.g. trade margins). For the reconciliation of household consumption estimates with HBS see chapter 5.7.

In the balancing process of supply and use tables which leads to the final estimation of main aggregates all inconsistencies are supposed to be explained and properly solved. Imputation of unexplained discrepancies to least firmly based items is avoided whenever possible. For all corrections made the rationale behind the solution found is explained.

The analysis of the relationship of different aggregates and their evolution over time is a central part of the supply and use compilation process. The analysis of growth rates, input coefficients etc. is an essential part in the process of identifying the reasons for the inconsistencies encountered. Average income is compared systematically for each unit of homogeneous production when symmetric input-output tables are compiled.

The final results of main aggregates are incorporated into sector accounts. Feed-back from experts of sector account is recognised and incorporated in the following balancing processes.

6.2.2. Activities to guarantee the quality of National Accounts

Quality assessment is an important part of the policy of *Statistics Austria*. For all statistical projects detailed quality reports have to be compiled. These reports are discussed with qualified users and in a further step made available to the general public.

7. Overview of the allowances for exhaustiveness

7.0. Introduction

7.0.1. Geographical coverage

The economic area covered by Austrian national accounts includes:

- the territory within Austrian national borders
- the tax-free area Jungholz (in the NUTS region "Bludenz-Bregenzerwald")
- the tax-free area Kleines Walsertal/Mittelberg (in the NUTS region "Außerfern")
- Austrian diplomatic and consular missions abroad.

Extraterritorial areas within the national borders, i.e. foreign diplomatic and consular missions and international organisations, are not included.

7.0.2. General approach to exhaustiveness

The general approach can be described as assessing all available sources for the compilation of national accounts against the requirements of the ESA 2010 framework to identify shortcomings of surveys and administrative sources. The aim is to detect possible gaps between what can be directly observed from the accessible sources and what should be measured according to the ESA rules. Since the issues referring to non observed economy and exhaustiveness are manifold, there is no general or unique method that can be applied to ensure exhaustiveness of the national accounts aggregates. Therefore, for each particular gap detected the best possible solutions are investigated and implemented. As usual, practicability is an important criterion when choosing amongst theoretically best practices.

As the production approach is the main approach in Austrian national accounts, all steps taken towards exhaustiveness of the estimates focus on that approach. All adjustments made for the production approach are, of course, mirrored in the expenditure and income approach.

Basically, those techniques, which refer to the shortcomings of a particular statistical survey, are applied throughout all activities covered by the survey (e.g. units missing in the scope of a survey). This is also true for exhaustiveness issues that are considered to be relevant for several activities (e.g. revenues off the books). On the other hand, all approaches addressing specific phenomena of non-exhaustiveness, which are attributable to a particular activity, are developed and designed for this very purpose (e.g. illegal production).

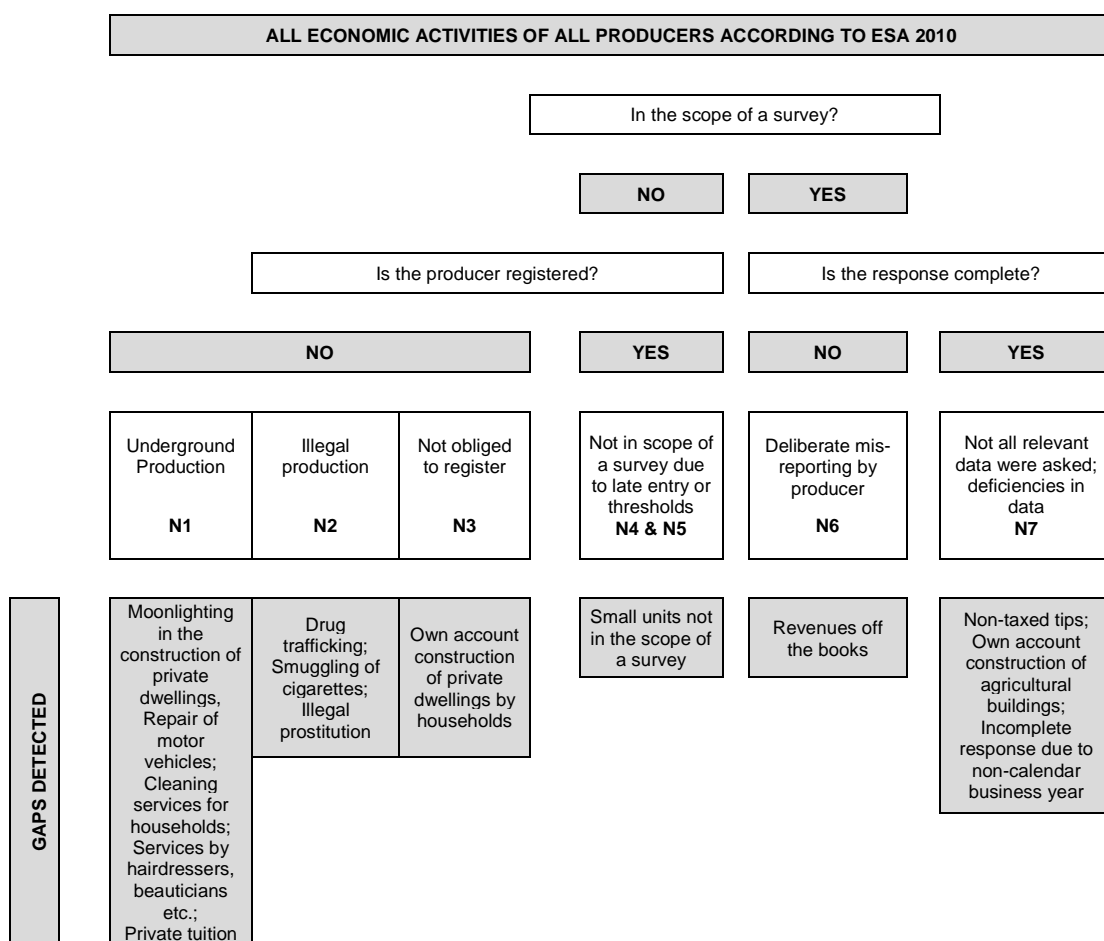
Depending on the particular data availability the estimates for non-exhaustiveness are either compiled for a benchmark year and, hence, extrapolated and back casted or derived on a more periodic – in some cases even annual - basis. The actual periodicity of each adjustment is illustrated within the detailed description of the methods applied.

7.1. Allowances for exhaustiveness in the production approach

7.1.1. Identification of types of non-exhaustiveness (for which adjustments are needed)

As described above, the basic approach is to identify gaps assessing the data available from statistical surveys and administrative sources against the requirements according to the production boundaries of ESA 2010. The procedure is sketched out in Table 7.1.

Table 7.1: Detection of data gaps by type of non-exhaustiveness (NOE 1-7)



The adjustments for exhaustiveness can mainly be classified in accordance with the following aspects:

- adjustments for under-recording in economic statistical surveys (particularly small units which are not in the survey's sampling frame) → N4 & N5
- adjustments for units that report data for a business year different from the calendar year → N7
- adjustments for deliberately incomplete data reported for output and income (e.g. revenues off the books) → N6
- supplementary estimates for producers who deliberately refrain from registering (e.g. non observed work) → N1
- supplementary estimates for units which are not obliged to register (e.g. private households) → N3
- estimates on the extent of illegal activities in accordance with Eurostat Task Force recommendations → N2
- tips not covered in income statistics → N7
- own account production by market producers → N7

Hence, two components can be distinguished between essentially within the adjustments for exhaustiveness:

- Technically and statistically incomplete data from surveys

statistical under-recording and deficiencies in the basic statistics (e.g. late entry in registers; cut off thresholds)

adjustments for units reporting incomplete data due to a non-calendar business year

- Incomplete data because of items that are not or cannot be directly surveyed

revenues off the books (including unpaid VAT)

non-taxed tips

underground production (moonlighting) and own account production by households

illegal production

7.1.2. Adjustments made for the different types of non-exhaustiveness

The following tables provide an overview of the adjustments made towards exhaustiveness of GDP and GNI for the year 2017, grouped by both type of exhaustiveness and method applied.

Table 7.2: Adjustments of output, intermediate consumption and gross value added by type of non-exhaustiveness (NOE 1-7)*

N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4: Registered legal person is not included in statistics	N5: Registered entrepreneur is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	TOTAL
------------------------------------------------------------	---------------------------------------------	-----------------------------------------	-----------------------------------------------------------	-----------------------------------------------------------	-----------------------------------	------------------------------------------	-------

Adjustment of output							
in million EUR							
3,235	636	1,964	1,999	335	6,142	2,047	16,357
% of total output (before adjustments)							
0.5	0.1	0.3	0.3	0.0	0.9	0.3	2.4

Adjustment of intermediate consumption							
in million EUR							
0	200	0	1,162	127	1,293	219	3,002
% of total intermediate consumption (before adjustments)							
0.0	0.1	0.0	0.3	0.0	0.4	0.1	0.8

Adjustment of gross value added							
in million EUR							
3,235	436	1,964	837	208	4,849	1,828	13,355
% of GDP (before adjustments)							
0.9	0.1	0.5	0.2	0.1	1.3	0.5	3.7

* including rounding errors

7.1.3. Exhaustiveness methods

The following table provides an overview of the adjustments made towards exhaustiveness of GDP and GNI, grouped by both type of exhaustiveness and method applied.

Table 7.3: Adjustments of gross value added by type of non-exhaustiveness (NOE 1-7) and method, in million EUR*

N1: Producer should have registered (underground producer)		
NOE	Method	
Repair of motor vehicles	Technical assumption on repair	433
Cleaning services of households	Comparison of Household Budget Survey and Business Statistics	950
Accommodation and food service activities	Comparison of Household Budget Survey and Business Statistics	24
Hairdressers, beauticians etc.	Comparison of Household Budget Survey and Business Statistics	229
Private tuition	Annual studies by Chamber of Labour (AK)	172
Moonlighting in construction of private dwellings	Survey on builder-owners by Austrian Economic Chamber (WKO 2007)	1,427
		3,235
N2: Illegal producer that fails to register		
NOE	Method	
Drug trafficking	Consumption patterns by type of drug and drug demand	188
Illegal prostitution	Number of illegal prostitutes and their average income	220
Smuggling of cigarettes	Consumption patterns and cigarette demand; study on cigarettes not taxed in Austria	27
		436
N3: Producer is not obliged to register		
NOE	Method	
Own-account production in construction of private dwellings	Survey on builder-owners by the Austrian Economic Chamber (WKO 2007); test network of book keeping agricultural units	1,964
N4 & N5: Registered legal person or registered entrepreneur is not included in statistics		
NOE	Method	
Small units not covered by SBS	Comparison of SBS and VAT Statistics	1,045
N6: Mis-reporting by the producer		
NOE	Method	
Revenues off the books	Reference income of self-employed compared to income of employees	4,849
N7: Statistical deficiencies in the data		
NOE	Method	
Tips	Comparison of wages and salaries; comparison of Household Budget Survey and Business Statistics	1,693
Own-account production in construction of agricultural buildings	Test network of book keeping agricultural units	33
Adjustments for non-calendar business year	Grossing up survey data for full year	102
		1,828
Total N1 to N7		13,355

* including rounding errors

7.1.3.1. **Underground production other than construction of dwellings (N1)**

7.1.3.1.1. **Motor vehicle repair**

Underrecording in this branch is approximately 11% of output. This adjustment is estimated by comparing the results of the estimates for consumption expenditure by households (which does not distinguish between official and informal components due to its functional approach)³⁴ with supply data in the supply and use tables. Based on this comparison, output from repair services is adjusted upwards in the production account of ÖNACE 452. Underrecording of output in this industry amounts to EUR 433 million in 2017 and is considered equal to underrecording of value added, since it may be assumed that the material used (such as spare parts) is already included in private consumption, i.e. only the actual repair work is considered to be missing in the official statistics.

7.1.3.1.2. **Cleaning services in households**

The estimates for clandestine cleaning and housekeeping services are based on the comparison of data on wages and employment from the *Umbrella Organisation of Austrian Social Security Institutions* (DV, Dachverband der Sozialversicherungsträger) for ÖNACE 97 (Activities of households as employers of domestic personnel) with data on household expenditure from the household budget surveys. As the household budget surveys (HBS) recorded considerably higher expenditure for home helps, this was a strong indication that the majority of services rendered in private households (especially cleaning services) are provided by persons who are not officially employed in the households. The difference between the value calculated from the wage and employment data and the expenditure according to the household budget survey was therefore interpreted as a component of the hidden economy. The estimates are regularly assessed and checked against the most recently available HBS results. Erratic shifts in the survey data are not considered plausible. Hence, the time series are compiled by assumptions based on the change in the official number of household employees, on the increase of wages and on the change in the number of households.

As the providers of these services in the hidden economy are, as a rule, active on behalf of several households at the same time and essentially act as self-employed workers, the additional estimate is not recorded as compensation of employees under ÖNACE 97 but as self-employed income under ÖNACE 81.2 (cleaning activities). For 2017 the adjustment amounted to EUR 950 million.

7.1.3.1.3. **Private tuition**

An additional estimate is made for private tuition which is not recorded in the statistics of the ÖNACE group 85.5 (other education). The estimate is mainly based on annual studies conducted by the Chamber of Labour, supplemented by a one-off study by the University of Vienna from the year 2003. EUR 172 million were added as an estimate in 2017 on the basis of these studies' results.

³⁴ In the calculation of consumption expenditure, a technical link is assumed to exist between the number of kilometres covered and the expenditure on repairs.

7.1.3.1.4. Hairdressers, beauticians and pedicurists

The turnover from the business surveys was compared with the expenditure of private households according to the household budget survey in division ÖNACE 93.02 (hairdressers, beauticians and pedicurists). As the expenditure of households was higher than the turnover from the business statistics, part of the difference (10% of the statistically recorded turnover) was interpreted as non-declared tips (see chapter 7.1.3.8.2). The remainder of the difference between the business statistics and the household budget survey was assumed to be non-observed work. This assumption is supported primarily by the fact that the households frequently reported expenditure for hairdressing services in the household budget survey which were well below normal market prices. For 2017 an amount of EUR 229 million was estimated for non-observed work.

7.1.3.2. Underground production and own account production in the construction of dwellings (N1 and N3)

Since the sources and methods for own account production by households (N3) and underground production (N1) with respect to the construction of non-agricultural dwellings are the same, both exhaustiveness adjustments are described together in this chapter. Moreover, the adjustment for own account construction of agricultural dwellings is also outlined under this topic.

7.1.3.2.1. Construction of private non-agricultural dwellings

Own-account construction of dwellings (construction of owner-occupied houses) is very common in Austria and a corresponding adjustment is made in the national accounts. For this purpose, the labour input by the owner, relations, neighbours, casual helpers and clandestine workers for activities which represent capital formation (newly constructed buildings, improvements and refurbishing of existing houses) is valued and added to output or value added in the construction industry. The same applies for own-account construction of agricultural buildings which is not included in the output and value added of construction but of agriculture and forestry. This item comprises two separately estimated components, namely a) private persons' own-account construction of dwellings and b) all own-account maintenance and improvement of dwellings.

The estimates are based on two sources: the annual dwelling construction statistics, on the one hand, and a representative survey (n=253) from the Austrian "Gallup Institute" on behalf of the "Austrian Economic Chamber" from 2007, on the other hand. The Gallup survey addressed households planning to build or renovate a one or two family house within the next three years. They were asked, to which extent the work would be provided by construction firms, to which extent friends, relatives or others would contribute and, finally, to which extent they would do the work themselves. Moreover, those households, which stated that they would not assign the total construction work to companies, were asked, at which price they were willing to do so.

Hence, the basic questions were:

1. Who will carry out the work?

Table 7.4: Who will carry out the work?

	New	Renovation	Total
All work is done by construction firms	30%	27%	28%
Part of the work is done by construction firms; the rest is done by myself and with support from relatives, friends and others	57%	35%	44%
All work is done by myself and with support from relatives, friends and others	9%	36%	25%
Not yet decided/Don't know/ No answer	4%	2%	3%

Based on the answers to the first question assumptions can be made on the shares of official and unofficial construction costs.

2. Why do you not assign the total work to construction firms?

Table 7.5: Why do you not assign the total work to construction firms?

	New	Renovation	Total
Too expensive; cost reasons	82%	65%	72%
Builder-owner is mason, brick layer or the like	7%	16%	12%
Friends or relatives are masons, brick layers or the like	6%	10%	8%
Builder-owner has overall technical skills	5%	9%	8%

Based on the answers to the second question assumptions can be made, which shares of the work not assigned to companies can be attributed to own account production (builder-owner, friends or relatives), on the one hand, and to underground production/moonlighting (cost reasons), on the other hand.

3. If you do not assign the total work to construction companies, what should be the allowance as a percentage of the total cost that would induce you to do so?

Table 7.6: What should be the allowance as a percentage of the total cost?

	New	Renovation	Total
∅	33%	34%	34%

Based on the answers to the third question assumptions can be made, what price the households are in fact willing to pay for construction work.

➤ Private³⁵ persons' own-account construction of one and two-family houses

Based on the information from the Gallup survey and on the latest weights for the Austrian Construction Cost Index, assumptions could be made to estimate the actual construction cost compared to the official costs observed in the dwelling construction statistics. Applying the weights for the 2010 based Construction Cost Index it was estimated that in 2017 about 27% (11% own account; 16% moonlighting) of the official cost had to be added to cover the total costs for the construction of private one and two family houses.

➤ Own-account improvements and maintenance of dwellings

In Austrian national accounts gross capital formation in dwellings is estimated separately for new dwellings and for improvements of existing dwellings (major repairs and refurbishing), which have to be recorded as gross fixed capital formation according to ESA 2010 (§3.129f). As mentioned above, the Gallup survey did also cover households planning to renovate their existing dwellings. Again, assumptions on the share of the work not provided by firms were derived from the results of the Gallup survey. For the year 2017 it was estimated that about 41% (28% own account; 13% moonlighting) of the official costs had to be added to cover the total costs for major repairs and refurbishing. This higher ratio can be explained by the fact that do-it-yourself work is more common for the renovation of dwellings, since professional workers are less needed than for the construction of new dwellings.

7.1.3.2.2. **Own-account work in construction of agricultural dwellings**

An additional exhaustiveness adjustment is made for own account construction of agricultural dwellings on the basis of results from the test network of agricultural and forestry units, which keep accounts voluntarily, run by the BMLFUW. These data are used to derive expenditure and the corresponding proportion of own-account work in the construction of agricultural buildings, for both dwellings and other buildings (see chapter 7.1.3.7)

The results of the dwelling construction statistics (completions) were adjusted for the average duration of construction for calculating the costs of one and two family houses as shown in the table Table 7.7. The values for total estimated own-account construction are given below as the sum of adjustments for all types of dwellings (non-agricultural, agricultural, new buildings and improvements). The data refer to the year 2017.

³⁵ This means physical persons and not legal persons.

Table 7.7: Own-account and underground construction of dwellings, year 2017

Calculation method: one and two-family houses	2017
Completed dwellings* (non-agricultural)	17,325
Average useful area	148.2 m ²
Construction costs per m ² (excluding own-account construction)	EUR 1,894
Value of newly constructed building (before adjustments)	EUR 4,862 mio.
Estimated own-account construction by households	EUR 549 mio.
Estimated construction by underground producers (moonlighting)	EUR 754 mio.
Improvements of dwellings	2017
Investments, improvements of dwellings etc. (before adjustments)	EUR 5,052 mio.
Estimated own-account construction by households	EUR 1,393 mio.
Estimated construction by underground producers (moonlighting)	EUR 673 mio.
Agriculture	2017
Agricultural dwellings – estimated own-account construction	EUR 22 mio.
Total own-account and underground construction of dwellings	EUR 3,391 mio.

* adjusted for the average construction time

7.1.3.3. Illegal activities (N2)

In accordance with the recommendations of the Task Force on Illegal Activities set up by the GNI Committee estimates were made on the extent of drug trafficking, illegal prostitution and smuggling of cigarettes and their impact on GDP/GNI in Austria³⁶. Due to the very nature of illegal production, very little reliable data are available to be used for statistical purposes. The estimates are therefore based on a series of assumptions which, although they have been tested for plausibility, can scarcely be verified. The results can be seen in Table 7.8.

³⁶ Smuggling of alcohol has no significance for Austria.

Table 7.8: Illegal output, supply and use, in million EUR, year 2017*

Supply						
	Prostitution	Rent	Accommodation	Clothing, cosmetics etc.	Cigarettes	Drugs
Output	420	-	-	-	27	188
Imports	71	-	-	-	137	95
Total	491	0	0	0	164	283

Use						
	Prostitution	Rent	Accommodation	Clothing, cosmetics etc.	Cigarettes	Drugs
Intermediate consumption	-	128	31	42	-	-
Consumption	407	-128	-31	-42	164	283
Capital Formation	-	-	-	-	-	-
Exports	84	-	-	-	-	-
Total	491	0	0	0	164	283

* including rounding errors

7.1.3.3.1. Smuggling of cigarettes

The estimates for smuggling of cigarettes are based on a demand side approach. The microcensus programme on the health status of the population provides data on the number of smokers and their smoking habits. Based on this information a theoretical total demand for cigarettes can be estimated and compared with official cigarette sales. The difference is the quantity of cigarettes which are not officially sold and taxed in Austria. The results of this comparison are supported by a representative study carried out by the Austrian Economic Chamber which examined the proportion of cigarettes not taxed in Austria³⁷. If the quantity of cigarettes imported directly by households in travel expenditure is deducted, the quantity that remains is that which was imported and sold illegally. Based on available price information from the illegal cigarette market, approximate average prices for the import and sales of smuggled cigarettes could be assumed. If these are multiplied by the corresponding quantities, the values for import, trade margin and consumption in connection with smuggling cigarettes can be estimated. The estimate for the output (i.e. trade margin) from smuggling of cigarettes for the year 2017 is EUR 27 million.

³⁷ In the "package study" the empty cigarette packages found in a representative sample of waste collection points throughout Austria were examined to see whether they were taxed in Austria. This study was carried out annually for the years 2005 to 2011.

7.1.3.3.2. Drug trafficking

Austria estimates illegal drugs stratified by type of drugs. The following types of drugs are separated:

- Heroin
- Cocaine
- Marihuana resin
- Marihuana herbs
- Amphetamines
- LSD
- Ecstasy

The estimates for drug trafficking are also based on a demand side approach. Information from the number of drug consumers and their consumer habits can be derived from a series of studies available on drug consumption in Austria. For the year 2004 and 2008 two representative Austria-wide surveys on drug consumption of the Austrian population are available³⁸. Furthermore there is a biannual report on drug abuse in Vienna “The Addictive Substance Monitoring (Suchtmittelmonitoring) provided by the Vienna Health Authorities. In a synthetic analysis of both surveys from Ministry of Health and Ministry of Interior Affairs it was concluded that the significantly lower life time prevalence rates reported in the survey for the year 2008 were not plausible. Considerably sinking life time prevalence rates within four years would mean that many of the persons stating drug experience in 2004 would have died within quite a short time span. Hence, the difference in the results could only be explained by measurement errors. Moreover, the conclusion was that drug use patterns by age group had hardly changed. Consequently, drug demand was estimated by keeping the prevalence rates fixed from 2004 onwards, taking into account the changing size of the particular age groups. Drug consumption patterns in Austria are considered by police and health authorities not to have changed significantly since then.

From all these data sources, no significant changes in drug consumption and in the drug market could be concluded. Nevertheless, annual adjustments are made for changes in the age structure of the population, since most drug abuse is limited to particular phases in life.

All other studies mostly cover only a specific region and/or age group but still provide valuable information. As the studies are, as a rule, geared exclusively to experience with drugs (prevalence), the actual demand for drugs can be estimated only on the basis of additional assumptions. Information on approximate import prices and street sale prices are available from various sources (the Ministry of Health’s report on the drug situation, drug report of the Ministry of Interior Affairs, UN World Drug Report). Annual price information is available from the annual UN World Drug Report, which provides

³⁸ Uhl, A./Springer, A./Kobrna, U./Gnambs, T./Pfarrhofer, D. (2005): Österreichweite Repräsentativerhebung zu Substanzgebrauch. Erhebung 2004 (Austria-wide representative survey on substance abuse. 2004 survey). Band 1: Forschungsbericht, Wien: Bundesministerium für Gesundheit und Frauen

Uhl, A.; Strizek, J.; Puhm, A.; Kobrna, U.; Springer, A. (2009): Österreichweite Repräsentativerhebung zu Substanzgebrauch - Erhebung 2008 (Austria-wide representative survey on substance abuse. 2008 survey). Band 1: Forschungsbericht, Bundesministerium für Gesundheit, Wien

“wholesale” and “retail” prices by type of drug. On this basis values for import, trade margin and consumption can be estimated using a quantity x price approach. Both for the drug trade and for smuggling cigarettes it is assumed that no significant amounts of intermediate consumption arise (i.e. the margin = value added). The estimate for the output (i.e. trade margin) from smuggling of cigarettes for the year 2017 is EUR 188 million.

7.1.3.3.3. **Other illegal economic activities**

Austria has checked that the following illegal economic activities are below the materiality threshold (0,1 % of GNI)³⁹:

- Illegal gambling
- Fencing (resale) of stolen goods
- Copyright infringement
- Smuggling of firearms
- Smuggling of illegal migrants
- Bribery
- Money laundering

The significance of the above activities was not tested by computing any monetary values, but assessed on the basis of case numbers from criminal statistics and statistics on jurisdiction as well on the basis of reports by the police and by the ministry for interior affairs. The conclusion was that even under the assumption of a very low ratio of crime detection, for each type of the above activities the illegal revenues in each particular case would need to reach an implausibly large amount to sum up to a significant illegal production. Moreover, as concerns smuggling of illegal migrants, these activities are mainly performed by non-residents for non-residents according to police reports. Hence, the conclusion was that the impact of all above activities is not significant for Austrian GDP/GNI.

7.1.3.3.4. **Illegal prostitution**

Illegal prostitution is estimated by means of a supply side approach. The information available on the approximate number of illegal prostitutes and their assumed average income is that provided by the police and aid organisations. The number of prostitutes, multiplied by the average annual income, produces the value for the total supply of illegal prostitution services. In order to obtain domestic output from total supply, the proportion accounted for by non-resident illegal prostitutes must be estimated. In addition assumptions must be made on the expenditure of Austrians abroad and non-residents in Austria in order to be able to estimate the consumption expenditure on illegal prostitution in accordance with the national concept on the expenditure side. Value added is derived by means of assumptions on intermediate consumption such as rent, material (clothing and cosmetics) and accommodation services. In order to avoid any double counting, consumption expenditure of private households is reduced by the value of this intermediate consumption and, thus, the allocation rates in the commodity-flow model are adjusted accordingly against the requirements of the ESA 2010.

³⁹ As at the 31st December 2016

The number of illegal prostitutes was fixed from the benchmark year 2005 onwards. According to information provided by police authorities, the number of legally registered prostitutes coming from eastern European countries was growing in the course of the EU enlargement process in 2004 and 2007. Thus, given an unchanged demand, it was assumed that a growing legal market for prostitution services would not lead to a simultaneously expanding illegal market. The backwards estimates were calculated according to the development of the number of registered prostitutes.

For the maximum monthly income of prostitutes there were two estimates available: EUR 7.263 (ATS 100,000) for the year 1982 (Source: Girtler, R. (2004): *Der Strich. Soziologie eines Milieus*, Wien) and EUR 10.000 for the year 2003 (Source: Auer, M. (2006): *Hurentaxi. Aus dem Leben der Callgirls*, Wien). This development fell somewhat short of the growth of the overall consumer prices for the same period. From the two observations a relation was derived between the overall price development represented by the Consumer Price Index and the price development for prostitution services⁴⁰. Thus, the proportion between these two developments was applied to interpolate and extrapolate the estimated average monthly income of EUR 4.000 for the year 2005. Finally, turnover from illegal prostitution could be calculated by a price times quantity approach for the whole time series. The ratio of intermediate consumption (cosmetics, rents etc.) to output at constant prices of 2005 was applied for the whole period, taking implicitly into account the different developments of input and output prices.

An illegal import of prostitution services was estimated for non-resident prostitutes amongst the total number of illegal prostitutes. Hence, domestic output is reduced by the same amount. An illegal export of prostitution services is recorded as travel expenses by non-residents in Austria. An illegal import of prostitution services is recorded as travel expenses by residents abroad.

For the year 2017 the supplementary estimate for output was EUR 420 million, for intermediate consumption EUR 200 million and, hence, for value added EUR 220 million.

7.1.3.4. **Under-recording in Structural Business Statistics: VAT test (N4&N5)**

Concept and original data

The VAT test provides the first indication of the exhaustiveness of the business surveys. This method is designed to examine whether all survey units which should theoretically be recorded in the Structural Business Statistics actually are. This might not be the case particularly for small units, and for this reason special attention is given to units with low turnover.

The VAT test **compares turnover** according to the business surveys with the taxable turnover in accordance with the VAT statistics broken down by industry (ÖNACE two-digit codes) and size classes (turnover strata). The test has been carried out for the Structural Business Statistics, as it was for the *Non-agricultural business census (BZ 95)*.

⁴⁰ This relation is still applied to annually adjust the average income of prostitutes.

Comparison by turnover strata

Since companies with large turnovers are well known, statistical underrecording of output is rather likely to occur in the lower turnover strata and the VAT test therefore applies the change-of-sign method, comparing the taxable turnover according to the VAT statistics with turnover according to the Structural Business Statistics for each turnover stratum, beginning with the lowest. If the turnover of an ÖNACE section according to the VAT statistics is larger than recorded in SBS, it is assumed that it is underrecorded by the amount separating the two values. This method is continued in higher turnover strata until the difference between turnover in accordance with VAT statistics and *business survey* is reversed. The following turnover strata are used:

- up to EUR 0.363 million
- EUR 0.363 to 0.727 million
- EUR 0.727 to 3.634 million
- EUR 3.634 to 7.267 million

Under-recording in the strata with turnovers of over EUR 7.627 million is not considered to happen, since units of that size are not likely to be missed in the compilation of national accounts. Possible adjustments for large units are made by individual research in the compilation process.

Classification problems

The VAT statistics, like the business statistics, are classified according to ÖNACE. In areas where there are overlaps and problems differentiating between the economic activities, it might be the case that statistical units in the VAT statistics are classified differently from business statistics on a very detailed level of classification. Therefore, ÖNACE two-digit codes are chosen as the classification level for the comparison of VAT statistics and Structural Business Statistics.

Estimates of non-recorded output, intermediate consumption, value added

On the basis of the non-recorded turnover values calculated as described above for each ÖNACE two-digit code and turnover stratum, all the other survey characteristics (intermediate consumption, inventory, capital formation, wages and salaries, workforce, etc.) were computed for the relevant branches and strata according to the business statistics. For the year 2017 the adjustment for output was EUR 2,334 million, for intermediate consumption EUR 1,290 million and, hence, for value added EUR 1,045 million.

7.1.3.5. Revenues off the books (N6)

As in the studies for the years 1976⁴¹ and 1988⁴², undeclared income from hidden economic activities of small companies in particular was estimated on the basis of the data of the 1995 *non-agricultural business census*⁴³.

⁴¹ Franz, Alfred (1984): Schätzungen der Hidden Economy in Österreich auf der Basis offizieller Statistiken (Estimates of the hidden economy in Austria based on official statistics), in: Skolka, Jiří, (Hrg.) (1984): Die andere Wirtschaft. Schwarzarbeit und Do-it-yourself in Österreich, Wien: Signum Verlag.

The estimates for such revenues off the books constitute a major quantitative adjustment to the basic statistics for national accounts for the purposes of ensuring the exhaustiveness of GDP and GNI. The quotas for revenues off the books from the census in 1995 were used for subsequent years and hence for 2017, too. Nevertheless, they are continuously checked, whether they are still plausible.

Theoretical approach of the study

The point of departure for identifying hidden income is the assumption that a self-employed person would like to earn the same income per working unit as he pays an employee, i.e. his income targets are determined by the earnings of employees in his immediate economic environment. If he were to earn less, he would, as a "*homo economicus*", change his employment status. In cases, when the data collected in the basic statistics indicate that self-employed persons have a lower income, there is a good reason for assuming that at least the difference between their and employees' income is compensated for by earnings which are not declared to both tax authorities and business statistics. The boundary between deliberately concealed activity and underrecording in basic statistics is, as experience shows, somewhat blurred, but is not immediately relevant to the target of as comprehensive and exhaustive as possible estimates for GDP and GNI.

A key **additional assumption** for such a comparison of income is a reference income for the self-employed which can be compared with wages and salaries. As in the previous studies, operating surplus calculated by deducting interest payments was used as a reference income which is derived from the following data collected in the *business census*:

Table 7.9: Calculation of reference income

Gross value added
- Personnel expenditure
- Consumption of fixed capital
- Taxes on production and imports
+ Subsidies
- Interest
= Reference income

Per capita income is determined from the data on employees from the business surveys. Information from the 1995 microcensuses on average working hours of the self-employed and waged and salaried employees by industry (broken down by sections in accordance with ÖNACE) was used to convert this to income per working time unit.

⁴² Kratena, Kurt (1997): Der Umfang der Schattenwirtschaft in Österreich. Ergebnisse für 1988 (The extent of the hidden economy in Austria. Results for 1988), WIFO (unpublished paper on behalf of *Statistics Austria*) - (unpublished paper produced on behalf of the Austrian Central Statistics Office)).

⁴³ For coverage and details of the *BZ 95*, see Chapter 10.

Extent of the study

The studies for the years 1976 and 1988 mentioned above showed that, particularly in companies in the lower turnover size classes, the reference income for the self-employed was lower than the income of employees. This observation supports the assumption that the difference is made up for by undeclared income, since it is easier for smaller units to carry out economic activities off the books. For this reason, the two lower size classes, namely those with turnovers of up to EUR 363,364 (ATS 5 million) and of up to EUR 726,728 (ATS 10 million) were studied. Corporations such as GmbHs (i.e. limited partnerships) and AGs (i.e. incorporated companies) and cooperatives were excluded.

Activities were broken down at ÖNACE group level (three-digit codes). Separate estimates were made for renting out of private rooms which was not surveyed in the *business census*.

Methodological details

Since we can assume that the self-employed would not compare their income with those of their less qualified labour force (such as unskilled labour, cleaning personnel, etc.), there seemed to be no point in simply using average income of employees by branch and turnover size class as a reference value. In addition to the information from the *business census* (blue-collar workers and salaried employees by sex, wages and salaries) and the microcensuses (working hours of the self-employed, and of workers and salaried employees by sex), data on the varying income levels of men and women (workers and salaried employees by ÖNACE sections) were taken from the statistics of the *Umbrella Organisation of Austrian Social Security Institutions (DV)* in order to determine the income of salaried employees and blue-collar workers by sex adjusted for working hours. The highest income – in most cases of male salaried employees – was used for the purposes of comparison.

In addition, the concealed operating surpluses per capita determined in the two lowest size classes were imputed for establishments in the higher turnover size classes, too, if the company in question took the legal form of a sole proprietorship. The incentive for a sole proprietor in higher turnover strata to increase income with undeclared business is considered not to be less than in small companies.

Freelance workers who were included in the *business census* for the first time in 1995 (except for freelance artists) are a special case. The approach described revealed – except in a few cases - no instances of hidden income in this group. However, the conclusion to be drawn from this is not that there are no revenues off the books amongst freelance professionals but that the described method is not appropriate for this particular group of entrepreneurs. Therefore, the per capita revenues of the books estimated for freelancers by the *Institut für Wirtschaftsforschung (WIFO – Institute for Economic Research)* for the year 1988⁴⁴ were taken as a benchmark and increased by the change in the consumer price index as an indicator for the increase in prices in the total economy within the period 1988 to 1995. This approach was supported *inter alia* by the fact that in the exceptional cases mentioned above, in which hidden operating surpluses were detected based on the income

⁴⁴ See footnote 34

comparison method, the results were higher than those for 1988 by a similar amount. The number of freelance artists was taken from the income tax statistics.

From hidden operating surplus to hidden output

The next step was to find out how much additional output is required in order to obtain the additional value added defined by the additional estimates of hidden operating surpluses. Equating additional operating surplus with additional value added implies that revenues off the books do not give rise to any other components of value added in the form of wage and salary payments. Since this represents expenditure for the owner of a company, he has no interest in concealing it. Any concealed payments to employees from hidden operating surpluses represent a zero-sum game within the additional estimated value added and do not increase this anymore.

Additional undeclared intermediate consumption is, however, a distinct probability. The first step is to distinguish between fixed intermediate consumption (such as rents) or intermediate consumption which is difficult to obtain undeclared (such as energy) and variable intermediate consumption (such as material input). Whilst the first two are almost certainly included in declared, and hence statistically observed, intermediate consumption, even if they are used for activities in the hidden economy, this is not the case for the third. An owner of a company who is engaged in undeclared activities is well advised in some branches (manufacturing, repairs and hotel and catering business) not to enter some purchases of intermediate products in the books in order not to arouse the suspicions of the tax authority by an obvious mismatch between material input and output, whereas the direct ratio of fixed costs to output is more difficult to reconstruct.

A decision had to be made by branch to determine whether and to what extent concealed intermediate consumption is used to generate concealed operating surpluses. In this way, it was possible to extrapolate imputed output. In the remaining cases, the operating surplus or value added was equated with output (for example in trade).

Additions for tax evasion

Depending on the type of hidden production and taking into account customs which are known to obtain in certain branches, a distinction was made between tax evasion with and without mutual agreement in connection with revenues off the books. The former is the case, when the purchaser of a product or service pays the tax assuming that the producer will also do so (for example in the hotel and catering or taxi businesses). If the company owner does not, these taxes are an additional source of income for him and should therefore be added to hidden value added. Hence, it is assumed for some particular branches that the income off the books has to be adjusted for tax evasion without complicity. In the case of tax evasion with complicity, the purchaser does not pay the taxes either because he knows that this forms part of undeclared activity or has suggested it himself.

Detailed example: ÖNACE rev. 2 group 561 (Restaurants)

A detailed reference income comparison for estimating revenues off the books was feasible for the census year 1995 (BZ95), because for all units in the survey original and consistent data were available. Hence the detailed calculation can only be shown for the year 1995. The NACE rev.2 group

561 is selected for this description, since it is a good example for tax evasion without complicity and for the variation in the adjustments over time.

As the survey was based on the NACE rev.1, the equivalent NACE group was 553. The results were transformed into the NACE rev.2 group 561 in the course of the NACE revision in 2011.

Two unit levels were surveyed: the enterprise level (legal units) with a full set of accounting items from business accounts and the establishment level (as a proxy for LKAU) with less detail. Hence, in a first step only those units were investigated, for which the enterprise equals the establishment, in order to arrive at a full and consistent account for each of these units. Corporations and limited companies were excluded. The focus was on turnover size classes: stratum 1: up to EUR 363.364 (=5 ATS million) and stratum 2: up to EUR 726.728 (=10 ATS million).

The reference income for self-employed was derived from gross value added, deducting compensation of employees, CFC and taxes on production and adding subsidies. Moreover, interests paid were deducted, because they are likely to be perceived by the self-employed as reducing their income.

The calculated per capita wages and salaries and per capita reference income were adjusted for difference in working hours available from the micro-census survey. The shortfall of self-employed income was considered to be compensated for by revenues off the books.

Thus, the first result was the average under-reported income of self-employed for enterprises equalling establishments for stratum 1 (EUR 11,000) and stratum 2 (EUR 7,000). They were also applied on establishment belonging to enterprises that consist of more than one establishment in both size classes. Moreover, as the legal status of sole proprietorship is assumed to be the most likely case for revenues of the books, the values were also applied on establishments from sole proprietorships exceeding the turnover of stratum 2 (subsequently referred to as stratum 3).

Summing up, the average under-reported income per establishment was applied on the following units:

- number of establishments equalling enterprises in stratum 1: 14,803
- number of establishments equalling enterprises in stratum 2: 656
- number of establishments from other enterprises in stratum 1: 272
- number of establishments from other enterprises in stratum 2: 42
- number of establishments from sole proprietorships 3: 137

Moreover, for establishments from sole proprietorships the higher value from stratum 1 was applied, irrespective of the stratum they actually belong to. The rationale is that it was basically assumed that self-employed want to achieve at least the income of their employees, i.e. the wages and salaries constitute the lower bound for the income comparison. Hence, the lower bounds are shifted upwards a bit by this procedure. As already said, sole proprietorships are considered more likely to be involved in revenues off the books.

Consequently, total income off the books was calculated as follows:

- for stratum 1: $(14,803 + 272) * \text{EUR } 11,000 = \text{EUR } 161.04$ million
- for stratum 2 (sole proprietorship): $547 * \text{EUR } 11,000 = \text{EUR } 5.84$ million
- for stratum 2 (other): $(656 + 42 - 547) * \text{EUR } 7,000 = \text{EUR } 1.11$ million
- for stratum 3 (sole proprietorship): $137 * \text{EUR } 11,000 = \text{EUR } 1.46$ million

As these calculations started from the basic survey data, they had to be adjusted for under-recording in the survey (see chapters 7.1.3.4 and 7.1.3.6 of the inventory).

The results for stratum 1 were corrected by the factor 1.21: $161.04 * 1.21 = 194.81$.

The results for stratum 2 were corrected by the factor 1.12: $(5.48 + 1.11) * 1.12 = 7.76$.

The results for stratum 3 were corrected by the factor 1.07: $1.46 * 1.07 = 1.57$.

Finally, the total estimate for NACE rev.1 group 553 was EUR 204.14 millions. However, it was also assumed that the self-employed would compare his income on a gross basis, i.e. before taxation. Hence, as it was considered that tax fraud in restaurants is without complicity, it was concluded that taxes should be added. This was actually done in two steps.

The first step was to estimate turnover that was necessary to yield the extra income. The calculation was based on ratios from the detailed production accounts, assuming that a part of intermediate consumption is also not reported. Non-reported value added (=income) of 204.14 plus non-reported intermediate consumption of 91.97 added up to non-reported turnover of EUR 296.11 million, which was then the basis for estimating tax evasion.

The second step was calculating the tax. Based on detailed information on the turnover structure of restaurants (available from Nielsen AC market research), a cumulated tax rate (other taxes on products; VAT) of 20.5% was estimated. Hence, the final estimates for income off the books was $204.14 + 296.11 * 0.205 = \text{EUR } 264.84$.

Since these figures referred to NACE rev.1 group 553, there were slight structural changes in the course of the transition to NACE rev.2 group 561 due to the minor reclassification of units. The reclassification was done by an automated procedure. Thus, the final result for NACE 561 was $202.35 + 293.31 * 0.205 = \text{EUR } 262.48$ million.

The year 1995 was the starting point for the estimates on revenues off the books. Nonetheless, the ratios derived from the 1995 census were adjusted in the time series if necessary. This was also the case for NACE 561. Since the taxation on drinks had to be changed upon the decision of the European Court of Justice, the cumulated tax rate to be applied on turnover off the books in NACE 561 was reduced from 20.5 to 17.5% (partly for the year 2000; fully from the year 2001 onwards). Besides the impact of taxation on the adjustment of revenues off the books, there were structural changes in the production account over time which implicitly affected the estimates. However, they cannot be shown in explicit figures due to their mutual interference.

The ratio of value added from revenue off the books changed from 11.4% in 2011 to 9.9% in 2017. Thus, the adjustments do vary over time, although the initial estimate was made for 1995.

Adaptions of the estimates are made, whenever there is evidence that the circumstances for earning revenues off the books have changed. The recent substantial adjustment was made in the course of the launching of mandatory cash registers from 2016 onwards to compensate for the effect of decreasing concealed income and to avoid double counting

Special Case: Renting out of private rooms

Tourism is an important industry in Austria, a not insignificant proportion of which is outside institutional tourism. Additional calculations have always been made in Austrian national accounts for the renting out of private rooms, with a distinction being made between overnight stays on farms and on other premises. Renting out of private rooms on farms is estimated in the agricultural accounts as non-characteristic output of agriculture (see chapter 3.7.1).

Since business statistics do not cover renting out of private rooms, a quantity times price approach is used to make an estimate based on the number of overnight stays taken from the tourist statistics and the average price from the consumer price statistics. Turnover tax statistics shows that turnover from the renting out of private rooms is not confined to turnover at the reduced turnover tax rate to which accommodation earnings are subject. An addition of approximately 15% for other earnings was therefore made to the revenues from overnight stays which were treated as revenues from the sales of food and beverages.

As there is no direct information on intermediate consumption for renting out of private rooms, it was assumed that at least inputs for energy, materials and other operating expenditure have to be occurred to run this type of business. The ratios for these components of intermediate consumption were derived from those units classified under ÖNACE 552, 553 and 559, which are covered by the Structural Business Statistics. Moreover, it was assumed that the incentives to realise revenues off the books from renting out of private rooms are about the same as in other accommodation services. Hence, the ratio for revenues off the books (including estimates for tax evasion) estimated for accommodation activities surveyed in Structural Business Statistics was also applied for renting out of private rooms, i.e. an additional adjustment to the results of the price times quantity approach described above is recorded.

Results

For the year 2017 the supplementary estimate (including revenues off the books from renting out of private rooms) for output was EUR 6,142 million, for intermediate consumption EUR 1,293 million and, hence, for value added EUR 4,849 million. As expected, the branches mainly involved were hotels and restaurants, trade and other services.

7.1.3.6. Adaptation for incomplete reports for a non-calendar business year (N7)

In the Structural Business Statistics the reporting companies indicate what period the data they have reported refer to. Information is therefore available whether the surveyed companies are reporting data for the entire reporting period (= calendar year) or only for a shorter business year that is different from the calendar year. If the report is incomplete the data are extrapolated for the entire calendar year. This adjustment is not made at an aggregated level but separately for each unit concerned. For

the year 2017 the supplementary estimate for output was EUR 321 million, for intermediate consumption EUR 219 million and, hence, for value added EUR 102 million.

7.1.3.7. Own account construction of agricultural buildings (N7)

Similarly to the exhaustiveness adjustment for own account construction of agricultural dwellings (see chapter 7.1.3.2.2), estimates are made for own account construction of agricultural buildings on the basis of results from the test network of agricultural and forestry units. Whereas the first refers to own account production of households as owner occupiers and is, hence, classified as N3 (i.e. not obliged to register), the latter refers to households as producers in agriculture and is therefore recorded under N7 (i.e. statistical deficiencies in the data). For the year 2017 the estimate amounted to EUR 33 million.

7.1.3.8. Tips (N7)

7.1.3.8.1. Tips in hotels and restaurants

The income statistics of the *Umbrella Organisation of Austrian Social Security Institutions (DV)* give average wages and salaries for the hotels and restaurants industry (ÖNACE section I), which are significantly lower than in other branches. They are also well below the income of employees in trade, which is considered to be a comparable service activity.

Since the data of the *DV* are adjusted for the actual duration of the employment, seasonal effects can be ruled out. An adjustment for working time was also made using the results of the microcensus. Assuming that the income expectations in both branches are similar, the most obvious explanation is that employees in the hotels and restaurants industry make up their income to at least the level of employees in trade by means of tips. Taking into account the working conditions (night work in hotels and restaurants), it can be concluded that this assumption does not to overstate the case.

An additional estimate of the component for tips of approximately EUR 620 million (some 30%) was added to the wages and salaries in the hotel and catering industry surveyed in the 1995 non-agricultural business census. This corresponded to roughly 7% of total earnings from accommodation and sales of food and drink. This figure was also used in subsequent years producing a supplementary estimate for tips of EUR 1,540 million in 2017.

7.1.3.8.2. Tips for hairdressers, beauticians and pedicurists

In ÖNACE O 96.02 (hairdressers, beauticians, pedicurists) the turnovers from the business surveys were compared with the expenditure of private households in accordance with the household budget survey. As the expenditure of households was higher than the turnovers from the business surveys statistics, part of the difference (10% of the statistically recorded turnover) was interpreted as non-declared tips. This produced a supplementary estimate for tips amounting to EUR 105 million in 2017. The remainder of the difference between the business surveys and the household budget survey is assumed to constitute underground production (see chapter 7.1.3.1.4).

7.1.3.8.3. Tips in the taxi industry

There are no detailed data on income in the taxi branch. However since this is a "classical tip branch" it is assumed that employees in the branch top up their income with tips in the same way. A supplementary estimate of approximately EUR 21 million was therefore added to wages and salaries from the 1995 business surveys as tips. This value was updated on the basis of output in the taxi branch producing a supplementary estimate for tips amounting to EUR 48 million in 2017.

7.2. Allowance for exhaustiveness in the expenditure approach

7.2.1. Identification of types of exhaustiveness

See chapter 7.1.1.

7.2.2. Adjustments made for the different types of non-exhaustiveness

The estimates for both drug trafficking and smuggling of cigarettes are derived from assumption on the actual demand for drugs and cigarettes. Nevertheless, these assumptions are the basic input for the compilation of production accounts for these illegal activities.

The adjustments for motor vehicle repair, cleaning services for households as well as for hairdressers' and beauticians' services are based on the comparison of demand and supply. But again, the first step is to ensure the exhaustiveness of the production accounts. Hence, these exhaustiveness adjustments are described under allowances for exhaustiveness in the output approach, although they take into account the expenditure side, too (see chapter 7.1.3.1).

Most of the adjustments made for the supply side of the non-observed economy can explicitly be allocated to the particular use categories based on the supply & use framework. However, overall adjustments for under-recording in business statistics (see chapter 7.1.3.4) and for units having a non-calendar business year (see chapter 7.1.3.6) are implicitly allocated to the various use categories within the commodity flow model. Hence, their effect cannot be explicitly shown by use category.

Table 7.10: Adjustments of use categories by type of non-exhaustiveness (NOE 1-7), year 2017*

N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4: Registered legal person is not included in statistics	N5: Registered entrepreneur is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	TOTAL
Adjustment of output							
in million EUR							
3,235	636	1,964	1,999	335	6,142	2,047	16,357
% of total output (before adjustments)							
0.5	0.1	0.3	0.3	0.0	0.9	0.3	2.4
Adjustment of imports of goods and services							
in million EUR							
370	303						673
% of total imports of goods and services (before adjustments)							
0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.4
Adjustment of total supply (at purchasers' prices)							
in million EUR							
3,605	939	1,964	1,999	335	6,142	2,047	17,030
% of total supply (before adjustments)							
0.4	0.2	0.2	0.3	0.0	0.8	0.3	2.2
Adjustment of intermediate consumption							
in million EUR							
0	200	0	1162	127	1293	219	3,002
% of intermediate consumption (before adjustments)							
0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
Adjustment of gross capital formation							
in million EUR							
1,427		1,964	99	0.0	306	33	3,829
% of gross capital formation (before adjustments)							
1.9	0.0	2.6	0.0	0.0	0.5	0.1	5.1
Adjustment of final consumption expenditure							
in million EUR							
1,980	1,266				4,564	1,693	9,503
% of GDP (before adjustments)							
0.8	0.4	0.0	0.0		1.9	0.6	3.7

Adjustment of exports of goods and services							
in million EUR							
	84						84
% of exports of goods and services (before adjustments)							
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adjustment not explicitly allocated (implicitly allocated by commodity flow model)							
in million EUR							
			176	335		102	613
% of total use (before adjustments)							
0.0	0.0	0.0	0.4		0.0	0.1	0.5
Adjustment of total use (at purchaser's prices)							
in million EUR							
3,407	1,550	1,964	1,437	462	6,163	2,047	17,030
% of total use (before adjustments)							
0.4	0.1	0.2	0.4		0.8	0.3	2.2

* including rounding errors

In table Table 7.10 as well in the process table there is no full integration between supply and use in the rows showing the adjustments of use categories by type of non-exhaustiveness. There are two reasons for that. The first reason is that on the use side (consumption expenditures and gross fixed capital formation) some of the volume is booked as balancing, since the numbers were adjusted in the supply/use balancing process. The second reason concerns the rows for **N4: Registered legal person is not included in statistics** and **N5: Registered entrepreneur is not included in statistics**. These adjustments are not visible on the use side, because they cannot be transferred from the activity to the product dimension. Thus the information is getting lost in the calculations of domestically available supply for the commodity flow calculations as described in chapter 5.7.3.2.1. and 5.7.3.4.1.

In order to ensure equal balance on the supply and on the use side, the differences resulting from these two cases are shown in the rows of the adjustments not explicitly allocated (implicitly allocated by commodity flow approach).

7.2.3. Exhaustiveness methods

For the detailed description of the methods see chapter 7.1.3.

7.3. Allowances for exhaustiveness for the income approach

7.3.1. Identification of types of exhaustiveness

See chapter 7.1.1.

7.3.2. Adjustments made for the different types of non-exhaustiveness

The following table provides an overview of the adjustments made on the production accounts towards exhaustiveness of GDP and GNI. Due to the fact that adjustments for N4 and N5 and for the part of N7 referring to a non-calendar business year are initially made for total gross value added at a very early stage of the data processing, followed by several steps of data compilation, it is not feasible to separate the effect for D.1 or B.2/B.3g in the final estimate. The reason is twofold: on the one hand, the final estimate of D.1 for the total economy is derived from wage tax statistics, whereas these particular adjustments are only made for those activities covered in the SBS. On the other hand, B.2/B.3g is a residual item.

Table 7.11: Adjustments of compensation of employees and gross operating surplus/mixed income by type of non-exhaustiveness (NOE 1-7), year 2017*

N1: Producer should have registered (underground producer)	N2: Illegal producer that fails to register	N3: Producer is not obliged to register	N4: Registered legal person is not included in statistics	N5: Registered entrepreneur is not included in statistics	N6: Mis-reporting by the producer	N7: Statistical deficiencies in the data	TOTAL
Adjustment of compensation of employees (D.1)							
in million EUR							
0	0	0	0	0	0	2,112	2,112
% of total compensation of employees (before adjustments)							
0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Adjustment of gross operating surplus/mixed income (B.2/B.3g)							
in million EUR							
3,235	436	1,964	0	4,849		-386	10,096
% of total gross operating surplus/mixed income (before adjustments)							
2.2	0.3	1.3	0.0	3.3		-0.3	6.9
Overall adjustments not explicitly separated in final estimate							
in million EUR							
			837	208		102	1,147
% of total D.1 plus B.2/B.3g (before adjustments)							
0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.4
Total adjustment							
in million EUR							
3,235	436	1,964	837	208	4,849	1,828	13,357
% of GDP (before adjustments)							

0.9	0.1	0.5	0.2	0.1	1.3	0.5	3.7
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* including rounding errors

7.3.2.1. Compensation of employees and operating surplus/mixed income

Although the adjustments for tips and revenues off the books do in fact address income aggregates (compensation of employees and operating surplus/mixed income, respectively), they are initially made to ensure the exhaustiveness of the production accounts (i.e. output and value added). Hence, these exhaustiveness adjustments are described under allowances for exhaustiveness in the output approach (see chapter 7.1.3.5 and 7.1.3.8, respectively).

7.3.2.2. Wages and salaries in kind

Austrian tax provisions ensure that payment in kind is covered very comprehensively both in income tax and, more extensively, in VAT returns. On the whole, Austrian companies are making increasingly fewer payments in kind. This is partly because of the current need to save money and partly because payment in kind no longer affords any fiscal advantage. In the case of non-market producers, all payment in kind is booked as wages and salaries.

The types of payment in kind mentioned in the Commission Decision on exhaustiveness on 22 February 1995 are certainly subject to VAT.

The following items are liable for VAT and income tax and are booked as wages and salaries:

- private use of company cars
- provision of coal and wood free of charge or at a reduced rate
- provision of electricity free of charge or at a reduced rate
- dwellings provided free of charge or at a reduced rate
- the value of interest when interest-free or reduced-interest loans are provided
- tickets provided free of charge or at a reduced rate
- luncheon vouchers provided by employers
- meals in company canteens provided free of charge and at a reduced rate
- free accommodation and meals in hotels and restaurants
- tobacco provided free of charge and alcoholic beverages provided free of charge in the brewing industry

Since payment in kind is subject to VAT, it is also booked as output. At the same time, the components of payment in kind are not booked out of intermediate consumption. Gross value added is either under or overvalued, depending on whether the output components – which are largely calculated normatively – are over or under the actual expenditure for intermediate consumption.

The normative calculations were therefore compared with the estimated actual intermediate consumption expenditure for the kinds of payment in kind in question. Gross value added proved to be overvalued for the private use of company cars and undervalued for employers' contributions to the

current costs of in-house canteens and free catering in the hotel and restaurant trade, but the difference between under and overrecording was so slight that no corrections to GDP were necessary.

The degree of coverage achieved by using the results of the wage tax statistics which take into account the types of payment in kind subject to tax, was found to be significantly better than in the past. Not enough information was available to carry out a similar comparison of accommodation in the hotel and restaurant trade and tickets provided free of charge or at a reduced rate but it can be assumed that the difference is slight. This also applies to other types of payment in kind.

However, there are few exceptions, mainly price reductions obtained in free or subsidised canteens or obtained by luncheon vouchers up to EUR 4.40 per day, which are excluded from the wage tax statistics, i.e. only the amount exceeding this threshold is liable to wage tax. The Labour cost survey is used to estimate these untaxed salaries and wages in kind in order to obtain the total wages and salaries. Since there is no independent income approach in Austrian national accounts and gross operating surplus is derived as a residual item, these adjustments do not have an impact on both GDP and GNI.

7.3.3. Exhaustiveness methods

The following table provides an overview of the adjustments made towards exhaustiveness of GDP and GNI, grouped by both type of exhaustiveness and method applied. For the detailed description of the methods see chapter 7.1.3. Again the adjustments for N4 and N5 and for the part of N7 referring to a non-calendar business is shown as overall item (see chapter 7.3.2).

Table 7.12: Adjustments of compensation of employees and gross operating surplus/mixed income by type of non-exhaustiveness (NOE 1-7) and method, million EUR, year 2017*

NOE	Method	D.1	B.2/B.3 g	Overall	Total
N1: Producer should have registered (underground producer)					
Repair of motor vehicles	Technical assumption on repair		433		433
Cleaning services of households	Comparison of Household Budget Survey and Business Statistics		950		950
Accommodation and food services activities	Comparison of Household Budget Survey and Business Statistics		24		24
Hairdressers, beauticians etc.	Comparison of Household Budget Survey and Business Statistics		229		229
Private tuition	Annual studies by Chamber of Labour (AK)		172		172
Moonlighting in construction of private dwellings	Survey on builder-owners by the Economic Chamber (WKO 2007)		1,427		1,427
			3,235		3,235
N2: Illegal producer that fails to register					
Drug trafficking	Consumption patterns by type of drug and drug demand		188		188
Illegal prostitution	Number of illegal prostitutes and their average income		220		220
Smuggling of cigarettes	Consumption patterns and cigarette demand; study on cigarettes not taxed in Austria		27		27
			436		436
N3: Producer is not obliged to register					
Own-account production in construction of private dwellings	Survey on builder-owners by the Economic Chamber (WKO 2007); test network of book keeping agricultural units		1,964		1,964
N4 & N5: Registered legal person or registered entrepreneur is not included in statistics					
Small units not covered by SBS	Comparison of SBS and VAT Statistics			1,045	1,045
N6: Mis-reporting by the producer					
Revenues off the books	Reference income of self-employed compared to income of employees		4,849		4,849
N7: Statistical deficiencies in the data					
Tips	Comparison of wages and salaries; comparison of Household Budget Survey and Business Statistics	1,693			1,693
Own-account production in construction of agricultural buildings	Test network of book keeping agricultural units		33		33
Adjustments for non-calendar business year	Grossing up survey data for full year			102	102
Non taxed wages and salaries in kind		420	-420		0
		2,113	-387	102	1,828
Total N1 to N7		2,113	10,097	1,147	13,357

* including rounding errors

7.4. Employment data and exhaustiveness

The EU Commission issued a decision⁴⁵ to ensure that all EU Member States compare the employment data used in the national accounts with data from population statistics. Due to the approach adopted in collecting data and to ensure exhaustiveness, comparisons of employment data in Austria are, to all intents and purposes, irrelevant since all incomes are already included in the primary data recorded and the additional estimates described in this chapter. Nevertheless, comparisons are carried out especially to comply with the Commission Decision.

For the year 2017 a detailed comparison was made once again. As for the previous detailed comparisons of employees, it was once again decided that exhaustiveness under Title IV of Commission Decision 94/168/EC of 22 February 1994 of current GNI data has been achieved and no further additional estimates are required on the basis of the comparison.

The comparison of employment figures for 2017 is explained in more detail below.

7.4.1. National versus domestic concept

ESA stipulates that the territorial distinction for employees should be made in accordance with the persons concept and according to the domestic principle, as "the results of the activity of producer units are consistent in coverage with employment, if the latter includes both the residents and the non-residents who work for resident producer units" (ESA 2010, 11.17). Employees therefore include, for example, non-resident cross-border workers (commuters), non-resident seasonal workers, military personnel stationed in the rest of the world, Austrian residents who belong to the staff of diplomatic representations abroad or the staff of an Austrian scientific institution located outside Austrian territory, crew members of ships, aircraft and floating oil rigs which are operated by resident units and local employees of State departments outside Austrian economic territory. By contrast, persons residing in Austria employed in a non-resident unit are not counted as employees.

7.4.2. Sources for calculating employment in national accounts

7.4.2.1. Umbrella Organisation of Austrian Social Security Institutions (Dachverband der Sozialversicherungsträger, DV)

General issues

The data from the Umbrella Organisation of Austrian Social Security Institutions (DV) are administrative data classed as secondary statistics. All insurance relationships which are legally valid in Austria are included. As virtually all employment activity is bound to be linked with an insurance

⁴⁵ Commission Decision 94/168/EC of 22 February 1994

relationship in Austria (some self-employed groups of professions have the possibility to opt out⁴⁶, this is a full survey of (almost) all employment.

As far as the quality of the data is concerned, the administrative data provided by the HV are the most exhaustive source of information on employment in Austria.

Methodology

The DV makes available two different types of data:

On the one hand it publishes monthly data in aggregated form on jobs broken down by industry and Bundesland. These are produced from the sum of reports of the individual health insurance schemes. The published results are final figures for the month but not genuine average values.

On the other hand the DV also has a data stock of individual personal data which includes all valid insurance relationships in Austria. A few employees insured in the so called Krankenfürsorgeanstalten (KFA) are not yet included. This is because they are not directly subordinate to the DV like the other social insurance schemes and therefore reporting is not compulsory. All KFA except Upper Austria are completely integrated in the database system in the meantime. The KFA data, which are not in the original DV database, are collected separately. The DV itself uses this data source for individual evaluations, but no regular statistics are produced from it.

Access to this data is provided on the one hand via direct monthly supplies of data to *Statistics Austria*. These comprise end-of-month figures and also breakdowns of periods with starting and final dates. Reports on recipients of top-up pay and persons who receive their pay in the form of a service cheque are also included. Data are available on self-employed persons in agriculture and information on people on parental leave and on recipients of children's allowance.

The data also include more precise information on ÖNACE, institutional sectors and regional identification of the employer as they are linked to the business register of *Statistics Austria*.

Territorial Delineation

The data of the DV include all valid insurance relationships in Austria and hence also jobs (including those of commuters, seasonal workers and persons in institutional households). The data are therefore in line with the domestic concept. Employees of extraterritorial organisations are identified separately by the DV and are not included in evaluations. Persons employed in Austrian institutions abroad are already included.

7.4.2.2. Wage and income tax statistics

General issues

The wage and income tax statistics survey is a full secondary statistical survey, which is derived from data provided by the tax authorities.

⁴⁶ That means these persons have the option of being released from compulsory insurance

The annual statistical evaluation of income tax is based on information on the income, subject to the Einkommensteuergesetz, of natural persons liable to tax, with and without restrictions, which they have received within the calendar year. Wage tax is a specific form of income tax and is levied on income from employed work by being deducted from the wages. When the results of these two statistics are combined it produces the integrated wage and income tax statistics in which the income of self-employed and employees and pensioners, and transfer benefits such as unemployment benefit are recorded.

Methodology

Financial administrative data from *Statistics Austria* undergo multilevel plausibility testing and processing in several stages in order to compile the wage and income tax statistics. The person-based wage tax data set is an important input for various analyses of the employment data.

The great advantage of wage tax data is that they include gross wages and salaries in addition to other personal information, which can only be obtained in distorted form from insurance data because of the maximum contribution principle.

The results obtained from analysing wage tax statistics can be seen as a useful means of validating and assessing final results from social insurance.

Territorial Delineation

Territorial delineation for wage tax is entirely in line with the domestic concept. All persons who are liable to tax in Austria are included. People who commute abroad are not in the wage tax statistics, but because of the double taxation agreement they are recorded in the income tax statistics.

7.4.3. Population statistics sources for comparing employment with national accounts data

7.4.3.1. Labour force survey

General issues

The labour force survey (LFS) has been conducted in Austria in the course of a micro-census every quarter since 1968. In 1994 the survey was adjusted to ILO (International Labour Organisation) standards for the first time and low-paid employees (persons working less than 12 hours a week) were also included from then on.

The European labour force survey was first conducted in Austria in the year of accession, 1995, in connection with the micro-census in March. The labour force survey is conducted in accordance with the respective EU regulation in force in all Member States of the European Union and forms a basis for compiling internationally comparable data on employment and unemployment.

In 2004 the labour force survey underwent a major change to take the form of a continuous survey. This means that the survey no longer refers to a reference week at the end of the quarter but is

conducted in all weeks throughout the year, enabling seasonal fluctuations to be recorded much more accurately.

Methodology

The Austrian Labour Force Survey is a regionally stratified cluster sample with a rotational pattern. The sample is made up of nine Bundesland samples of approximately the same size. The primary sampling units are dwellings, within each household all persons are surveyed. All persons whose regular residence is in Austria and do not live in institutional households are included.

In Austria, the LFS is a compulsory survey, whereas proxy interviews are allowed. The sample contains approximately 20 000 households equal to 44 000 persons per quarter. Households are evenly distributed across all weeks of a quarter. The response rate is about 95%. The LFS is a multi-mode survey, until 2020 face-to-face and telephone interviews were conducted, since 2021 also web interviews are available.

Territorial Delineation

The data from the labour force survey cover only persons in Austria, i.e. persons registered as having their main residence in Austria. The labour force survey excludes all persons in institutional households and persons above or below certain age limits.

7.4.4. Calculation of employment in the Austrian National Accounts

In order to calculate employment in the national accounts the DV data, which are the most exhaustive source of data on Austrian employment, are invariably used. The number of jobs is converted into the number of persons employed by evaluating and adjusting the DV data for multiple employments.

7.4.4.1. Employment (persons employed)

The DV data stock on jobs (reporting day data – figures for the end of the month/periodic breakdown) and individual personal data form the basis for calculations in terms of persons. As mentioned above some KFA are not included in the data set forwarded by the HV. In order to avoid double counting, the KFA which are already included are discounted so that the total number of persons employed in KFA can be added.

The number of individuals is determined using the available periodic structure with a starting and final date. The results are annual average values.

For the purposes of comparing employment, persons on parental leave and persons doing their military and alternative service are not taken into account.

For the purposes of breaking down employment by ÖNACE sections, the ÖNACE classification in accordance with the structure of the DV data stock linked with the business register is used for employees. Much better data quality can be achieved by linking this HV data stock with the business register of *Statistics Austria* using the employer's number as an unambiguous identifier. In some ÖNACE sections adjustments are, however, still made.

With regard to the self-employed the boundary value from evaluating the DV data stock is used, as it is for employees. The data source of the DV originally only provides a classification of self-employed persons in agriculture, who can clearly be classified in ÖNACE section A on the grounds of their occupational status. This source offers no classification for other industries and therefore the DV data stock is linked with the business register. This works for the majority of the self-employed persons. For the unpaid family workers, both the boundary values and the ÖNACE classification of the labour force survey are used.

As the data for calculating the total gross wages and salaries of all workers come from the wage tax statistics, DV data are compared not only with the results of the labour force survey but also with the employment data from the wage tax statistics. The three-way comparison, however, only covers employees since the wage tax statistics typically only provide exhaustive information on income of employees (and pensioners).

Annual average values are calculated when the numbers of individuals are being determined (excluding labour force results). The result is calculated as an arithmetic mean in accordance with the formula $\frac{1}{T} \sum_{i=1}^T b_i$, whereby T stands for the number of days of the respective reporting period and b_i for the number of persons who had a valid job on day i.

7.4.5. Comparison of employment data from the DV statistics with the results of wage tax statistics and the labour force survey

To facilitate comparability of the data on employees, they were adjusted for their different concepts. On the one hand, persons on parental leave and doing military and alternative service were excluded from the national accounts figures. On the other hand, holders of a non-standard contract were excluded from the LFS data, since they are treated as self-employed persons in national accounts. Looking at the figures by activity, the large discrepancies between tax statistics and both national accounts and LFS data are obvious in the NACE divisions 84, 85 and 86. This is due to the fact, that a large part of employees in public education (NACE 85) and health (NACE 86) services is registered under public administration (NACE 84). There is also a large difference between LFS and both national accounts and tax statistics in NACE 78 (“employment activities”). This is due to the fact that in LFS temporary workers are classified in the NACE of the enterprise where they actually work, but according to ESA temporary workers have to be classified in NACE 78 which is the activity of the contract agency. Anyway, there are only rather low differences in the totals. Hence, no further additional exhaustiveness adjustments are required on the basis of the comparison.

Table 7.13: Employees (persons), year 2017*

ÖNACE	Designation	Wage tax statistics**	National accounts	Labour Force Survey***
01	Crop and animal production, hunting and related service activities	35,235	21,447	21,623
02	Forestry and logging	7,101	7,258	6,540
03	Fishing and aquaculture	226	222	87
05+06+07	Mining of coal and lignite; Extraction of crude petroleum and natural gas; Mining of metal ores;	1,505	1,102	1,432
08+09	Other mining and quarrying; Mining support service activities;	4,652	5,136	4,861
10	Manufacture of food products	68,377	71,034	68,173
11	Manufacture of beverages	8,278	8,972	9,362
12	Manufacture of tobacco products	2	0	118
13	Manufacture of textiles	7,438	7,706	5,260
14	Manufacture of wearing apparel;	4,931	4,377	4,139
15	Manufacture of leather and related products	3,716	3,763	2,734
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	29,034	30,668	26,441
17	Manufacture of paper and paper products	15,944	17,040	14,657
18	Printing and reproduction of recorded media	9,596	10,511	13,380
19	Manufacture of coke and refined petroleum products	1,164	1,309	2,007
20	Manufacture of chemicals and chemical products	16,821	17,146	20,101
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	14,289	15,647	20,555
22	Manufacture of rubber and plastic products	29,050	29,553	29,695
23	Manufacture of other non-metallic mineral products	28,994	29,924	27,451
24	Manufacture of basic metals	35,912	36,501	36,919
25	Manufacture of fabricated metal products, except machinery and equipment	71,418	74,355	79,307
26	Manufacture of computer, electronic and optical products	21,479	24,052	30,677
27	Manufacture of electrical equipment	44,678	42,719	42,915
28	Manufacture of machinery and equipment n.e.c.	78,661	80,394	79,306
29	Manufacture of motor vehicles, trailers and semi-trailers	32,873	33,536	38,775
30	Manufacture of other transport equipment	7,626	7,613	12,047
31	Manufacture of furniture	22,588	23,885	22,990
32	Other manufacturing	16,016	15,991	15,890
33	Repair and installation of machinery and equipment	22,077	28,111	26,739
35	Electricity, gas, steam and air conditioning supply	25,070	24,931	29,308
36	Water collection, treatment and supply	800	2,517	1,133
37+38+39	Sewerage; Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services	15,303	21,272	15,536
41	Construction of buildings	70,290	66,936	88,628
42	Civil engineering	29,181	26,172	48,430
43	Specialised construction activities	168,974	172,720	167,695
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	69,259	71,687	60,957
46	Wholesale trade, except of motor vehicles and motorcycles	180,244	190,578	156,476

ÖNACE	Designation	Wage tax statistics**	National accounts	Labour Force Survey***
47	Retail trade, except of motor vehicles and motorcycles	317,193	320,486	311,192
49	Land transport and transport via pipelines	107,217	116,030	81,529
50	Water transport	457	489	1,101
51	Air transport	7,934	8,217	7,965
52	Warehousing and support activities for transportation	51,083	53,097	79,399
53	Postal and courier activities	23,212	23,386	25,463
55+56	Accommodation; Food and beverage service activities	235,922	247,955	217,019
58	Publishing activities	12,102	13,111	13,315
59	Motion picture, video and television programme production, sound recording and music publishing activities	5,818	5,130	3,534
60	Programming and broadcasting activities	4,201	6,042	7,078
61	Telecommunications	9,948	14,395	21,517
62+63	Computer programming, consultancy and related activities; Information service activities	64,554	62,274	62,917
64	Financial service activities, except insurance and pension funding	74,211	70,531	89,386
65	Insurance, reinsurance and pension funding, except compulsory social security	24,742	27,701	26,258
66	Activities auxiliary to financial services and insurance activities	15,121	12,212	17,061
68	Real estate activities	99,592	47,157	28,687
69	Legal and accounting activities	44,576	47,193	49,011
70	Activities of head offices; management consultancy activities	45,490	41,911	27,545
71	Architectural and engineering activities; technical testing and analysis	48,237	46,679	50,163
72	Scientific research and development	15,739	15,559	13,223
73	Advertising and market research	23,679	20,155	17,531
74+75	Other professional, scientific and technical activities; Veterinary activities	19,821	9,185	14,895
77	Rental and leasing activities	9,484	10,231	6,567
78	Employment activities	89,975	93,951	6,761
79	Travel agency, tour operator and other reservation service and related activities	11,776	12,294	15,808
80+81+82	Security and investigation activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities	116,320	118,497	95,723
84	Public administration and defence; compulsory social security	497,207	233,916	277,019
85	Education	103,336	302,793	270,983
86	Human health activities	145,308	243,514	239,886
87+88	Residential care activities; Social work activities without accommodation	139,106	164,763	154,995
90	Creative, arts and entertainment activities	22,384	13,912	12,911
91	Libraries, archives, museums and other cultural activities	5,435	7,583	9,719
92	Gambling and betting activities	6,222	5,913	7,060
93	Sports activities and amusement and recreation activities	19,306	18,567	18,764
94	Activities of membership organisations	41,520	50,269	43,384
95	Repair of computers and personal and household goods	2,349	2,258	3,222
96	Other personal service activities	53,953	40,828	44,528

ÖNACE	Designation	Wage tax statistics**	National accounts	Labour Force Survey***
97	Activities of households as employers of domestic personnel	753	9,437	8,538
	Not classified	15,895		
	SUM national concept			3,614,003
	plus in commuters according to national accounts			145,187
	minus out commuters according to national accounts			41,561
	SUM domestic concept	3,729,982	3,764,400	3,717,628
	Difference	-34,418		-46,772
	in %	-0.9		-1.3

* excluding persons on parental leave and doing military and alternative service

** Integrated Wage and Salary tax Statistics, weighted period of salary

*** excluding holders of a non-standard contract

In analogy to the adjustment for employees, holders of a non-standard contract were added to the LFS data to ensure comparability with the national accounts data. The difference in total is small in absolute figures, but somewhat higher as a percentage. It can at least partly be explained by the different allocation of employed persons to either employees or self-employed, as the deviations have opposite signs. Consequently, for total employment the difference between national accounts based on DV data and LFS data is only 0.9%.

Table 7.14: Self-employed (persons), year 2017*

ÖNACE	Designation	National accounts	Labour Force Survey
01	Crop and animal production, hunting and related service activities	123,034	134,717
02	Forestry and logging	15,203	3,552
03	Fishing and aquaculture	137	16
05+06+07	Mining of coal and lignite; Extraction of crude petroleum and natural gas; Mining of metal ores;	12	22
08+09	Other mining and quarrying; Mining support service activities;	129	127
10	Manufacture of food products	2,662	3,795
11	Manufacture of beverages	249	441
12	Manufacture of tobacco products	0	0
13	Manufacture of textiles	339	755
14	Manufacture of wearing apparel;	615	968
15	Manufacture of leather and related products	135	736
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	1,776	1,330
17	Manufacture of paper and paper products	35	248
18	Printing and reproduction of recorded media	824	612
19	Manufacture of coke and refined petroleum products	2	0
20	Manufacture of chemicals and chemical products	206	327
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	36	0
ÖNACE	Designation	National accounts	Labour Force Survey
22	Manufacture of rubber and plastic products	277	716

23	Manufacture of other non-metallic mineral products	796	1,761
24	Manufacture of basic metals	63	0
25	Manufacture of fabricated metal products, except machinery and equipment	2,348	3,506
26	Manufacture of computer, electronic and optical products	320	1,619
27	Manufacture of electrical equipment	237	215
28	Manufacture of machinery and equipment n.e.c.	593	1,900
29	Manufacture of motor vehicles, trailers and semi-trailers	151	659
30	Manufacture of other transport equipment	53	0
31	Manufacture of furniture	2,546	2,295
32	Other manufacturing	1,492	2,393
33	Repair and installation of machinery and equipment	1,505	2,625
35	Electricity, gas, steam and air conditioning supply	1,020	564
36	Water collection, treatment and supply	0	240
37+38+39	Sewerage; Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services	403	202
41	Construction of buildings	2,124	4,319
42	Civil engineering	360	851
43	Specialised construction activities	23,671	30,080
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	9,487	6,825
46	Wholesale trade, except of motor vehicles and motorcycles	18,150	20,907
47	Retail trade, except of motor vehicles and motorcycles	37,984	40,645
49	Land transport and transport via pipelines	10,590	9,545
50	Water transport	64	66
51	Air transport	147	0
52	Warehousing and support activities for transportation	933	3,018
53	Postal and courier activities	460	870
55+56	Accommodation; Food and beverage service activities	46,687	39,244
58	Publishing activities	1,188	2,153
59	Motion picture, video and television programme production, sound recording and music publishing activities	2,282	2,750
60	Programming and broadcasting activities	225	443
61	Telecommunications	252	1,103
62+63	Computer programming, consultancy and related activities; Information service activities	11,935	16,702
64	Financial service activities, except insurance and pension funding	0	130
65	Insurance, reinsurance and pension funding, except compulsory social security	0	426
66	Activities auxiliary to financial services and insurance activities	11,428	9,348
68	Real estate activities	14,568	8,029
69	Legal and accounting activities	13,300	14,354
70	Activities of head offices; management consultancy activities	33,337	10,655
71	Architectural and engineering activities; technical testing and analysis	14,668	13,075
72	Scientific research and development	874	1,318
ÖNACE	Designation	National accounts	Labour Force Survey
73	Advertising and market research	9,858	10,483

74+75	Other professional, scientific and technical activities; Veterinary activities	13,544	12,300
77	Rental and leasing activities	2,135	1,219
78	Employment activities	1,169	939
79	Travel agency, tour operator and other reservation service and related activities	1,258	4,066
80+81+82	Security and investigation activities; Services to buildings and landscape activities; Office administrative, office support and other business support activities	11,925	10,850
84	Public administration and defence; compulsory social security	0	1,474
85	Education	12,752	20,116
86	Human health activities	28,100	34,905
87+88	Residential care activities; Social work activities without accommodation	11,338	8,070
90	Creative, arts and entertainment activities	10,228	15,638
91	Libraries, archives, museums and other cultural activities	359	1,642
92	Gambling and betting activities	144	752
93	Sports activities and amusement and recreation activities	4,618	4,178
94	Activities of membership organisations	0	1,931
95	Repair of computers and personal and household goods	1,263	896
96	Other personal service activities	29,611	25,840
97	Activities of households as employers of domestic personnel	0	1,115
	SUM	550,214	559,613
	Difference		9,399
	in %		1.7

* including unpaid family workers and holders of a non-standard contract

7.5. Use of fiscal audits

In the regular VAT test, information on VAT is used which by implication contains corrections made on the basis of tax audits. Explicit corrections of national accounts results based on information from tax audits cannot yet be used to ensure exhaustiveness of national accounts calculations.

Austria explored the possibility of using quantitative and/or qualitative tax audit information to improve the exhaustiveness of GNI estimates in 2019. The Austrian Ministry of Finance provided Statistics Austria with the following information on the issue "information from tax audits":

Tax audits are only partially based on random samples in Austria. They cover between 2 and 3% of all enterprises each year. The assessment is carried out in compliance with the „Bundesabgabenordnung“, based on various verification measures.

In principle a third of the tax audits is conducted due to complaints, 50% in the course of nationwide and local risk management and the rest due to legal changes (for example: capital outflow registration law in the course of the banking package of the tax reform 2015/2016).

The data pool of the Federal Ministry of Finance includes all registered tax subjects (cases) with a breakdown by ÖNACE two-digit codes. A certain share of the activity classifications is supposed to be

incorrect or not covered. Anyway, this would not cause a severe problem, because a precise allocation could be achieved via the business register of Statistics Austria.

Within the audits different taxes are verified/audited (value added tax, corporation tax, wage tax etc.). However, a clear-cut breakdown of the results by type of taxes is not feasible (Due to significant time lags subsequent changes based on appeals or decisions in the second instance cannot take into account for the evaluation of audit results/information).

The only reliable information from the audits would be the total additional amount of tax to be paid. It is not surveyed (or analysed) whether the additional amount has been caused by, for example, reporting of too low turnover or incorrect calculation of corporation tax etc. Hence, the actual reason for a particular additional tax payment cannot be identified, and it cannot be concluded whether it is due to deliberately concealed production/income or just due to calculation errors or whatever reason.

Conclusion:

The verification of the possibilities of using quantitative and/or qualitative tax audit information in 2019 showed no changes compared to previous assessments of that issue.

Thus, the information from tax audits still cannot be used to ensure exhaustiveness of national accounts calculations.

The major reform of the tax audit system, which was announced several years ago and expected to provide statistically useful information, has been delayed further due to a lack of resources.

7.6. VAT

In accordance with the Commission Decision of 24 July 1998 (and GNIC/451 Rev.2) on the treatment of VAT fraud in national accounts, the Member States must adjust their information on GDP and GNP to cover evasion of VAT in order to ensure that this information is exhaustive.

7.6.1. Calculation of theoretical VAT

Theoretical VAT is calculated from the input-output statistics, based on around 250 categories of goods and services for private consumption, gross capital formation and intermediate consumption of companies and activities, which are not entitled to deduct input tax.

In order to calculate theoretical VAT, VAT rates were determined at the lowest possible level of goods and services and activities which were intended to reflect all the special cases in the form of combined rates. VAT combined rates were used – apart from products which were not homogeneous from the taxation point of view – in those cases in which total use of product was not subject to VAT. All components of non-observed economy, which are not liable to VAT such as tips or the own-account construction of dwellings by private households (building owners), are excluded from the calculation of theoretical VAT.

7.6.2. Calculation of actual VAT

The figures for actual VAT correspond to those indicated in the annual national accounts. This is calculated on the basis of the cash receipts of the Federal State adjusted to take account of the time lag between the time when the tax liability arose and when the tax was payable.

7.6.3. Calculations of VAT evasion without complicity

In Austrian national accounts VAT evasion "without complicity" is calculated for revenues off the books in specific branches on the basis of particular assumptions and incorporated in the results of GDP/GNP calculations. In applying the Commission Decision mentioned above, Austria estimated VAT evasion without complicity not as a residual figure, but based on the estimates for revenues off the books. In this context more reliable assumptions could be made than in the case of tax evasion with complicity.

In order to estimate revenues off the books, a reference income was assumed for self-employed workers, which was compared with the wages and salaries of employees. In case that the income of self-employed should fall short of the income of employees, it was assumed that at least the difference was compensated by revenues off the books (see chapter 7.1.3.5). In specific branches, where taxes were assumed to have been paid but not passed on to the tax authorities, VAT was calculated and added to the output and, consequently, to the gross operating surplus/mixed income derived from revenues off the books. The activities involved were the hotel and restaurant industries, taxis, renting, law and tax consultancy, other business services and veterinary medicine. It was assumed that this VAT was evaded without the complicity of the customer, i.e. VAT evasion without complicity was not derived as a residual item but directly estimated based on the adjustments for revenues off the books. This treatment is in line with Article 2 of the Commission Decision 98/527, which states that "member states may apply a method which is equivalent to that described in the first subparagraph of Article 1, and which produces comparable results".

The Austrian Ministry of Finance provide Statistics Austria with detailed information on VAT losses due to insolvencies. The losses of VAT revenues due to insolvencies are estimated based on an assumption, which share of the VAT arrears due to insolvencies is likely not to be paid.

Table 7.15: VAT, in million EUR, year 2017

Components of VAT	
Theoretical VAT	29,889
- Actual VAT (time adjusted cash)	28,304
= Difference	1,585
- Losses due to insolvencies	292
= Difference	1,293
- VAT evasion with complicity	916
- VAT evasion without complicity	377
= Difference	0

8. Transition from gross domestic product to gross national income (GNI)

8.0. Introduction

The definitions in ESA 2010 are used to make the transition from gross domestic product to gross national income. Gross national income is obtained by deducting primary income paid to the rest of the world (compensation of employees, property income and taxes on production and imports) from GDP and adding primary income received from the rest of the world (compensation of employees, property income and subsidies). Table 8.1 shows the transition from GDP to GNI in accordance with ESA 2010.

Table 8.1: Transition from GDP to GNI in accordance with ESA 2010, in million EUR, year 2017

ESA Code	Transactions and balances	
B.1	Gross domestic product at market prices	369,362
D.1	- Compensation of employees paid to the rest of the world	3,889
D.4	- Property income paid to the rest of the world	23,169
D.2	- Paid taxes on production and imports to the rest of the world	691
D.1	+ Compensation of employees received from the rest of the world	2,347
D.4	+ Property income received from the rest of the world	20,884
D.3	+ Received and subsidies from the rest of the world	1,055
B.5	= Gross national income	365,898

Primary income values (compensation of employees, property income as well as paid production and import taxes and received subsidies) are being compiled by the Oesterreichische Nationalbank (OeNB) and taken from the balance of payments statistics⁴⁷. Table 8.2 displays the corresponding values for compensation of employees, property income as well as paid taxes on imports and production and received subsidies.

⁴⁷ Chapter 10.3.2 provides an overview of the balance of payments statistics.

Table 8.2: Values for primary income, in million EUR, year 2017*

Transaction	
Compensation of employees received from the rest of the world	2,347
Property income received from the rest of the world	20,884
Received and subsidies from the rest of the world	1,055
Received primary income	24,286
Compensation of employees paid to the rest of the world	3,889
Property income paid to the rest of the world	23,169
Paid taxes on production and imports to the rest of the world	691
Paid primary income	27,749

* including rounding errors

Table 8.3: Values for direct investment income, in million EUR, year 2017

Transaction	
From resident SPEs	-2,818
From real estate abroad	145
Dividends received	8,647
Reinvested earnings received	4,294
Net interest received	1,410
Received direct investment income	11,678
To foreign SPEs	-3,017
To real estate in Austria	173
Dividends paid	6,942
Reinvested earnings paid	6,697
Net interest paid	1,333
Paid direct investment income	12,128

8.1. Compensation of employees

8.1.1. Compensation of employees to the rest of the world

All information on compensation of employees to the rest of the world is taken from the balance of payments statistics, where the relevant figures are being collected as follows:

All compensations of non-resident employees (daily commuters) and of persons residing in Austria for less than one year (seasonal workers) are recorded on the debit side of primary income and is recorded according to §4.02 as it comprises wages and salaries (D.11) as well as employer's social contributions (D.12). Whereas the corresponding paid social security contributions and wages tax payments are recorded on the credit side of secondary income. The compensation is recorded on a gross basis including social contributions paid by the employer. The data sources for identifying non-resident employees and their corresponding compensation, social security contributions and wage tax

payments are the wage tax statistics and data from Main Association of Austrian Social Security Organisations.

In a first step values for compensation, social security contributions and wage tax payment of all employees in Austria that have a foreign citizenship are determined for a given year by using information from the wage tax statistics and the Main Association of Austrian Social Security Organisation. In a second step employees with a foreign citizenship are being distinguished between residents (migrant workers) and non-residents (seasonal workers and daily commuters) by using the criteria whether an individual's centre of economic interest remains for a continuous period of one year or longer in Austria. To apply the definition of residency correctly additional information is used from the year before and the year after the reference year to make a correct distinction between migrant workers and seasonal workers. All employees are classified as migrant workers (residents) during the reference year, if their place of residence is located within Austria and their continuous period of compensation between the year before the reference year and the reference year or between the reference year and the following year is at least 365 days. On the contrary seasonal workers (non-residents) are characterized by a continuous period of compensation between the year before the reference year and the reference year or between the reference year and the following year that is shorter than 365 days, regardless whether their main place of residence is located inside or outside Austria. Daily commuters are treated as non-residents and are defined as employees with a foreign citizenship, that have a continuous period of compensation of at least 365 days between the year before the reference year and the reference year or between the reference year and the following year and that have a main place of residence outside Austria from where a daily commute to their workplace in Austria is possible.

According to §4.123 in the BPM6 national diplomats, peacekeeping and other military personnel, and other civil servants employed abroad in government enclaves (embassies, military basis), as well as members of their households are considered to be residents of the economic territory of the employing government. They continue to be residents in their home economies even if they live in dwellings outside the enclaves. Therefore, Austria reports no corresponding cross border compensation. Services from locally recruited staff (cleaning, repair and maintenance work, etc. in foreign embassies) are treated as exports/imports of government goods and services. Data for deriving imports of government services by Austrian embassies abroad is taken from the final budget account, whereas government services exports to foreign embassies located in Austria have to be estimated. A more detailed description can be found in chapter 10.3.2.2.4 under the item government services.

8.1.2. Compensation of employees from the rest of the world

All information on compensation of employees from the rest of the world is taken from the balance of payments statistics, where the relevant figures are being collected as follows:

Based on annual bilateral data exchanges information about the compensation of Austrian residents that work abroad as daily commuters or seasonal workers is obtained. The annual bilateral data exchange encompasses all neighbouring countries. The compensation of Austrian employees abroad

is recorded on the credit side on a gross basis that includes the social contributions paid by the foreign employer. Paid social security contributions and wages tax payments are recorded on the debit side of secondary income. Data regarding the bilateral data exchange are transmitted on an aggregated level only. Austria receives for example from Switzerland for a given reporting year the total number of Austrian seasonal workers and daily commuters in Switzerland as well as their aggregated compensation, paid wage taxes and social contributions, whereas Austria provides the same information concerning Swiss nationals that are employed in Austria as seasonal workers or daily commuters to Switzerland. Austria makes no further adjustments or corrections to data provided by neighbouring countries.

Values for compensation regarding Austrian seasonal workers that are employed abroad in non-neighbouring EU countries are mostly taken from Eurostat's annual BOP bilateral asymmetry exercises. The following table is an excerpt of the bilateral asymmetries table provided by Eurostat for the Balance of Payments Working Group in February 2019 for reference year 2017 regarding compensation of Austrian employees (in Mio. €) in non-neighbouring EU-countries and the final reported data by Austria using mirror data:

Table 8.4: Values for compensation of Austrian employees in non-neighbouring countries

Country	Reported by AT before using mirror data	Mirror data provided by Eurostat	Asymmetries before using mirror data	Reported by AT after using mirror data
Spain	4	1	3	1
Belgium	3	3	0	3
Bulgaria	11	11	0	11
Denmark	7	6	1	6
Greece	1	1	0	1
France	3	4	-1	4
Netherlands	8	13	-5	12
Norway	4	5	-1	5
Great Britain	5	n.a.	n.a.	5
Finland	3	19	-16	3
Romania	4	1	3	1
Portugal	1	1	0	1
Norway	1	6	-5	6

The facilities of international organizations are treated as extraterritorial entities. Therefore, residents in Austria employed by international organizations like UN or OPEC are treated the same way as border workers in the balance of payments. Vienna Municipal Department 5 provides annual data on compensation of employees of the international organizations located in Austria. As this income is not subject to taxation in Austria, the compensation payments are recorded only on the credit side. The following international organizations are located in Austria:

- Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)
- European Patent Office (EPO)
- International Atomic Energy Agency (IAEA)
- International Organization for Migration (IOM)
- OPEC Fund for International Development (OFID)
- Organization of the Petroleum Exporting Countries (OPEC)
- Organization for Security and Co-operation in Europe (OSCE)
- United Nations Industrial Development Organization (UNIDO)
- United Nations Office in Vienna (UNOV)

8.2. *Taxes on production and imports paid to the institutions of the European Union and received subsidies*

8.2.1. Paid taxes on imports and products to the EU

Austria has to pay to the EU the collected customs duties on products from trade with non-member countries as well as sugar levies. Levies for agricultural products (milk quota) were abolished on April 1, 2015. 25% of the collected customs duties are being reimbursed from the EU to Austria as expense allowances. These values are recorded as exports of government services⁴⁸. The Austrian federal ministry of finance provides monthly information regarding these transactions.

8.2.2. Paid taxes on imports at EU external borders

As the internal European market constitutes a customs union paid import duties also include taxes on imported goods to Austria which are levied at the non-Austrian external border of the EU internal market. Therefore, customs fees on imports from non-EU countries may be charged by the Member State at the EU external border or by the Member State of destination. Hence, it is necessary to estimate the value of customs fees levied at the non-Austrian external border of the EU which is carried by Austrian importers, and to deduct this amount from the imports recorded in the ITGS. For this purpose, the volume of domestic imports is divided into direct imports and imports via another EU country. In the case of direct imports, all customs fees are paid directly in Austria. In the case of imports via another EU country, customs fees are paid on declaration at the EU external border in the other Member State. The value of paid taxes on imports at EU external borders for Austria was EUR 217 million in 2017. This amount is being paid to the EU and is recorded on the debit side of primary income under taxes on products.

⁴⁸ According to ESA 2010 rules Austria's payments to the EU regarding value added tax receipts have to be recorded under secondary income.

Table 8.5: Production and import taxes paid by Austria to the EU, in million EUR, year 2017

Type of tax	
Customs duties	282
Agricultural levies	0
Sugar levies	4
Paid taxes on imports at EU external borders	217
Total production and import taxes	503

8.2.3. Received subsidies from the rest of the world

Austria receives payments from the European Agricultural Guarantee Fund (EAGF). Information about EAGF payments are taken from the final budget accounts and are recorded on the credit side either under subsidies on products or other subsidies on production. EAGF payments that are considered as miscellaneous current transfers are recorded under secondary income and EAGF payments that are considered as investment subsidies are part of the capital account and not of the current account.

Table 8.6: EAGF payments to Austria, in million EUR, year 2017

Different types of EAGF payments	
Subsidies on products	3
Other subsidies on production	1,049
Miscellaneous current transfers	4
Investment subsidies	146
Total	1,202

8.3. Cross-border property income

Cross-border flows of income are compiled by the Oesterreichische Nationalbank (OeNB) in the framework of the balance of payments, following the rules and prescriptions laid down in BPM6. Income is broken down by different types of investment (FDI, PI, OI, FD and Reserve Assets). A further breakdown by resident sector is also available.

8.3.1. Interest

Interest payments on deposits and loans are recorded via monthly direct-reports from domestic entities. There is no threshold applied. The functional classification (direct investment vs. other investment) is derived from master-data (e.g. if a direct investment relationship exists the interest payments is classified as such).

Concerning financial derivatives, payments resulting from any kind of swap arrangement or transactions under forward rate agreements are recorded as transactions in financial derivatives in the financial account. This is in line with ESA 2010 §4.47. In the case of Reserve Assets, income is

reported by the Accounting and Cash Audit Division of the OeNB. This income is recorded unchanged as investment income of reserve assets.

Accrued interest on debt securities are calculated on a security-by-security basis using the monthly security reports that include stock data and the OeNB local securities master database. This database includes all the relevant information, such as issuers, maturities, outstanding amounts, interest rates, issue and redemption price and classification of the securities. All securities transactions and stocks are reported with the ISIN number of the respective security. If a security does not have an ISIN number, the reporting agent can use an "internal" number and give additional details on the security (type of security, quotation, interest rate, etc.) in a special report.

For Portfolio Investment (short-term and long-term debt securities) cross-border flows of interest are identified by the related stocks and flows, which are reported on a security-by-security basis. Interest rate flows are not reported, but calculated on a security-by-security basis. The required information is derived from the Centralised Securities Database (CSDB) of the ECB and from other external data providers, mainly the Austrian National Numbering Agency (Oesterreichische Kontrollbank/OeKB) and German National Numbering Agencies (Wertpapiermitteilungen Frankfurt) and stored in the OeNB local securities master data base.

For income related to debt securities, the nominal interest rate ("debtor approach calculation") is the main input variable to calculate accruals from the outstanding stocks broken down for each security and each issuer (in case of liabilities) or each holder sector (in case of assets). Issue and redemption prices are considered in this accruals calculation in order to cover also zero bonds, deep discounted papers and bonds issued at a premium correctly. The accruals calculation is based on monthly data. There is no conceptual difference between monthly, quarterly or annual data. Concerning the creditor or debtor approach to calculate cross border flows of accrued interest on debt securities, the debtor approach is used in the case of accrued interest on debt securities.

The aggregate Portfolio Investment-related interest income for the year 2017 amounted to EUR 4,571 Mio and EUR 7,328 Mio for income received and income paid respectively. The aggregate values are based on calculations on a security-by-security basis in the following way:

$$\text{interest accrued 1 (implicit interest)} = \frac{\text{redemption price} - \text{issuance price}}{\text{days (maturity end} - \text{maturity start)} * 100}$$

$$\text{interest accrued 2 (explicit interest)} = \frac{\text{interest rate}}{360 * 100}$$

$$\text{interest accrued per unit per day} = \text{interest accrued 1} + \text{interest accrued 2}$$

interest accrued per month and creditor category

$$= \text{interest accrued per unit per day}$$

$$* \text{average balances per creditor category for the respective reporting period} * 30$$

$$* \text{monthly mean rate of exchange}$$

Offsetting entries of accruals and coupons in portfolio investment (financial account) are recorded with all relevant breakdowns. The sectoral breakdown is derived from a company database which includes information about the sector of the issuer of a security. This information is automatically processed in

the security-by-security collection and calculation. A geographical allocation (country-by-country) according to the issuer principle (actual counterpart) is automatically derived on the credit side of portfolio investment income by using the comprehensive securities database. The connection with the securities database and a company database delivers the country of the issuer of the security for the reported credit transaction. On the debit side no geographical allocation of portfolio investment transactions is possible, since the country of the final non-resident holder cannot be determined and the portfolio investment stocks on the liabilities side cannot be broken down by country.

Regarding the recording of interest with respect to taxes levied on it and with respect to grants for interest, interest is recorded before the deduction of taxes levied on it in the case of Portfolio Investment and Reserve Assets. The ESA 2010 recommendation (ESA 2010 §4.46 (c)) on index-linked debt securities with respect to recording cross-border interest receipts/payments are not met because it is not possible to separate the inflation factor as part of the security price.

Financial services that are paid for indirectly (FISIM) are domestically produced as well as imported and exported. The calculation is done by *Statistics Austria* using mostly data provided by the OeNB (for a detailed description see chapter 3.17.1.4). FISIM is not directly observable. Therefore, when property income (interest received from and paid to the rest of the world) is compiled by using bank reports, a FISIM component is tacitly included in what should really be just "pure" interest. This has to be corrected for, as FISIM is a service charge and affects production. The value of FISIM imports and exports are calculated bottom-up and used to correct property income flows in order to offset the FISIM effect on trade in services: For example, interest flows from resident non-bank units to non-resident bank units resulting from a loan of the latter to the former are reduced by the value of FISIM-imports on loans. The adjusted interest flow is registered as property income and the FISIM component is registered as an import of services. In analogy, all other interest flows between resident and non-resident bank units and non-bank units are adjusted as well. The corresponding values can also be found in chapter 3.17.1.4.

8.3.2. Distributed income of corporations

8.3.2.1. Dividends

Dividends of direct investment enterprises are reported on a monthly basis by the resident counterpart of the direct investment relationship. For each direct investment relationship, a separate report is compulsory, the threshold applied is EUR 500,000. Cross-border dividends received by or paid to general government are treated in the same way, but are almost negligible in size.

Dividends paid or received for portfolio investment shares are not collected from respondents, but derived from the securities database in a similar way as accrued interest is derived for debt instruments. The main source for dividends of shares is the Centralised Securities Database (CSDB) operated by the ECB. For each period where dividend payments per share are provided by the CSDB, dividends on a security-by-security basis are calculated. In connection with the outstanding stocks per issuer or holder it is possible to compile the relevant flow.

The aggregate Portfolio Investment-related dividend income for the year 2017 amounted to EUR 933 million and EUR 1,224 million for income received and income paid respectively. The aggregate values are based on calculations on a security-by-security basis in the following way:

$$\begin{aligned} & \textit{dividends per share per creditor category per month} \\ & = \textit{dividend per unit * average number of shares} \end{aligned}$$

Offsetting entries of accruals and coupons in portfolio investment (financial account) are recorded with all relevant breakdowns. The sectoral breakdown is derived from a company database which includes information about the sector of the issuer of a security. This information is automatically processed in the security-by-security collection and calculation. A geographical allocation (country-by-country) according to the issuer principle (actual counterpart) is automatically derived on the credit side of portfolio investment income by using the comprehensive securities database. The connection with the securities database and a company database delivers the country of the issuer of the security for the reported credit transaction. On the debit side no geographical allocation of portfolio investment transactions is possible, since the country of the final non-resident holder cannot be determined and the portfolio investment stocks on the liabilities side cannot be broken down by country.

Shares issued to shareholders in payment of the dividend for the financial year, income paid to general government by public enterprises and income generated by non-observed activities and transferred to the owners of corporations cannot be included in dividends as underlying information are missing.

Dividends above a threshold of EUR 50 million are examined in cooperation with the respective respondent if they are possible super dividends. If dividend payments (or parts) are not sourced by operational profits, for example, one-off-effects (such as a sale of participation) and large profits carried forward from previous years, they are classified as super dividends. Subsequently they are excluded from income and reallocated to "withdrawal of equity". FDI respondents have to report dividends when dividends are recorded by the affiliate in case of inward FDI, and when they are registered by the investor (for outward FDI).

For Portfolio Investment - due to the lack of information in terms of disbursement dates for securities - dividends paid or received for portfolio investment shares cannot be exactly recorded at the point in time at which the share price starts to be quoted on an ex-dividend basis, but in conformity with the reported "date of distribution".

8.3.2.2. Withdrawals from the income of quasi-corporations

The only form of a quasi-corporation is private ownership of real estate abroad (both directions). Income is estimated at a level of 3% p.a. according to the corresponding stock values. Real estate contributes only 1 to 2 percent of FDI-stocks; therefore a cost effective estimation approach is considered appropriate.

Information on paid taxes in the country of residence of the affiliate enterprise are taken from the Profit and loss account of the affiliate enterprise and deducted from income.

Adjustments are made on a monthly basis, taking the current stock of real estate multiplied with 1/12th of the imputed interest.

Concerning recording of the rental value of owner-occupied dwellings abroad and the rental value of owner-occupied dwellings belonging to non-residents the corresponding direct investment incomes on owner-occupied dwellings have to be differentiated from travel. In travel, overnight stays of Austrian residents abroad in secondary residences and vice versa are recognized. Information on the number of dwellings is gathered from the central register of residents as well as from mirror data. As no information is available a medium exploitation is assumed based on actual overnight stays statistics. Based on the consumption survey medium expenditures are estimated.

The OeNB is investigating an update of the calculation method for stocks of real estate based on new data sources (administrative data and mirror data). Thus, income related to real estate may also be affected by the new methodology.

8.3.3. Reinvested earnings (RIE) of foreign direct investment (FDI)

Reinvested earnings are defined as operating profit minus taxes minus dividends paid. A direct investment enterprise disposes at least 10% ownership of voting capital. For periods where profit and loss accounts are not yet available, provisional forecasts based on a "return to equity ratio" are made: Direct investment abroad profits are estimated by regions, inward direct investment profits are estimated on expectations by industry. Basis for the estimation are the profits of previous years and expert judgement-based earning reports of important respondents.

Outward indirect links within multinationals are captured via the FDI-survey when above the threshold (for the controlling unit +20 employees or a balance sheet total of at least EUR +1 million). Inward indirect links within multinationals are established via the national business register. Only indirect controlled public limited companies inquired via FDI survey.

By eliminating "extraordinary profits/losses", which are recorded directly in the annual FDI survey, an approximation to the required current operating profit concept is being made. No further information on holding gains and losses is available. Financial and non-financial corporations are treated in the same way. The data source for outward and inward direct investment flows are the monthly balance of payments reports of about (potentially) 3,100 resident enterprises (investors, direct investment enterprises). The monthly DI-flow reports are on "ad-hoc", therefore only due in case of an event. Regular analyses of the press and administrative registers are used to continuously update the FDI register. The FDI register is part of the OeNB's general register; it is continuously updated using FDI reports. On the inward side, the identification of affiliate enterprises is supported by the commercial register (Firmenbuch). SPEs are classified manually; the maintenance is not automated. As the Central Bank is obliged to avoid double reporting therefore classification by industry for domestic corporations is imported monthly from *Statistics Austria's* business register.

Once a year all relevant relationships are used to "inherit" FDI-survey information on controlling countries (UCI-concept) for units that are not covered by the survey directly. The whole FDI reporting is based on individual investment relations (investor-investee), both, the resident and the non-resident

unit has a unique identifier, which is issued by the bank. Regular Stock-flow reconciliations for large enterprises help to detect missing reports for flows, or errors in the annual survey. Valuation of direct investment enterprises that issue listed shares are double-checked with stock-prices from our securities-subsystem.

With a response rate of 99%+ only very few datasets have to be imputed because of Non-Response. For inward FDI the collected survey data are complemented by an imputation based on business register and balance sheet data of appr. 800 smaller enterprises. The effect of this imputation on total inward FDI stocks is <1%.

The volume of foreign portfolio investment in shares of resident enterprises is regularly checked by calculating "Total shares issued minus shares held by foreign direct investors minus shares held by residents". Any overlap between FDI and PI is very unlikely.

Reporting of dividends and reporting of the profit and loss account are individually identified so that consistency is ensured between the data source for profits and the data source for distributed earnings. The set of direct investment enterprises is almost identical in both data sources. From reporting year 2020 onwards questionnaires for outward FDI and inward FDI are no longer separately sent, therefore some additional below-threshold-respondents will report data.

The monthly operating profit is calculated by dividing the annual profit by 12. Dividends are recorded when they are paid. RIE is then simply the difference profit (excluding taxes) - dividends, calculated on a monthly basis. As a consequence, RIE has a clear seasonal pattern. Between March and June when profits of the preceding year are distributed RIE usually turn negative, while throughout the rest of the year they tend to be positive.

Table 8.7: Example of calculating RIE, outward FDI, in million EUR, year 2017

Transactions	
Earnings before taxes	17,114
Taxes on income	-3,369
Net income	13,745
Extraordinary profit/loss	-804
Income on equity	12,941
Dividends received	-8,647
Reinvested Earnings	4,294

8.3.4. Other investment income

As a general remark reference is made to the "BPM6 Compilation Guide" of the International Monetary Fund where Austria has published a case study on insurance, pension schemes, and standardized guarantee schemes.

8.3.4.1. Investment income attributable to insurance policy holders

The OeNB uses various methods and data sources capturing cross-border flows of investment income attributable to insurance policy holders. This information mainly is derived from reported data to the Central Bank, data of the Financial Market Authority as well as sources from the National Accounts.

One of the main data sources is the collection of data on insurance services exports by the Financial Market Authority (FMA) on the basis of EU regulation 1225/1999 regarding the statistics of insurance services within the EU or EFTA area. It is assumed, as the free movement of insurance services is only possible within this area, that insurance outside EU or EFTA is organised by direct investment. The data is broken down by insurance division and by counterpart economy. Since the introduction of Solvency II, its data is also used in the compilation process.

The OeNB does not run a mere survey system among enterprises to compile life insurance held by households abroad but makes use of respective statistical data from the Financial Market Authority in Austria. To cover information on imports of life insurance held by Austrian households, mirror data from other financial market authorities within the EU/EFTA are used.

For the compilation of insurance data, information from the national accounts is used as well. A report was implemented in the compilation process in the medium-term to derive cross-border stocks of assets and liabilities of insurance service technical reserves providing in addition the information on price changes. At present only aggregated flows are used to compile stocks.

Basically two different types of data sources are used to distinguish resident and non-resident insurance policy holders. In each case – as policy holders are individual households – insurance technical reserves attributable either to resident or non-resident households is known:

Non-resident insurance policy holders and cross-border liabilities of resident insurance enterprises are identified by using data from the Financial Market Authority as well as reported data to the Central Bank. Resident insurance policy holders or cross border assets of resident households are identified by using mirror data from other financial market authorities in the EU. This data source has a time lag of 15 months. During the current production cycle the data of resident insurance policy holders is extrapolated. After receiving the latest mirror data, a final revision on the data is done.

The recording of investment income attributable to insurance policy holders follows the lines of compiling reinvested earnings: Premium supplements are recorded in the primary income account as receivable by policyholders. As this is only a hypothetical booking, the same amount enters the calculation of the insurance service charge as premium supplements payable to the insurance company by the policyholder as counter-entry in the services account.

Debits (liabilities vis-à-vis non-resident insurance takers):

First, the annual ratio of liabilities vis-a-vis non-residents of insurance technical reserves to the total liabilities in insurance technical reserves derived from data of Austrian insurance companies compiling the insurance statistics is the basis.

Second, this ratio is applied to total investment income of the Austrian insurance sector for direct investment income plus other investment income and domestic and cross-border income on securities

statistics to obtain an estimate of premium supplements. The resulting debit value for reporting year 2017 is EUR 59 million.

Credits (assets vis-à-vis non-resident insurance companies):

The ratio which has been determined for cross-border premium supplements in total liabilities of cross-border insurance technical reserves is also attributed to total assets in insurance technical reserves vis-a-vis foreign insurance companies. Again the country profile is taken from counterpart information of actual gross premium payments by Austrian households. This results in a credit value for the reporting year 2017 of EUR 105 million.

8.3.4.2. Investment income payable on pension entitlements

Due to the lack of information (according to the information derived from the Financial Market Authority) there are no data available for the identification and coverage of cross-border flows of investment income payable on pension entitlements.

8.3.4.3. Investment income attributable to collective investment fund shareholders

Income earned by domestic shareholders of foreign collective investment funds' equity capital is treated on an accruals basis – regardless of whether it is a distributing or non-distributing fund. Unlike other accruals calculations, this is not implemented as an automated security-by-security approach, but as a yearly estimate per fund category. The income is distributed on a monthly basis. Input parameters are domestic holdings of foreign collective investment funds, coupon payments and rates of return of these institutions. Coupon payments are recorded the same way as dividend payments of shares – on a security-by-security basis (see chapter 8.3.2.1).

The aggregate income earned by domestic shareholders of foreign collective investment funds for the year 2017 amounted to EUR 1,204 million. The aggregate values are based on calculations on a security-by-security basis in the following way:

$$\begin{aligned} & \textit{investment fund income per security per creditor group per month} \\ & = \textit{holdings of foreign collective investment funds} \\ & * \textit{rate of return (based on average earnings per year and per type of fund)} \end{aligned}$$

Investment income earned by foreign shareholders of domestic collective investment funds' equity capital is not treated on an accruals basis. The reinvestment per investment fund is calculated on the basis of the reported capital gains tax in the respective month of distribution. Coupon payments are recorded the same way as dividend payments of shares – on a security-by-security basis (see chapter 8.3.2.1).

The aggregate income earned by foreign shareholders of domestic collective investment funds for the year 2017 amounted to EUR 249 million. The aggregate values are based on calculations on a security-by-security basis in the following way:

investment fund income per security per creditor group per month
= *holdings of domestic collective investment funds*
* *rate of return (based on reported capital gains tax)*

Offsetting entries of accruals and coupons in portfolio investment (financial account) are recorded with all relevant breakdowns. The sectoral breakdown is derived from a company database which includes information about the sector of the issuer of a security. This information is automatically processed in the security-by-security collection and calculation. A geographical allocation (country-by-country) according to the issuer principle (actual counterpart) is automatically derived on the credit side of portfolio investment income by using the comprehensive securities database. The connection with the securities database and a company database delivers the country of the issuer of the security for the reported credit transaction. On the debit side no geographical allocation of portfolio investment transactions is possible, since the country of the final non-resident holder cannot be determined and the portfolio investment stocks on the liabilities side cannot be broken down by country.

Regarding income from investment funds abroad attributable to domestic shareholders, the OeNB are currently investigating the integration of CSDB data according to the proposed calculation of the ECB working group on external statistics.

8.3.4.4. Rent on land and sub-soil assets

To cover data on cross-border rents paid by the state, information from the final budget account is used. So far no cross-border transactions have been recognized. For covering transactions by private persons a reporting framework is run by the Central Bank on a monthly or occasional basis concerning all types of transactions related to properties and real assets. A threshold of EUR 100,000 is applied. To address the reporting population, the Central Bank is informing potential multipliers as notaries, lawyers, accountants and auditors about the reporting regulation. The actual reporting can be decided on a case-by-case basis. The Central Bank closely follows the lines of BPM6 and the principle of recording on an accrual basis. For rents in particular, this means to calculate a continuous flow of income accruing to the owner of the asset throughout the agreed contract time. As with insurance services, an upfront payment covering several periods would give rise to calculating corresponding assets and liabilities in the financial account. This is the case for compiling data on contracts with large values where detailed information is available from the respondent. In all other cases where the value of the contract is not very high, it is foremost important to keep the reporting population as updated as possible. Regarding cost-benefit calculations both of the Central Bank as the compiler and the respondent though, the accrual principle cannot be applied. The credit for debit values are estimated at EUR 153 million for reporting year 2017.

9. List of the main classifications used

9.1. Classification used for the production approach

All production accounts are prepared on the basis of the 2008 ÖNACE classification, which is the Austrian version of NACE Rev. 2⁴⁹ and differs from it only in that it contains an additional level of subclasses. A total of 615 classes are broken down into more detail, producing a subclass level with 701 items. This subclass level (5-digit code) carries a two-digit code separated from the class level four-digit code by means of a hyphen.

The levels at which production accounts are produced are either ÖNACE divisions (two-digit codes) or further disaggregations which are selected to give a useful aggregate form for actual calculations, price and volume measures and for production of supply and use tables. Table 9.1 gives a summary of the internal national accounts levels.

Table 9.1: Internal classification of the production approach on the basis of ÖNACE 2008

Internal national accounts level	Made up of	Designation
A	AGRICULTURE, FORESTRY AND FISHING	
A 01		Crop and animal production, hunting and related service activities
A 02		Forestry and logging
A 03		Fishing and aquaculture
B	MINING AND QUARRYING	
B 06a	05+06+07	Mining of coal and lignite, Extraction of crude petroleum and natural gas, Mining of metal ores
B 08a	08+09	Other mining and quarrying, Mining support service activities
C	MANUFACTURING	
C 10		Manufacture of food products
C 11		Manufacture of beverages
C 12		Manufacture of tobacco products
C 13		Manufacture of textiles
C 14		Manufacture of wearing apparel
C 15		Manufacture of leather and related products
C 16		Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
C 17		Manufacture of paper and paper products
C 18		Printing and reproduction of recorded media
C 19		Manufacture of coke and refined petroleum products
C 20		Manufacture of chemicals and chemical products

⁴⁹ Classifications with the prefix "Ö" are the Austrian versions of the European classification system and, hence, fully compatible with the classifications given in ESA 2010.

Internal national accounts level	Made up of	Designation
C 21		Manufacture of basic pharmaceutical products and pharmaceutical preparations
C 22		Manufacture of rubber and plastic products
C 23		Manufacture of other non-metallic mineral products
C 24		Manufacture of basic metals
C 25		Manufacture of fabricated metal products, except machinery and equipment
C 26		Manufacture of computer, electronic and optical products
C 27		Manufacture of electrical equipment
C 28		Manufacture of machinery and equipment n.e.c.
C 29		Manufacture of motor vehicles, trailers and semi-trailers
C 30		Manufacture of other transport equipment
C 31		Manufacture of furniture
C 32		Other manufacturing
C 33		Repair and installation of machinery and equipment
D	ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY	
D 35.1		Electric power generation, transmission and distribution
D 35.2		Manufacture of gas; distribution of gaseous fuels through mains
D 35.3		Steam and air conditioning supply
E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES	
E 36		Water collection, treatment and supply
37a	37+38+39	Sewerage; Waste collection, treatment and disposal activities; materials recovery; Remediation activities and other waste management services
F	CONSTRUCTION	
F 41a		Construction of buildings
F 41b		Own-account construction of dwellings
F 42a		civil engineering
F 42b		Interest groups
F 43.1		Demolition and site preparation
F 43.2		Electrical, plumbing and other construction installation activities
F 43.3a	43.3+43.9	Building completion and finishing; Other specialised construction activities
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES	
G 45.1		Sale of motor vehicles
G 45.2		Maintenance and repair of motor vehicles
G 45.3		Sale of motor vehicle parts and accessories
G 45.4		Sale, maintenance and repair of motorcycles and related parts and accessories
G 46.1		Wholesale on a fee or contract basis
G 46.2		Wholesale of agricultural raw materials and live animals
G 46.3		Wholesale of food, beverages and tobacco
G 46.4		Wholesale of household goods
G 46.5		Wholesale of information and communication equipment
G 46.6		Wholesale of other machinery, equipment and supplies
G 46.7		Other specialised wholesale
G 46.9		Non-specialised wholesale trade
G 47.1		Retail sale in non-specialised stores

Internal national accounts level	Made up of	Designation
G 47.2		Retail sale of food, beverages and tobacco in specialised stores
G 47.3		Other retail sale (in stores) Retail sale of automotive fuel in specialised stores
G 47.4		Retail sale of information and communication equipment in specialised stores
G 47.5		Retail sale of other household equipment in specialised stores
G 47.6		Retail sale of cultural and recreation goods in specialised stores
G 47.7		Retail sale of other goods in specialised stores
G 47.8		Retail sale via stalls and markets
G 47.9		Retail trade not in stores, stalls or markets
H	TRANSPORTATION AND STORAGE	
H 49a	49.1+49.2	Rail transport
H 49.31-1		Passanger land transport by tramways, trolley buses, undergrounds and suburban railways
H 49.31-2a	49.31-2+49.39-9	Passanger land transport services by buses; Other passenger land transport n.e.c.
H 49.32		Taxi operation
H 49.39-1		Transport by cable railways, funiculars and ski-lifts
H 49.4		Freight transport by road and removal services
H 49.5		Transport via pipeline
H 50		Water transport
H 51		Air transport
H 52.1a	52.1+52.24	Warehousing and storage; Cargo handling
H 52.21-1		Operation of car parks and garages
H 52.21-2		Operation of toll roads
H 52.21-9a	52.21-9 + 52.22	Service activities incidental to land transportation n.e.c.; Service activities incidental to water transportation
H 52.23		Service activities incidental to air transportation
H 52.29		Other transportation support activities
H 53		Postal and courier activities
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES	
I 55.1		Hotels and similar accommodation
I 55p	Part of 55.9	Renting out of private rooms
I 55q	55.2+55.3+55.9 except 55p	Holiday and other short-stay accommodation; Camping grounds, recreational vehicle parks and trailer parks
I 56.1		Restaurants and mobile food service activities
I 56.2		Event catering and other food service activities
I 56.3		Beverage serving activities
J	INFORMATION AND COMMUNICATION	
J 58.1a	58.11+58.12	Book publishing; Publishing of directories and mailing lists
J 58.1b	58.13+58.14	Publishing of newspapers; Publishing of journals and periodicals
J 58.1c	58.19	Other publishing activities
J 58.2		Software publishing
J 59		Motion picture, video and television programme production, sound recording and music publishing activities
J 60		Programming and broadcasting activities

Internal national accounts level	Made up of	Designation
J 61		Telecommunications
J 62a	62+63	Computer programming, consultancy and Information service activities and related activities; Information service activities
K	FINANCIAL AND INSURANCE ACTIVITIES	
K 64.11		Central banking
K 64.19		Other monetary intermediation
K 64.2		Activities of holding companies
K 64.3		Trusts, funds and similar financial entities
K 64.9		Other financial service activities, except insurance and pension funding
K 65.11		Life insurance
K 65.12		Non-life insurance
K 65.2		Reinsurance
K 65.3		Pension funding
K 66.1		Activities auxiliary to financial services, except insurance and pension funding
K 66.2		Activities auxiliary to insurance and pension funding
K 66.3		Fund management activities
L	REAL ESTATE ACTIVITIES	
L 68.1a		Imputed rents
L 68.1b		Renting of dwellings
L 68.1c	68.20-9+68.10	Other renting and operating of own or leased real estate; buying and selling of own real estate
L 68.20-1		Leasing of real estate
L 68.31		Real estate agencies
L 68.32		Management of real estate on a fee or contract basis
L 68.99		Land acquisition tax on brokering services
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES	
M 69		Legal and accounting activities
M 70		Activities of head offices; management consultancy activities
M 71		Architectural and engineering activities; technical testing and analysis
M 72		Scientific research and development
M 73		Advertising and market research
M 74		Other professional, scientific and technical activities
M 75		Veterinary activities
N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES	
N 77.1		Renting and leasing of motor vehicles
N 77.2a	77.2+77.3+77.4	Renting and leasing of personal and household goods, Renting and leasing of other machinery, equipment and tangible goods; Leasing of intellectual property and similar products, except copyrighted works
N 78		Employment activities
N 79		Travel agency, tour operator and other reservation service and related activities

Internal national accounts level	Made up of	Designation
N 80a	80+82	Security and investigation activities; Office administrative, office support and other business support activities
N 81.1		Combined facilities support activities
N 81.2		Cleaning activities
N 81.3		Landscape service activities
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	
O 84		Public administration and defence; compulsory social security
P	EDUCATION	
P 85.1		Pre-primary education
P 85.2		Primary education
P 85.3a	85.3+85.41	Secondary education; Post-secondary non-tertiary education
P 85.42		Tertiary education
P 85.5a	85.51+85.52+85.59+85.60	Sports and recreation education; Cultural education; Other education n.e.c.; Educational support activities
P 85.53		Driving school activities
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES	
Q 86.1		Hospital activities
Q 86.21a	86.21+86.22	General medical practice activities; Specialist medical practice activities
Q 86.23		Dental practice activities
Q 86.9		Other human health activities
Q 87a	87+88	Residential care activities; Social work activities without accommodation
R	ARTS, ENTERTAINMENT AND RECREATION	
R 90		Creative, arts and entertainment activities
R 91		Libraries, archives, museums and other cultural activities
R 92.00-1		Lottery and other betting activities
R 92.00-2		Casinos
R 92.00-3		Operation of gambling machines
R 93		Sports activities and amusement and recreation activities
S	OTHER SERVICE ACTIVITIES	
S 94		Activities of membership organisations
S 95		Repair of computers and personal and household goods
S 96.01		Washing and (dry-)cleaning of textile and fur products
S 96.02		Hairdressing and other beauty treatment
S 96.03		Funeral and related activities
S 96.04-2		Operation of spas
S 96.04a	96.04-1+96.04-9+96.09-0	Operation of reducing and slendering salons and massage salons; Operation of solariums, saunas and baths n.e.c.; Other personal service activities n.e.c.
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE	
T 97		Activities of households as employers of domestic personnel

9.2. Classifications used for the income approach

The classification used for the income approach is ÖNACE 2008 (NACE Rev.2). The most important basic data (SBS, data from the Umbrella Organisation of Austrian Social Security Institutions, Microcensus Labour Force Survey, Tax Statistics) used for calculations are also compiled in accordance with ÖNACE. ÖNACE two-digit codes constitute the working level for the income approach.

9.3. Classification used for the expenditure approach

COFOG (Classification of the Functions of Government) is used for general government expenditure. COPNI (Classification of the Purposes of Non-Profit Institutions serving Households) is the classification used for final consumption expenditure of NPISH. The ÖCPA 2008 six-digit classification is used to calculate gross capital formation and final consumption of private households. This represents the version of the CPA 2008 classification adapted for Austrian needs and is published on the home page of *Statistics Austria*. The final consumption expenditure of private households is also published in accordance with the current version of the COICOP (Classification of Individual Consumption by Purpose) classification.

Table 9.2: Classification of the Functions of Government (COFOG)

Code	Element
01.	General Public Services
01.1	Executive And Legislative Organs, Financial And Fiscal Affairs, External Affairs
01.2	Foreign Economic Aid
01.3	General Services
01.4	Basic Research
01.5	R&D General Public Services
01.6	General Public Services N.E.C.
01.7	Public Debt Transactions
01.8	Transfers Of A General Character Between Different Levels Of Government
02.	Defence
02.1	Military Defence
02.2	Civil Defence
02.3	Foreign Military Aid
02.4	R&D Defence
02.5	Defence N.E.C.
03.	Public Order And Safety
03.1	Police Services
03.2	Fire-Protection Services
03.3	Law Courts
03.4	Prisons
03.5	R&D Public Order And Safety
03.6	Public Order And Safety N.E.C.

Code	Element
04.	Economic Affairs
04.1	General Economic, Commercial And Labour Affairs
04.2	Agriculture, Forestry, Fishing And Hunting
04.3	Fuel And Energy
04.4	Mining, Manufacturing And Construction
04.5	Transport
04.6	Communication
04.7	Other Industries
04.8	R&D Economic Affairs
04.9	Economic Affairs N.E.C
05.	Environment Protection
05.1	Waste Management
05.2	Waste Water Management
05.3	Pollution Abatement
05.4	Protection Of Biodiversity And Landscape
05.5	R&D Environment Protection
05.6	Environment Protection N.E.C.
06.	Housing And Community Amenities
06.1	Housing Development
06.2	Community Development
06.3	Water Supply
06.4	Street Lighting
06.5	R&D Housing And Community Amenities
06.6	Housing And Community Amenities N.E.C.
07.	Health
07.1	Medical Products, Appliances And Equipment
07.2	Out-Patient Services
07.3	Hospital Services
07.4	Public Health Services
07.5	R&D Health
07.6	Health N.E.C.
08.	Recreation, Culture And Religion
08.1	Recreational And Sporting Services
08.2	Cultural Services
08.3	Broadcasting And Publishing Services
08.4	Religious And Other Community Services
08.5	R&D Recreation, Culture And Religion
08.6	Recreation, Culture And Religion N.E.C.
09.	Education
09.1	Pre-Primary And Primary Education
09.2	Secondary Education
09.3	Post-Secondary Non-Tertiary Education
09.4	Tertiary Education
09.5	Education Not Definable By Level

Code	Element
09.6	Subsidiary Services To Education
09.7	R&D Education
09.8	Education N.E.C.
10.	Social Protection
10.1	Sickness And Disability
10.2	Old Age
10.3	Survivors
10.4	Family And Children
10.5	Unemployment
10.6	Housing
10.7	Social Exclusion N.E.C.
10.8	R&D Social Protection
10.9	Social Protection N.E.C.

9.4. Classifications used in the input-output statistics

9.4.1. Activity classifications

Table 9.3: Activities in accordance with input/output and ÖNACE breakdown

IO	ÖNACE	Designation
01	01	Crop and animal production, hunting and related service activities
02	02	Forestry and logging
03	03	Fishing and aquaculture
05-07	05 + 06 + 07	Mining of coal and lignite, Extraction of crude petroleum and natural gas; Mining of metal ores
08-09	08 + 09	Other mining and quarrying; Mining support service activities
10	10	Manufacture of food products
11	11	Manufacture of beverages
12	12	Manufacture of tobacco products
13	13	Manufacture of textiles
14	14	Manufacture of wearing apparel
15	15	Manufacture of leather and related products
16	16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
17	17	Manufacture of paper and paper products
18	18	Printing and reproduction of recorded media
19	19	Manufacture of coke and refined petroleum products
20	20	Manufacture of chemicals and chemical products
21	21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
22	22	Manufacture of rubber and plastic products
23	23	Manufacture of other non-metallic mineral products
24	24	Manufacture of basic metals
25	25	Manufacture of fabricated metal products, except machinery and equipment
26	26	Manufacture of computer, electronic and optical products

IO	ÖNACE	Designation
27	27	Manufacture of electrical equipment
28	28	Manufacture of machinery and equipment n.e.c.
29	29	Manufacture of motor vehicles, trailers and semi-trailers
30	30	Manufacture of other transport equipment
31	31	Manufacture of furniture
32	32	Other manufacturing
33	33	Repair and installation of machinery and equipment
35A	35.1	Electric power generation, transmission and distribution
35B	35.2	Manufacture of gas; distribution of gaseous fuels through mains
35C	35.3	Steam and air conditioning supply
36	36	Water collection, treatment and supply
37-39	37 + 38 + 39	Sewerage; Waste collection, treatment and disposal activities, materials recovery; Remediation activities and other waste management services
41	41	Construction of buildings
42	42	Civil engineering
43A	43.1	Demolition and site preparation
43B	43.2	Electrical, plumbing and other construction installation activities
43C	43.3 + 43.9	Building completion and finishing; Other specialised construction activities
45H_K	45.1	Sale of motor vehicles
45R	45.2	Maintenance and repair of motor vehicles
45H_T	45.3	Sale of motor vehicle parts and accessories
45H_M	45.4	Sale, maintenance and repair of motorcycles and related parts and accessories
46V	46.1	Wholesale on a fee or contract basis
46H_2	46.2	Wholesale of agricultural raw materials and live animals
46H_3	46.3	Wholesale of food, beverages and tobacco
46H_4	46.4	Wholesale of household goods
46H_5	46.5	Wholesale of information and communication equipment
46H_6	46.6	Wholesale of other machinery, equipment and supplies
46H_7	46.7	Other specialised wholesale
46H_9	46.9	Non-specialised wholesale trade
47_1	47.1	Retail sale in non-specialised stores
47_2	47.2	Retail sale of food, beverages and tobacco in specialised stores
47_3	47.3	Retail sale of automotive fuel in specialised stores
47_4	47.4	Retail sale of information and communication equipment in specialised stores
47_5	47.5	Retail sale of other household equipment in specialised stores
47_6	47.6	Retail sale of cultural and recreation goods in specialised stores
47_7	47.7	Retail sale of other goods in specialised stores
47_8	47.8	Retail sale via stalls and markets
47_9	47.9	Retail trade not in stores, stalls or markets
49A	49.1 + 49.2	Passenger rail transport, interurban; Freight rail transport
49B	49.31 + 49.39-9	Urban and suburban passenger land transport; Other passenger land transport n.e.c. (except transport by cable railways, funiculars and ski-lifts)
49C	49.32	Taxi operation
49D	49.39-1	Transport by cable railways, funiculars and ski-lifts
49E	49.4	Freight transport by road and removal services

IO	ÖNACE	Designation
49F	49.5	Transport via pipeline
50	50	Water transport
51	51	Air transport
52A	52.1 + 52.24	Warehousing and storage; Cargo handling
52B	52.21-1	Operation of car parks and garages
52C	52.21-2	Operation of toll roads
52D	52.21-9 except ÖBB + 52.22	Service activities incidental to land transportation n.e.c except ÖBB.; Service activities incidental to water transportation
52E	52.21-9 only ÖBB	Service activities incidental to land transportation n.e.c., only ÖBB
52F	52.23	Service activities incidental to air transportation
52G	52.29	Other transportation support activities
53	53	Postal and courier activities
55	55	Accommodation
56	56	Food and beverage service activities
58A	58.11 + 58.12	Book publishing; Publishing of directories and mailing lists
58B	58.13 + 58.14	Publishing of newspapers; Publishing of journals and periodicals
58C	58.19	Other publishing activities
58D	58.2	Software publishing
59	59	Motion picture, video and television programme production, sound recording and music publishing activities
60	60	Programming and broadcasting activities
61	61	Telecommunications
62-63	62 + 63	Computer programming, consultancy and related activities; Information service activities
64A	64.11	Central banking
64B	64 except 64.11	Financial service activities, except insurance and pension funding except central banking
65A	65.11 + 65.3	Life insurance; Pension funding
65B	65.12	Non-life insurance
65C	65.2	Reinsurance
66A	66.1 + 66.3	Activities auxiliary to financial services, except insurance and pension funding; Fund management activities
66B	66.2	Activities auxiliary to insurance and pension funding
68A		Imputed rents
68B		Actual rents
68C	68.1 + 68.20-1 + 68.20-9	Buying and selling of own real estate; Leasing of real estate ; Other renting and operating of own or leased real estate
68D	68.31 + real estate transfer tax from commissions	Real estate agencies; Real estate transfer tax from commissions
68E	68.32	Management of real estate on a fee or contract basis
69	69	Legal and accounting activities
70	70	Activities of head offices; management consultancy activities
71	71	Architectural and engineering activities; technical testing and analysis
72	72	Scientific research and development
73	73	Advertising and market research
74	74	Other professional, scientific and technical activities
75	75	Veterinary activities
77A	77.1	Renting and leasing of motor vehicles

IO	ÖNACE	Designation
77B	77.2 + 77.3 + 77.4	Renting and leasing of personal and household goods; Renting and leasing of other machinery, equipment and tangible goods; Leasing of intellectual property and similar products, except copyrighted works
78	78	Employment activities
79	79	Travel agency, tour operator and other reservation service and related activities
80#82	80 + 82	Security and investigation activities; Office administrative, office support and other business support activities
81A	81.1	Combined facilities support activities
81B	81.2	Cleaning activities
81C	81.3	Landscape service activities
84	84	Public administration and defence; compulsory social security
85A	85.1	Pre-primary education
85B	85.2 + 85.3 + 85.41	Primary education; Secondary education; Post-secondary non-tertiary education
85C	85.42	Tertiary education
85D	85.5 + 85.6	Other education; Educational support activities
86A	86.1	Hospital activities
86B	86.2	Medical and dental practice activities
86C	86.9	Other human health activities
87-88	87 + 88	Residential care activities; Social work activities without accommodation
90	90	Creative, arts and entertainment activities
91	91	Libraries, archives, museums and other cultural activities
92	92	Gambling and betting activities
93	93	Sports activities and amusement and recreation activities
94	94	Activities of membership organisations
95	95	Repair of computers and personal and household goods
96A	96.01	Washing and (dry-)cleaning of textile and fur products
96B	96.02	Hairdressing and other beauty treatment
96C	96.03	Funeral and related activities
96D	96.04-2	Operation of spas
96E	96.04-1 + 96.04-9 + 96.09-0	Operation of reducing and slendering salons and massage salons; Operation of solariums, saunas and baths n.e.c.; Other personal service activities n.e.c.
97	97	Activities of households as employers of domestic personnel

9.4.2. Product classification

Table 9.4: Products in accordance with input/output and ÖCPA breakdown

IO	ÖCPA	Designation
01_A	01.11 except 01.11.50, 01.11.6, 01.11.7	Cereals (except rice), leguminous crops and oil seeds, except Cereals straw and husks, Green leguminous vegetables, Dried leguminous vegetables
	01.12-1	Rice, not husked
	01.13-71	Sugar beet
	01.14-1	Sugar cane
	01.26-1	Olives
	01.26-9	Other oleaginous fruits
	01.27-1	Beverage crops
	01.28-1	Spices, not processed
	01.28-2	Hop cones
	01.49-23	Snails, fresh, chilled, frozen, dried, salted or in brine, except sea snails
	01.49-24	Edible products of farm animal origin n.e.c.
01_B	01.15	Unmanufactured tobacco
01_C	01.16 + 01.45-3	Fibre crops, Shorn wool from sheep and goats, greasy, including fleece-washed shorn wool
01_D	01.29-1	Natural rubber
01_E	01.41	Dairy cattle, live and raw milk from dairy cattle
	01.42-1	Other cattle and buffaloes, live
	01.43-1	Horses and other equines, live
	01.44-1	Camels and camelids, live
	01.45-1	Sheep and goats, live
	01.46-1	Swine, live
	01.47-1	Poultry, live
	01.49-1	Other farmed animals, live
01_F	01.6	Agricultural and animal husbandry services (except veterinary services)
01_G	01.11.50	Cereals straw and husks
	01.19.10	Forage crops
	01.42.20	Cattle and buffalo semen
	01.47.23	Eggs for hatching
	01.49.27	Animal embryos for reproduction
01_H	01.11.6	Green leguminous vegetables
	01.11.7	Dried leguminous vegetables
	01.13.1	Leafy or stem vegetables
	01.13.2	Melons
	01.13.3	Other fruit-bearing vegetables
	01.13.4	Root, bulb or tuberous vegetables
	01.13.5	Edible roots and tubers with high starch or inulin content
	01.13.8	Mushrooms and truffles
	01.13.9	Vegetables, fresh, n.e.c.

IO	ÖCPA	Designation
	01.21	Grapes
	01.22	Tropical and subtropical fruits
	01.23	Citrus fruits
	01.24	Pome fruits and stone fruits
	01.25	Other tree and bush fruits and nuts
	01.26.20	Coconuts
	01.47.21	Hen eggs in shell, fresh
	01.47.22	Eggs from other poultry in shell, fresh
	01.49.21	Natural honey
01_I	01.13.6	Vegetable seeds, except beet seeds
	01.13.72	Sugar beet seeds
	01.19.21	Cut flowers and flower buds
	01.19.22	Flower seeds
	01.19.31	Beet seeds (excluding sugar beet seeds) and seeds for forage plants
	01.29.20	Christmas trees, cut
	01.30.10	Planting material: live plants, bulbs, tubers and roots, cuttings and slips; mushroom spawn
01_J	01.19.39	Raw vegetable materials n.e.c.
	01.28.30	Plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes
	01.29.30	Vegetable materials of a kind used primarily for plaiting or as stuffing or padding, or in dyeing or tanning
	01.49.25	Silk-worm cocoons suitable for reeling
	01.49.26	Insect waxes and spermaceti, whether or not refined or coloured
	01.49.28	Non-edible products of farm animal origin n.e.c.
	01.49.3	Raw fur skins and miscellaneous raw hides and skins
01_K	01.41-2 + 01.45-2 + 01.49-22	Raw milk
02_A	02 n.e.c.	Products of forestry, logging and related services n.e.c.
02_B	02.4 + 02.10.1	Support services to forestry; Live forest tree plants; forest tree seeds
02_C	02.20.14	Fuel wood
03	03	Fish and other fishing products; aquaculture products; support services to fishing
05-07_A	05	Coal and lignite
05-07_B	06.1	Crude petroleum
05-07_C	06.2	Natural gas, liquefied or in gaseous state
05-07_D	07	Metal ores
08-09_A	08	Other mining and quarrying products
08-09_B	09	Mining support services
10_A	10 n.e.c.	Food products n.e.c.
10_B	10.11.4 + 10.12.50	Pulled wool and raw hides and skins of bovine or equine animals, sheep and goats; Feathers and skins of birds with feathers
10_C	10.20.41 + 10.41.41 + 10.81.20 + 10.9	Flours, meals and pellets of fish, crustaceans, molluscs or other aquatic invertebrates, unfit for human consumption; Oil-cake and other solid residues, of vegetable fats or oils; Beet-pulp, bagasse and other waste of sugar manufacture; Prepared animal feeds
10_D	10.32	Fruit and vegetable juices
10_E	10.62	Starches and starch products

IO	ÖCPA	Designation
10_F	10.11.6 + 10.13.16 + 10.20.42 + 10.39.3	Raw offal, inedible; Flours, meals and pellets of meat unfit for human consumption; greaves; Other inedible products of fish, crustaceans, molluscs or other aquatic invertebrates; Vegetable materials and vegetable waste, vegetable residues and by-products
11	11	Beverages
12	12	Tobacco products
13_A	13.1 + 13.2 + 13.3	Textile yarn and thread; Woven textiles; Textile finishing services
	13.91 + 13.95 + 13.99	Knitted and crocheted fabrics; Non-wovens and articles made from non-wovens, except apparel; Other textiles n.e.c.
13_B	13.92 + 13.93 + 13.94	Made-up textile articles, except apparel; Carpets and rugs; Cordage, rope, twine and netting
13_C	13.96	Other technical and industrial textiles
14	14	Wearing apparel
15_A	15.11	Tanned and dressed leather; dressed and dyed fur
15_B	15.12 + 15.2	Luggage, handbags and the like, saddlery and harness; Footwear
16_A	16.1 + 16.21	Wood, sawn and planed; Veneer sheets and wood-based panels
16_B	16.24 + 16.29	Wooden containers; Other products of wood; articles of cork, straw and plaiting materials
16_C	16.22 + 16.23	Assembled parquet floors ; Other builders' carpentry and joinery
17_A	17.11	Pulp
17_B	17.12 + 17.21 + 17.24 + 17.29	Paper and paperboard; Corrugated paper and paperboard and containers of paper and paperboard; Wallpaper; Other articles of paper and paperboard
17_C	17.22 + 17.23	Household and sanitary goods and toilet requisites; Paper stationery
18_A	18.1	Printing services and services related to printing
18_B	18.2	Reproduction services of recorded media
19_A	19.1 + 19.20.1	Coke oven products; Briquettes, ovoids and similar solid fuels
19_B	19.20.2 n.e.c.	Fuel oil and gas; lubricating oils (exc. aviation spirit)
19_C	19.20.3 + 19.20.4 + 19.20.9	Petroleum gases and other gaseous hydrocarbons, except natural gas; Other petroleum products; Sub-contracted operations as part of manufacturing of refined petroleum products
19_D	19.20.22 19.20.24	Aviation spirit
20_A	20.11 + 20.12 + 20.13 + 20.14	Industrial gases; Dyes and pigments; Other inorganic basic chemicals; Other organic basic chemicals
20_B	20.15 + 20.2	Fertilisers and nitrogen compounds; Pesticides and other agrochemical products
20_C	20.16 + 20.17	Plastics in primary forms; Synthetic rubber in primary forms
20_D	20.3	Paints, varnishes and similar coatings, printing ink and mastics
20_E	20.4	Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations

IO	ÖCPA	Designation
20_FA	20.51.11 20.51.12 20.51.14 20.51.99 20.59.1 20.59.2 20.59.54 20.59.55 20.59.56 20.59.57 20.59.59 20.59.99	Other chemical products n.e.c.
20_FB	20.59.51 20.59.52	Diagnostic or laboratory reagents
20_FC	20.59.53	Chemical elements in disk form and compounds doped for use in electronics
20_FD	20.51.13 20.51.2 20.52 20.59.3	Glues, fireworks, matches, inks
20_FE	20.59.4	Lubricating preparations; additives; anti-freezing preparations
20_FF	20.53 + 20.59.6	Essential oils, gelatines
20_FG	20.59.58	Biodiesel
20_G	20.6	Man-made fibres
21	21	Basic pharmaceutical products and pharmaceutical preparations
22_A	22.11	Rubber tyres and tubes; retreading and rebuilding of rubber tyres
22_B	22.19.1	Reclaimed rubber in primary forms or in plates, sheets or strip
	22.19.2	Unvulcanised rubber and articles thereof; vulcanised rubber, other than hard rubber, in thread, cord, plates, sheets, strip, rods and profile shapes
	22.19.3	Tubes, pipes and hoses, of vulcanised rubber other than hard rubber
	22.19.4	Conveyor or transmission belts or belting, of vulcanised rubber
	22.19.5	Rubberised textile fabrics, except tyre cord fabric
	22.19.73	Other articles of vulcanised rubber n.e.c.; hard rubber in all forms and articles thereof; floor coverings and mats, of vulcanised cellular rubber
	22.19.99	Sub-contracted operations as part of manufacturing of other rubber products
	22.21	Plastic plates, sheets, tubes and profiles
	22.29.21	Self-adhesive plates, sheets, film, foil, tapes, strip and other flat shapes of plastics, in rolls of width = 20 cm
	22.29.22	Other self-adhesive plates, sheets, film, foil, tapes, strip and other flat shapes of plastics
	22.29.24	Parts n.e.c. for lamps and lighting fitting, illuminated name-plates and the like, of plastics
	22.29.29	Other articles of plastics
	22.29.9	Manufacturing services of other plastic products; sub-contracted operations as part of manufacturing of other plastic products
22_C	22.19.6	Articles of apparel and clothing accessories, of vulcanised rubber other than hard rubber
	22.19.71	Hygienic or pharmaceutical articles (including teats), of vulcanised rubber other than hard rubber
	22.29.1	Apparel and clothing accessories (including gloves), of plastics
	22.29.23	Tableware, kitchenware, other household articles and toilet articles, of plastics
	22.29.25	Office or school supplies of plastics

IO	ÖCPA	Designation
	22.29.26	Fittings for furniture, coachwork or the like, of plastics; statuettes and other ornamental articles, of plastics
22_D	22.23 + 22.19.72	Builders ware of plastic; Floor coverings and mats, of vulcanised rubber other than cellular
22_E	22.22	Plastic packing goods
23_A	23.11	Flat glass
	23.12	Shaped and processed flat glass
	23.13.11	Bottles, jars, phials and other containers, of glass, except ampoules; stoppers, lids and other closures, of glass
	23.13.14	Glass inners for vacuum flasks or for other vacuum vessels
	23.13.9	Finishing services of hollow glass; sub-contracted operations as part of manufacturing of hollow glass
	23.14	Glass fibres
	23.19	Other processed glass, including technical glassware
23_B	23.31	Ceramic tiles and flags
23_C	23.32 + 23.5 + 23.6 + 23.7 + 23.99	Bricks, tiles and construction products, in baked clay; Cement, lime and plaster; Articles of concrete, cement and plaster; Cut, shaped and finished stone; Other non-metallic mineral products n.e.c.
23_D	23.13.12 + 23.13.13 + 23.41	Drinking glasses other than of glass-ceramics; Glassware of a kind used for table or kitchen purposes, for toilet, office, indoor decorations and the like; Ceramic household and ornamental articles
23_E	23.42	Ceramic sanitary fixtures
23_F	23.2 + 23.43 + 23.44 + 23.49 + 23.91	Refractory products; Ceramic insulators and insulating fittings; Other technical ceramic products; Other ceramic products; Abrasive products
24_A	24.1 24.2 24.3 24.5	Basic iron and steel and ferro-alloys
24_B	24.41.2	Gold
24_C	24.41.1	Silver
24_D	24.41.3 24.41.4 24.41.5 24.41.9 24.42 24.43 24.44 24.45 24.46	Non-ferrous metals exc. gold and silver
25_A	25.11.1 + 25.11.21 + 25.12	Prefabricated buildings of metal; Bridges and bridge-sections of iron or steel; Doors and windows of metal
25_B	25.21 + 25.99.11	central heating radiators and boilers; Sinks, wash-basins, baths and other sanitary ware, and parts thereof, of iron, steel, copper or aluminium
25_C	25.4	Weapons and ammunition
25_D	25.71 + 25.93.18 + 25.99.12 + 25.99.24	Cutlery; Sewing needles, knitting needles, bodkins, crochet hooks, embroidery stilettes and similar articles for use in the hand, of iron or steel; safety pins and other pins of iron or steel n.e.c.; Table, kitchen or household articles and parts thereof, of iron, steel, copper or aluminium; Statuettes and other ornaments and photograph, picture or similar frames and mirrors, of base metal

IO	ÖCPA	Designation
25_E	25.6	Treatment and coating services of metals; machining
25_F	25.73	Tools
25_G	25.11.22	Towers and lattice masts of iron or steel
	25.11.23	Other structures and parts of structures, plates, rods, angles, shapes and the like, of iron, steel or aluminium
	25.29	Other tanks, reservoirs and containers of metal
	25.30	Steam generators, except central heating hot water boilers
	25.91	Steel drums and similar containers
	25.99.21	Armoured or reinforced safes, strong-boxes and doors and safe deposit lockers for strong-rooms, cash or deed boxes and the like, of base metal
	25.99.26	Ships' or boats' propellers and blades thereof
25_H	25.11.99	Sub-contracted operations as part of manufacturing of metal structures and parts of structures
	25.50	Forging, pressing, stamping and roll-forming services of metal; powder metallurgy
	25.72	Locks and hinges
	25.92	Light metal packaging
	25.93 except 25.93.18	Wire products, chain and springs except 25.93.18
	25.94	Fasteners and screw machine products
	25.99.22	Paper trays, paper rests, pen trays, office-stamp stands and similar office or desk equipment, of base metal, other than office furniture
	25.99.23	Fittings for loose-leaf binders or files, letter clips and similar office articles, and staples in strips, of base metal
	25.99.25	Clasps, frames with clasps, buckles, buckle-clasps, hooks, eyes, eyelets and the like, of base metal, of a kind used for clothing, footwear, awnings, handbags, travel goods or other made-up articles; tubular or bifurcated rivets, of base metal; beads and spangles of base metal
	25.99.29	Sub-contracted operations as part of manufacturing of other fabricated metal products n.e.c.
25.99.99		
26_A	26.1 + 26.8	Electronic components and boards, Magnetic and optical media
26_B	26.2	Computers and peripheral equipment
26_C	26.3	Communication equipment
26_D	26.4	Consumer electronics
26_E	26.5 exc. 26.52	Measuring, testing and navigating equipment
26_F	26.6	Irradiation, electromedical and electrotherapeutic equipment
26_G	26.7	Optical instruments and photographic equipment
26_H	26.52	Watches and clocks
27_A	27.1 + 27.3	Electric motors, generators, transformers and electricity distribution and control apparatus; Wiring and wiring devices
27_B	27.2	Batteries and accumulators
27_C	27.4	Electric lighting equipment
27_D	27.5	Domestic appliances
27_E	27.9	Other electrical equipment
28_A	28.1 exc. 28.11.4 and 28.14.12	General-purpose machinery n.e.c.
28_B	28.3	Agricultural and forestry machinery
28_C	28.4	Metal forming machinery and machine tools
28_D	28.91	Machinery for metallurgy

IO	ÖCPA	Designation
28_E	28.92	Machinery for mining, quarrying and construction
28_F	28.93	Machinery for food, beverage and tobacco processing
28_G	28.94	Machinery for textile, apparel and leather production
28_H	28.95	Machinery for paper and paperboard production
28_I	28.96	Plastics and rubber machinery
28_J	28.99.1 + 28.99.4	Printing and bookbinding machinery; Parts of printing and book-binding machinery
28_KA	28.29.8 28.29.9 28.99.3 28.99.52 28.99.	Other general-purpose machinery n.e.c.; other special-purpose machinery n.e.c.
28_KB	28.24 28.29.7	Power-driven hand tools; non-electrical machinery and apparatus for soldering, brazing or welding
28_KC	28.29.1 28.29.23	Gas generators, distilling and filtering apparatus; gaskets of metal sheeting; mechanical seals
28_KD	28.29.21	Machinery for cleaning, filling, packing or wrapping bottles or other containers
28_KE	28.29.43 28.29.5	Automatic goods-vending machines; dish washing machines, of the industrial type
28_KF	28.99.2 28.99.51	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
28_KG	28.29.22 28.29.3 28.29.41 28.29.42 28.29.6	Fire extinguishers, spray guns, steam or sand blasting machines and similar mechanical appliances; industrial, household and other weighing and measuring machinery; centrifuges, calendaring machines; machinery n.e.c. for the treatment of materials by a process involving a change of temperature
28_L	28.21	Ovens, furnaces and furnace burners
28_M	28.22	Lifting and handling equipment
28_N	28.25	Non-domestic cooling and ventilation equipment
28_O	28.23	Office machinery and equipment (except computers and peripheral equipment)
28_P	28.11.4	Parts for engines
28_Q	28.14.12	Taps, cocks, valves for sinks, wash basins, bidets, water cisterns bath and similar fixtures; central heating radiator valves
29_A	29.10.2 + 29.20.22	Passenger cars; Trailers and semi-trailers of the caravan type, for housing or camping
29_B	29.10.3 + 29.10.4 + 29.10.5 + 29.20.21 + 29.20.23	Motor vehicles for the transport of 10 or more persons; Motor vehicles for the transport of goods; Special-purpose motor vehicles; Containers specially designed for carriage by one or more modes of transport; Other trailers and semi-trailers
29_C	29.10.1	Internal combustion engines of a kind used for motor vehicles
	29.10.9	Sub-contracted operations as part of manufacturing of motor vehicles
	29.20.1	Bodies for motor vehicles
	29.20.3	Parts of trailers, semi-trailers and other vehicles, not mechanically propelled
	29.20.4	Reconditioning, assembly, fitting out and bodywork services of motor vehicles
	29.20.5	Fitting out services of caravans and mobile homes
	29.20.9	Sub-contracted operations as part of manufacturing of bodies (coachwork) for motor vehicles, trailers and semi-trailers
29.3	Parts and accessories for motor vehicles	
30_A	30.1	Ships and boats

IO	ÖCPA	Designation
30_B	30.2	Railway locomotives and rolling stock
30_C	30.3	Air and spacecraft and related machinery
30_D	30.4	Military fighting vehicles
30_E	30.91	Motorcycles
30_F	30.92 + 30.99	Bicycles and invalid carriages; Other transport equipment n.e.c.
31_A	31 except 31.01	Furniture except 31.01
31_B	31.01	Office and shop furniture
32_A	32.11	Coins
32_B	32.12 + 32.13	Jewellery and related articles; Imitation jewellery and related articles
32_C	32.3	Sports goods
32_D	32.5	Medical and dental instruments and supplies
32_E	32.9	Manufactured goods n.e.c.
32_F	32.4	Games and toys
32_G	32.2	Musical instruments
33_IA	33.20.1	Installation services of fabricated metal products, except machinery and equipment
33_IB	33.20.2 + 33.20.3 + 33.20.6	Installation services of general-purpose machinery; Installation services of special-purpose machinery; Installation services of industrial process control equipment
33_IC	33.20.4	Installation services of electronic and optical equipment
33_ID	33.20.5	Installation services of electrical equipment
33_RA	33.11	Repair services of fabricated metal products
33_RB	33.12	Repair services of machinery
33_RC	33.13	Repair services of electronic and optical equipment
33_RD	33.14	Repair services of electrical equipment
33_RE	33.15 + 33.17	Repair and maintenance services of ships and boats; Repair and maintenance services of other transport equipment
33_RF	33.16	Repair and maintenance services of aircraft and spacecraft
33_RIG	33.19 + 33.20.7	Repair services of other equipment; Installation services of other goods n.e.c.
35A	35.1	Electricity, transmission and distribution services
35B	35.2	Manufactured gas; distribution services of gaseous fuels through mains
35C	35.3	Steam and air conditioning supply services
36	36	Natural water; water treatment and supply services
37-39_A	37 38.11.1 38.11.2 38.11.6 38.12.1 38.12.3 38.2 38.31.1 38.32.11 38.32.12 38.9 39	Sewerage services; sewage sludge; waste collection, treatment and disposal services; remediation services and other waste management services
37-39_B	38 n.e.c.	Waste; materials recovery services; secondary raw materials
41	41	Buildings and building construction works

IO	ÖCPA	Designation
42	42	Constructions and construction works for civil engineering
43A	43.1	Demolition and site preparation works
43B	43.2	Electrical, plumbing and other construction installation works
43C	43.3 + 43.9	Building completion and finishing works; Other specialised construction works
45H_E	45.11.2	Specialised store retail trade services of cars and light motor vehicles
	45.11.3	Other retail trade services of cars and light motor vehicles
	45.19.2	Specialised store retail trade services of other motor vehicles
	45.19.3	Other retail trade services of other motor vehicles
	45.32	Retail trade services of motor vehicle parts and accessories
	45.40.2	Specialised store retail trade services of motorcycles and related parts and accessories
	45.40.3	Other retail trade services of motorcycles and related parts and accessories
45H_G	45.11.1 + 45.19.1 + 45.31.1 + 45.40.1	Wholesale trade services of cars and light motor vehicles; Wholesale trade services of other motor vehicles; Wholesale trade services of motor vehicle parts and accessories; Wholesale trade services of motorcycles and related parts and accessories
45H_V	45.11.4 + 45.19.4 + 45.31.2 + 45.40.4	Wholesale trade services on a fee or contract basis of cars and light motor vehicles; Wholesale trade services on a fee or contract basis of other motor vehicles; Wholesale trade services on a fee or contract basis of motor vehicle parts and accessories; Wholesale trade services on a fee or contract basis of motorcycles and related parts and accessories
45R	45.2 + 45.40.5	Maintenance and repair services of motor vehicles; Maintenance and repair services of motorcycles
46H	46 except 46.1	Wholesale trade services, except of motor vehicles and motorcycles except 46.1
46H_TH	46	Merchanting
46V	46.1	Wholesale trade services on a fee or contract basis
47_H	47	Retail trade services, except of motor vehicles and motorcycles
49A_GAF	49.2	Freight rail transport services: outward freight
49A_GSP	49.2	Freight rail transport services: transport margins
49A_GT01	49.2	Freight rail transport services: transport non-goods
49A_GT02	49.2	Freight rail transport services: transport outside of Austria
49A_P	49.1	Passenger rail transport services, interurban: passengers
49A_REST	49.1 + 49.2	Freight rail transport services + Passenger rail transport services, interurban: production flows n.e.c.
49A_TRAKT	49.1 + 49.2	ÖBB: operating services
49B	49.31 + 49.39.1 + 49.39.3	Urban and suburban passenger land transport services; Interurban and special-purpose scheduled passenger land transport services; Non-scheduled passenger land transport services
49C	49.32	Taxi operation services
49D	49.39.2	Passenger transport services by funiculars, teleferics and ski-lifts
49E_GAF	49.41	Freight transport services by road: outward freight
49E_GSP	49.41	Freight transport services by road: transport margins
49E_GT01	49.42	Removal services
49E_GT02	49.41	Freight transport services by road: transport outside of Austria
49F_GAF	49.5	Transport services via pipeline: outward freight
49F_GSP	49.5	Transport services via pipeline: transport margins
49F_GT02	49.5	Transport services via pipeline: transport outside of Austria
50_GAF	50	Water transport services: outward freight

IO	ÖCPA	Designation
50_GSP	50	Water transport services: transport margins
50_GT02	50	Water transport services: transport outside of Austria
50_P	50	Water transport services: passengers
51_GAF	51.2	Freight air transport and space transport services: outward freight
51_GSP	51.2	Freight air transport and space transport services: transport margins
51_GT02	51.2	Freight air transport and space transport services: transport outside of Austria
51_P	51.1	Passenger air transport services
51_REST	51	Air transport services: production flows n.e.c.
52A	52.1 + 52.24	Warehousing and storage services; Cargo handling services
52B	52.21.24	Parking lot services
52C	52.21.22 + 52.21.23	Highway operation services; Bridges and tunnel operation services
52D	52.21.21 + 52.21.25 + 52.21.29 + 52.21.30 + 52.22	Bus station services; Towing services for private and commercial vehicles; Other services incidental to road transportation; Services incidental to transportation via pipelines; Services incidental to water transportation
52E	52.21.1	Services incidental to railway transportation
52F	52.23	Services incidental to air transportation
52G_GAF	52.29	Other transportation support services: outward freight
52G_GSP	52.29	Other transportation support services: transport margins
52G_GT02	52.29	Other transportation support services: transport outside of Austria
53	53	Postal and courier services
55	55	Accommodation services
56	56	Food and beverage serving services
58A	58.11 + 58.12	Book publishing services; Publishing services of directories and mailing lists
58B	58.13 + 58.14	Publishing services of newspapers; Publishing services of journals and periodicals
58C	58.19	Other publishing services
58D	58.2	Software publishing services
59_A	59.1	Motion picture, video and television programme production services, sound recording and music publishing
59_RECHTE	59	Entertainment, literary or artistic originals
60_GEB	60	Programming and broadcasting services - fees
60_WERB	60	Programming and broadcasting services - advertising
60_KE	60	Programming and broadcasting services – government consumption
61	61	Telecommunications services
62-63_GSW	62.01	Purchased software
62-63_REST	62 + 63	Computer programming, consultancy and related services; Information services; except purchased and own account software
62_63_SSW	62.01	Own account software
64A	64.11	Central banking services
64B_FISIM	64	FISIM
64B_KE	64	Services of banks - own consumption
64B_MM	64	Market Making

IO	ÖCPA	Designation
64B_PROV	64.19 + 64.2 + 64.3 + 64.9	Other monetary intermediation services; Services of holding companies; Services of trusts, funds and similar financial entities; Other financial services, except insurance and pension funding;
65A	65.11 + 65.3	Life insurance services, Pension funding services
65B_AA	65.12 exc. 65.12.12 and 65.12.3	Non-life insurance services (exc. health insurance services)
65B_AB	65.12.12	Health insurance services
65B_GAF	65.12	Non-life insurance services - outward freight
65B_GSP	65.12	Non-life insurance services - transport margins
65C	65.2	Reinsurance services
66A	66.1 + 66.3	Services auxiliary to financial services, except insurance and pension funding; Fund management services
66B	66.2	Services auxiliary to insurance and pension funding
68A		Imputed rents
68B		Actual rents
68C	68.1 + 68.20-1	Buying and selling services of own real estate; Rental and operating services of own or leased real estate
68D	68.31 + real estate transfer tax from commissions	Real estate agency services on a fee or contract basis; Real estate transfer tax from commissions
68E	68.32	Management services of real estate on a fee or contract basis
69	69	Legal and accounting services
70	70	Services of head offices; management consulting services
71	71	Architectural and engineering services; technical testing and analysis services
72	72	Scientific research and development services
73	73	Advertising and market research services
74	74	Other professional, scientific and technical services
75	75	Veterinary services
77A	77.1	Rental and leasing services of motor vehicles
77B_A	77.2 + 77.3	Rental and leasing services of personal and household goods; Rental and leasing services of other machinery, equipment and tangible goods
77B_B	77.4	Licensing services for the right to use intellectual property and similar products, except copyrighted works
78	78	Employment services
79	79	Travel agency, tour operator and other reservation services and related services
80#82_A	80 + 82	Security and investigation services; Office support and other business support services (exc. car registration fee)
80#82_B	ex 82.99.19	Car registration fee
81A	81.1	Combined facilities support services
81B	81.2	Cleaning services
81C	81.3	Landscape services
84	84	Public administration and defence services; compulsory social security services
85A	85.1	Pre-primary education services
85B	85.2 + 85.3 + 85.41	Primary education services; Secondary education services; Post-secondary non-tertiary education services;
85C	85.42	Tertiary education services

IO	ÖCPA	Designation
85D	85.5 + 85.6	Other education services; Education support services
86A	86.1	Hospital services
86B	86.2	Medical and dental practice services
86C	86.9	Other human health services
87-88_A	87 + 88	Residential nursing care services respectively residential care services for the elderly
87-88_B	87 + 88	Residential care services plus Social work services without accommodation; without residential nursing care services respectively residential care services for the elderly
90_A	90	Creative, arts and entertainment services
90_RECHTE	90	Entertainment, literary or artistic originals
91	91	Library, archive, museum and other cultural services
92	92	Gambling and betting services
93	93	Sporting services and amusement and recreation services
94	94	Services furnished by membership organisations
95	95	Repair services of computers and personal and household goods
96A	96.01	Washing and (dry-)cleaning services of textile and fur products
96B	96.02	Hairdressing and other beauty treatment services
96C	96.03	Funeral and related services
96D	96.04-2	Services of spas
96E	96.04-1 + 96.04-9 + 96.09	Physical well-being services ; services of solariums, saunas and baths n.e.c.; Other personal services n.e.c.
97	97	Services of households as employers of domestic personnel

9.5. Classification used for the transition of GDP to GNI

For the transition from GDP to GNI data according to the classification of the balance of payments statistics for primary income is used. Table 2.1 in the BOP-Vademecum defines the level of detail for quarterly balance of payments data that have to be delivered to Eurostat by the Austrian National Bank (OeNB).

Table 9.5: Classification of primary income according to table 2.1.in the BoP-Vademecum⁵⁰

SDMX-Code	Designation
1.b	Primary income
1.b.1	Compensation of employees
1.b.2	Investment income
1.b.2.1	Direct investment
1.b.2.1.1	Equity
1.b.2.1.1.1	Dividends and withdrawals from income of quasi-corporations
1.b.2.1.1.1.1	In direct investment enterprises
1.b.2.1.1.1.2	In direct investor (reverse investment)

⁵⁰ Excluding a detailed sectoral breakdowns for property income

SDMX-Code	Designation
1.b.2.1.1.1.3	Between fellow enterprises
1.b.2.1.1.2	Reinvested earnings
1.b.2.1.2	Debt instruments
1.b.2.1.2.ow	o.w.: interest before FISIM
1.b.2.1.2.1	In direct investment enterprises
1.b.2.1.2.2	In direct investor (reverse investment)
1.b.2.1.2.3	Between fellow enterprises
1.b.2.2	Portfolio investment
1.b.2.2.1	Equity and investment fund shares
1.b.2.2.1.1	Equity securities dividends
1.b.2.2.1.2.1	Investment fund shares Dividends
1.b.2.2.1.2.2	Investment fund shares Reinvested earnings
1.b.2.2.2	Debt securities - interest
1.b.2.2.2.S	Short-term debt securities - Interest
1.b.2.2.2.L	Long-term debt securities - Interest
1.b.2.3	Other investment
1.b.2.3.1	Withdrawals from income of quasi-corporations
1.b.2.3.2	Interest
1.b.2.3.2.1.ow	Of which: interest on SDRs
1.b.2.3.2.2.ow	Of which: interest before FISIM
1.b.2.3.3	Investment income attributable to policyholders in insurance, pension schemes, and standardised guarantee schemes
1.b.2.4	Reserve assets
1.b.2.4.2.ow	Of which: interest
1.b.2.4.3.ow	Of which: interest before FISIM
1.b.3	Other primary income
1.b.3.1.g	General government
1.b.3.1	Taxes on production and on imports
1.b.3.1.1	Taxes on products
1.b.3.1.2	Other taxes on production
1.b.3.2	Subsidies
1.b.3.2.1	Subsidies on products
1.b.3.2.2	Other subsidies on production
1.b.3.3	Rents
1.b.3.1.o	Other sectors
1.b.3.4	Taxes on production and on imports
1.b.3.4.1	Taxes on products
1.b.3.4.2	Other taxes on production
1.b.3.5	Subsidies
1.b.3.5.1	Subsidies on products
1.b.3.5.2	Other subsidies on production
1.b.3.6	Rents

10. Main data sources used

List of the main statistical sources used for compiling GNI

10.0. GENERAL DATA SOURCES USED

- 10.0.1. *Business register*
- 10.0.2. *Firmenbuch (Commercial register)*
- 10.0.3. *Statistics on Research and Experimental Development*
- 10.0.4. *Economic Accounts for Agriculture and Forestry*
- 10.0.5. *NPO survey*
- 10.0.6. *Material input statistics survey in industry and construction*

10.1. STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE PRODUCTION APPROACH

- 10.1.1. *Business statistics*
 - 10.1.1.1. Non-agricultural business census 1995
 - 10.1.1.2. Structural business statistics
 - 10.1.1.3. Short term statistics
- 10.1.2. *Turnover tax statistics*
- 10.1.3. *Turnover tax advance return*
- 10.1.4. *Microcensus Housing Survey*
- 10.1.5. *Data sources for the general government sector*
- 10.1.6. *Other data sources*

10.2. STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE INCOME APPROACH

- 10.2.1. *Wage tax statistics*
- 10.2.2. *Data from the Umbrella Organisation of Austrian Social Security Institutions*
- 10.2.3. *Microcensus Labour Force Survey*
- 10.2.4. *Other data sources*

10.3. STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE EXPENDITURE APPROACH

- 10.3.1. *Household budget survey*
- 10.3.2. *Balance of payments*
 - 10.3.2.1. International trade in goods statistics (ITGS)
 - 10.3.2.2. Balance of payments statistics of services
- 10.3.3. *Digital communication services (MOSS)*
- 10.3.4. *Statistics on dwellings and buildings – Statistics on building activities*
- 10.3.4. *Other data sources*

10.4. STATISTICAL SURVEYS AND OTHER DATA SOURCES USED FOR THE TRANSITION FROM GDP TO GNI

10.0. General data sources used

10.0.1. Business register

Data sources

In the business register a number of data sources are used and consolidated:

- Administrative data:

Register of companies from Austrian regional courts

Employer register from the Umbrella Organisation of Austrian Social Security Institutions

Tax register from the Austrian Federal Ministry of Finance

Register of members of the Austrian Economic Chamber

- Feedback from surveys and note of classification
- Feedback from register cooperation
- Other sources (Internet, etc.)

Reporting units

The business register represents the statistical evidence of all economically active enterprises located in Austria with at least one employee or more than EUR 10,000 annual turnover. For enterprises to be registered there has to be available information from at least two administrative data sources.

It covers all industries with the exception of agriculture, forestry and fishing (ÖNACE A) and activities of households as employers (ÖNACE T), investment and real estate funds (ÖNACE 64.30-1) renting out of private accommodations and renting of real estate by households.

The following units are included in the register:

- Legal entities
- Enterprises
- Establishments
- Local units
- Units of government sector
- Non-profit organisations

Purposes

In general, the business register has following purposes:

- Sampling frame of surveys
- Documentation of report duties and reporting procedures
- Documentation of ÖNACE-allocation and forwarding of the note of classification (Report of units about their ÖNACE-activity)
- Interface for administrative data
- Link to other statistical registers

- Non-statistical purposes

The business register is of vital importance for National accounts. It is the sampling frame for many of the surveys which are integrated into the National accounts. Furthermore, it is crucial for the purpose of analyses during the compilation process.

Periodicity

The timeliness of the data in the business register depends on the timeliness of data in the secondary sources. Most of the administrative data are updated monthly, some are updated daily (register of companies). The update of the data is mostly automated, but there is also a manual maintenance.

Variables collected

The business register comprises a huge number of characteristics, e.g.:

- Name of the unit
- Legal form
- Corporate structure (local units)
- Employees
- Turnover

10.0.2. *Firmenbuch* (Commercial register)

Organisation collecting the data

The Austrian register of companies is maintained by regional courts (*Landesgerichte*). It is public and for the purpose of documentation and disclosure of issues which have to be published according to Austrian corporate law.

Reporting Units

The following units have to make a record in the Austrian register of companies:

- Individual companies
- General partnerships
- Limited partnerships
- Incorporated companies
- Limited liability companies
- Industrial Cooperatives
- Mutual insurance companies
- Savings banks
- Private foundations
- European economic interest grouping
- European Companies (SE)
- European Cooperative Societies (SCE)
- Other legal entities, which have to register according to law

Periodicity

The register is updated daily.

Main variables collected

In the register of companies the following characteristics are recorded:

- Name of the unit
- Legal form of company
- Address
- Economic status
- Date of foundation and liquidation
- Ownership structures

In the register of companies the registrations are recorded. Additionally, there is a collection of documents (e.g. the annual balance of accounts) compiled.

10.0.3. Statistics on Research and Experimental Development

Link to survey undertaken at the European level and national legal basis

Statistics on research and experimental development (R&D) are compiled on the statutory basis of the R&D Statistics Regulation 2003 (BGBl II No. 396/2003), the relevant binding EU statutory documents (Decision No 1608/2003 and Commission implementing Regulation No 995/2012) and the methodological basis of the Frascati Manual. *Statistics Austria* collects data on R&D via two surveys.⁵¹

Reporting Units

Reporting units are enterprises and institutions that conduct R&D in all sectors of the national economy.

Periodicity

Surveys take place every second year (2002, 2004, 2006, 2007, 2009, 2011, 2013, 2015 and 2017).

Time of availability of results

Results are available t+18 months after the reporting year.

Compulsory or voluntary?

Participation is compulsory.

⁵¹ The two surveys are the

- Survey on Research and experimental Development in the Business Enterprise Sector
- and the "Survey on Research and experimental Development in the Higher Education Sector, the Government Sector, the Private Non-Profit Sector and the Institutes Sub-Sector".

Survey methodology

The surveys collect primary data from the reporting units. For universities there are also secondary administrative data used.

Population and sample size

In the reference year 2017 the Statistics on Research and Development covered more than 9,000 units.

Main variables collected

Most important for compilation of National Accounts are the variables on expenditure on R&D and the financing of those expenditure. Furthermore, data on persons employed in R&D and on nature and orientation of R&D activities are collected.

10.0.4. Economic Accounts for Agriculture and Forestry

Data sources

For the compilation of Economic Accounts for Agriculture and Forestry (EAA and EAF) many primary and secondary data sources are used:

- Most important surveys of *Statistics Austria* are the following: horticulture and field vegetable cultivation survey, survey on fruit plantations, basic survey of areas under vine, livestock and meat statistics, slaughter statistics, poultry statistics, milk statistics, hunting statistics, farm structure survey, supply balance sheets and producer price statistics in agriculture and forestry.
- Other institutions providing data are the

Agrarmarkt Austria (providing balance sheets on crops, the annual report, of the board of directors, market information on milk and milk products, etc.),

the Austrian Federal Ministry of Agriculture and Forestry, Environment and Water Management (providing data on wood harvest reports, for data on subsidies the data pool of INVEKOS and the *Grüne Bericht* is available),

Austrian Chambers of Agriculture (providing data on prices on forest plants, etc.),

Austrian Research Centre for Forests (providing data of the Austrian Forest Inventory)

and others (Austrian Poultry Health Service, producer groups, Austrian Federal Forests (*Österreichische Bundesforste AG*), *LBG Österreich*, *Land & Forst Betriebe Österreich*, etc.).

- Other sources are the ITGS (see chapter 10.3.2.1), short term statistics in industry and construction (see chapter 10.1.1.3.1) or motor vehicle statistics.

Transfer from EAA/EAF to NA

For the use in National Accounts the results of the EAA and EAF have to be adapted. There are differences in the concepts regarding e.g. expenditure on research and development or own-account production. With bridge tables EAA and EAF are integrated into the National Accounts.

10.0.5. NPO survey

As a basis for deriving values regarding intermediate consumption or investment activity on private non-profit institutions the results of the second survey of non-profit institutions (NPO survey) carried out in 2014/2015 by *Statistics Austria* and the *Institut für Sozialpolitik der Wirtschaftsuniversität Wien* are used. This survey covered all non-profit institutions classified to the institutional sector S.15 and moreover NPIs from the welfare, research and development activities which are deemed to be market producers and are therefore assigned to institutional sector S.11.

Reporting units

The survey included all private non-profit institutions which had at least one paid employee in the reporting year 2013 in accordance with the wage tax statistics. Only nurseries and schools were excluded by the survey.

The survey covered the following private non-profit institutions:

- adult education
- welfare institutions
- culture and sport
- environmental protection organisations
- organisations for development
- other associations.

The following private non-profit institutions were not covered by the survey:

- nurseries
- schools

Periodicity

The first survey among non-profit institutions was conducted in 2006 for reporting year 2005 followed by a second survey in 2014/2015 for the reporting year 2013. No further survey was conducted as of December 2021.

Survey methodology

As there was no statutory duty to complete this survey the results had to be extrapolated from the incomplete returns. The gross wages and salaries of the surveyed organisation taken from the wage tax statistics were used as an extrapolation variable. For political parties, trade unions and automobile clubs annual reports and closed accounts were used to calculate the necessary parameters since the return rate was too low.

Main variables collected

The following parameters which are significant in terms of national accounts were surveyed:

- intermediate consumption (P.2)
- compensation of employees (D.1)
- production taxes (D.29)
- gross fixed capital formation
- revenues from production (P.11)
- paid and received current transfers
- total employment, part-time and low-paid employees, employees with works contracts and self-employed workers.

10.0.6. Material input statistics survey in industry and construction

Reporting units

The Material input statistics in industry and construction cover all

- Establishments (kind-of-activity units)
- Consortia as a specific characteristic of the construction industry⁵²
- Industrial establishments of public law corporations

which can be allocated to an activity listed below:

Table 10.1: Sections covered in the material input statistics survey in industry and construction

ÖNACE 2008	Title
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction

All units which exercise one of these activities in an independent regular manner and with the aim of generating revenue or another economic advantage in Austria are obliged to file reports.

Periodicity

Data of Material inputs statistics are collected annually.

Time of availability of results

Results are available t+12 months after the reporting year.

⁵² Consortia in the construction industry are treated as legally separate enterprises for which the lead company in commercial matters is required to file reports and is classified statistically as a one-establishment enterprise. In order to avoid duplication all consortium partners report business data without their participation in consortia.

Sampling frame

From the population in the business register all units are selected, which allocate to the section of ÖNACE listed above. Enterprises in the sample are selected, if they are over reporting thresholds regarding employees and turnover, which are surveyed in STS.

Compulsory or voluntary?

Participation is compulsory.

Population and sample size

The population comprises according to the short term statistics in industry and construction about 65,000 units in year 2017. In 2017 about 2,300 enterprises were surveyed in the material input statistics survey. This is a coverage of 3.8%. The enterprises in the sample covered 77% of total production of the population in the STS.

Survey methodology

The material-input statistics survey is a full-scale survey with recording thresholds. The recording thresholds were determined as follows:

- establishments with 20 employees or more and a turnover of EUR 10 million or higher.
- all consortia irrespective of the number of employees and turnover
- all newly founded units with an average number of 20 employees and a turnover of EUR 10 million or higher

Method used to impute for missing data

In case of a unit- or item-non response the enterprise is contacted. If it is not possible to get further information, data of the previous year and data of production from STS are used to estimate material input. If there is no information at all, the establishment will be excluded of the survey.

If there is an item-non response (single items are missing), following sources are used to estimate the value: data of previous years, data from STS, sectoral averages and further enquiry at the establishment.

Extrapolation

There is no extrapolation to the population.

Main variables collected

The main aim of this survey is to record energy and materials, which are used within a reference year in producing goods or providing industrial services as intermediate consumption. Without these statistics, information on material input would be extremely sparse, since intermediate consumption reported in SBS is not very detailed. The most important variables collected are:

- Purchase/input of energy
- Purchase/input of material: basic materials, raw materials, other finished preliminary products (semi-finished products, finished products for installation), auxiliary materials

Both input and purchases, including the balance of the inventory are to be recorded in terms of quantity and value.

10.1. Statistical surveys and other data sources used for the production approach

10.1.1. Business statistics

In the wake of Austria's accession to the EU in 1995, the EU statistical system was adopted, as was the survey design for economic units in accordance with the requirements of the corresponding EU regulations on Structural Business Statistics. The first survey under the new survey design was carried out for reporting year 1995 and was a full-scale survey (Non-agricultural business census 1995). The annual Structural Business Statistics carried out since 1997 have been or are partial surveys and represent a continuation of the Non-agricultural business census 1995.

Chapter 10.1.1.1 deals with the Non-agricultural business census 1995, chapter 10.1.1.2.1 with the Structural Business Statistics reporting years 1997-2001 and chapter 10.1.1.2.2 provides information on the Structural Business Statistics from reporting year 2002 onwards.

10.1.1.1. Non-agricultural business census 1995

Reporting units

The Non-agricultural business census (*BZ 95*) constituted the most comprehensive and important source for calculating gross domestic product, when Austria became a member of the European Union. The new Structural Business Statistics brought harmonisation and a greater volume of information but, more important, comparability throughout Europe for data users in economic policy, economic analysis and forecasting and market research.

Table 10.2: Sections covered in the non-agricultural business census 1995

ÖNACE 1995	Title
C	Mining and quarrying
D	Manufacturing
E	Electricity, gas and water supply
F	Construction
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
H	Hotels and restaurants
I	Transport, storage and communication
J	Financial intermediation
K	Real estate, renting and business activities
M	Education
N	Health and social work
O	Other community, social and personal service activities

The *BZ 95* covers all enterprises, kind-of-activity units and local units which were assigned to one of the activities listed above. Only market producers were included.

All units exercising an activity under the industries listed above for their own-account, regularly and with the aim of generating profit or other economic advantage were obligated to report. In 1995 the liberal professions, such as doctors, lawyers, civil engineers and public accountant, were included in the census for the first time. Small wine taverns, renting out of private accommodation and freelance artists' activities within the meaning of §2 *GewO 1994* (*Gewerbeordnung* – Trade Regulation) were not included.

The reporting period was the calendar year 1995 (or the economic year completed prior to 31.12.1995.)

The survey units were enterprises, establishments (kind-of-activity unit) and local units. An **enterprise** is a legal unit which forms an organisational unit for the production of goods and services and has some decision-making powers, especially with regard to the use of the funds it receives. An enterprise exercises an activity or several activities at one or more sites. An **establishment**, or kind-of-activity unit, represents all those parts of an enterprise which contribute to the exercising of an activity at the level of a (four-digit) class of the "Classification of economic activities – ÖNACE 2003". This is a unit which corresponds to one or more operational subdepartments of an enterprise. The enterprise must have an information system making it possible to determine or calculate at least the value of output, intermediate consumption, personnel costs and operating surplus as well as employment and gross fixed capital formation for each establishment. The **local unit** is a part of an enterprise at a fixed place (such as a sales outlet, office, store or workshop) where or from which economic activities are exercised, involving – with some exceptions – one or more persons working for one and the same enterprise.

To ensure that large enterprises with sites in various *Bundesländer* and with activities in various industries (such as production and trade) or with a very wide range of production could also be properly classified systematically and regional, they were separated into several survey units for the purposes of collecting data, usually after consulting with the management. Particular consideration was given to consistency with existing subannual surveys.

Unlike in the business census 1988, it was largely *technical* criteria (where corresponding accounting records existed), which determined whether a separate part of the enterprise was regarded as an establishment in the 1995 census. *Regional* factors were taken into account only if the enterprise had corresponding information.

Main variables collected

The following variables were collected in the survey – the variables didn't change in the subsequent structural business surveys, there were just a few adaptations made. For more detailed information to the variables see chapter 10.1.1.2.2 about the current SBS.

- Total workforce, employees
- Personnel costs
- Turnover and earnings
- Purchases of goods and services
- Gross capital formation
- Inventories

Table 10.3 Non-agricultural business census 1995

Name of data source: Non-agricultural business census 1995
Organisation collecting the data, and purposes for which it is collected: <i>The survey was carried out by Statistics Austria as a full-scale census, based on the Nichtlandwirtschaftliche Bereichszählungs-Verordnung (Non-agricultural business census Regulation BGBl. II No. 10/1997) and on Council Regulation No. 58/1997 on Structural Business Statistics, respectively.</i>
Reporting units: <i>all enterprises, kind-of-activity units and local units which were assigned to one of the activities listed above. Only market producers were included</i>
Periodicity: <i>The reporting period was the calendar year 1995</i>
Variables collected: <i>Total workforce, employees; personnel costs; turnover and earnings; purchases of goods and services; gross capital formation; inventories</i>
Methods used to allow for missing data: <i>For small units: imputing missing data and correcting for obviously false data based on key figures by branch. For big units: contacting the unit.</i>
Adjustments made for conceptual differences from national accounts concepts: <i>In analogy to the processing of SBS data. See chapter 10.1.1.2.2, Subsection "Processing of the results of SBS 2017"</i>
Further adjustments made to the data: <i>In analogy to the processing of SBS data. See chapter 10.1.1.2.2, Subsection "Processing of the results of SBS 2017"</i>

10.1.1.2. Structural business statistics

10.1.1.2.1. Structural business statistics reporting years 1997-2001

Link to surveys undertaken at the European level and national legal basis

As a continuation of the *BZ 95*, annual Structural Business Statistics (Leistungs- und Strukturhebung, *SBS*) were carried out from reporting year 1997 in accordance with the requirements of the EU regulation concerning Structural Business Statistics (Council Regulation No 58/97 concerning structural business statistics). Unlike the *BZ 95*, these were not full-scale surveys but partial surveys and the method of calculation was amended in 2002. Up to the reporting year 2001 the *SBS* was carried out as a stratified sample survey with free extrapolation. However, as the national legal basis (Structural Business Statistics Regulation BGBl. II No. 445/1998) was valid for these sample surveys only up to the end of 2002 on the basis of the Federal Statistics Act 1968 (*Bundesstatistikgesetz 1968*), the concepts for the Structural Business Statistics had to be adjusted in line with the *Bundesstatistikgesetz 2000* from reporting year 2002 onwards.

Reporting units

The SBS covered all

- enterprises or consortia (i.e. contractual relations entered on a one-off or temporary basis between several enterprises for the joint implementation of construction projects where one enterprise is responsible for commercial management)
- establishments and
- local units

which were allocated to an activity listed below. Only market producers were included into the survey.

Table 10.4: Sections covered by the SBS 1997 to 2007

ÖNACE1995/ 2003	Title
C	Mining and quarrying
D	Manufacturing
E	Electricity, gas and water supply
F	Construction
G	Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods
H	Hotels and restaurants
I	Transport, storage and communication
J	Financial intermediation
K	Real estate, renting and business activities

All units which carried out an activity listed in the table for their own-account, regularly and with the aim of generating profit or other economic advantage were obliged to file reports. Small wine taverns and renting out of private accommodation within the meaning of §2 GewO 1994 (*Gewerbeordnung* – Trade Regulation) were not included. Industries M (education), N (health, veterinary and social sector) and O (other public and personal services) of the ÖNACE were not surveyed.

Sampling frame

Up to reporting year 2000 the population for selecting the sample units covered all enterprises in the non-agricultural business census 1995 in divisions 10 to 74 (excluding 66) of ÖNACE 2003, including the new entries in the business register of *Statistics Austria* up until December of the recording year. As this methodology did not take into account exits from the business register for reporting year 2001 only the business register was considered and all enterprises in divisions 10 to 74 (excluding 66) of ÖNACE 2003 which were entered as active enterprises at the end of reporting year 2001 were taken into account for the population.

Survey Methodology

SBS 1997 to 2001 are stratified **sample surveys with free extrapolation**. The surveys were always carried out as primary statistical surveys, i.e. the data was collected by means of direct surveying of the respondents. The following measures were taken to reduce the response burden:

- For small and medium enterprises (SMEs) there was an annual rotation of the majority of the survey units which means that the enterprises surveyed changed from one year to another apart from the fully surveyed strata.
- For the following SMEs a reduced catalogue of characteristics was used:

in the manufacturing sector (ÖNACE C–F) for enterprises with 20 and fewer employees;

in the industries "wholesale and retail trade, maintenance and repair of motor vehicles and personal and household goods, travel agencies and tour operators, forwarding agents and other transport mediation" for enterprises with turnovers of up to ATS 20 million or EUR 1,453,457;

in other service industries for enterprises with a turnover of up to ATS 10 million or EUR 726,728.

- In the manufacturing sector (ÖNACE C-F) for enterprises which had reporting obligations in the STS and the SBS (enterprises with 20 employees and over) certain components of earnings and certain data relating to employees were taken from the STS.
- The industry "insurance" was compiled exclusively from data from the financial market supervisory body (supervision on insurance enterprises and pension funds).
- For the financial intermediation industry, secondary data from the Austrian National Bank were made available in addition to the primary data.

The selection method was a **stratified random selection**. The main stratification was made by 226 branches (= two to six-digit codes of ÖNACE 1995) and a maximum of eight employment size classes within each sector. The strata were based on the breakdown of ÖNACE of the publication tables to be supplied to Eurostat (which mostly corresponded to ÖNACE classes). When the number of units in the samples in the single branches or employment size classes was insufficient, classes were merged. Up to reporting year 2000 the employees from the business register of *Statistics Austria* were used for the employee size classes. In reporting year 2001 employees registered by the Umbrella Organisation of Austrian Social Security Institutions were used. The definition of the employee size classes can be taken from the following table:

Table 10.5: Employee size classes in the SBS 1997 to 2001

Employee size classes	Number of employees
1	0-1
2	2-4
3	5-9
4	10-19
5	20-49
6	50-99
7	100-249
8	250+

Sample coverage

The size of the sample ranged from approximately 10,000 (in 1997) to 17,700 (in 2000) units in the manufacturing sector, and from approximately 27,300 (in 2001) to 33,000 units (in 2000) in the services sector. These 40,000 to 50,700 enterprises (approximately 18-19% of the population) account for approximately 77 to 80% of gross value added at factor costs⁵³.

Methods for grossing-up to the population and to impute for missing data

After individual data have been checked the individual figures are extrapolated for the population. A free extrapolation method was used, i.e. each set of data, except those for non-response cases, were weighted by N/n . N was the number of enterprises in a stratum of the population and n the corresponding number of sample units in this stratum exclusive of non-responses. Non-responses were therefore also extrapolated by reducing the denominator of the above quotients N/n . Only in exceptional cases (large enterprises, branches with few enterprises, non-homogeneous strata) substitutions were made for non-responses.

The following two factors could distort the extrapolation:

1. **Zero returns** are included in the population but should not be included in the SBS. There are the following two types:

- Inactive units could be included in the population for two reasons:

from 1997 to 2000 the population was based on the enterprises in the 1995 non-agricultural business census including corresponding new entries in the business register of *Statistics Austria*. Withdrawals were not taken into account.

At the time of the survey it was ascertained that some units which were active according to the business register actually were inactive.

- Units contained in the business register which were not obliged to file returns for the purposes of the SBS (for example branches of foreign enterprises or non-market producers))

These units were included in the sample as zero returns but were nevertheless implicitly taken into account because the number of enterprises (N) in the extrapolation factor N/n was not reduced. In 2001 the number of zero returns was reduced heavily by taking into account the withdrawals by adapting the population to the records in the business register.

2. The determination of the **sampling ratio**⁵⁴ on the basis of *BZ 95*: If there were, for example, many new entries in a stratum from 1996 it is possible that by specifying the sampling rate on the basis of *BZ 95* there were too few units in the sample and the sample was therefore not sufficiently representative of the population.

Main variables collected

⁵³ Gross value added at factor costs = turnover minus intermediate consumption plus subsidies minus taxes and duties.

⁵⁴ The sampling ratio is defined as $f = n / N$ and is therefore the reverse value of the extrapolation factor.

The main variables have remained largely unchanged compared with the *BZ 95* (see chapter 10.1.1.1). For a detailed description of the variables see chapter 10.1.1.2.2 main variables collected)

10.1.1.2.2. Structural Business Statistics from reporting year 2002 onwards

Link to surveys undertaken at the European level and national legal basis

The revised *Leistungs- und Strukturstatistik-Verordnung* (Structural Business Statistics Regulation BGBl. II No. 428/2003, modified in BGBl. II No. 266/2009) is the national legal basis for compiling Structural Business Statistics. It is based on the European legal basis (Council Regulation No. 295/2008 and No. 251/2009 on Structural Business Statistics). This was specified as a full-scale survey with recording thresholds to reduce the response burden. At the same time the use of administrative sources, the application of statistical model calculations and the use of synergies between surveys according to the Federal Statistics Act 2000 (*Bundesstatistikgesetz 2000*) are increased.

Reporting units

From reporting year 2002 the SBS covers all

- enterprises
- establishments
- local units and
- industrial establishments of corporation tax statistics law corporations within the meaning of §2 *KStG 1988* (i.e. establishments which are economically independent and exclusively or predominantly exercise a permanent activity of economic importance in the private economy for the purposes of securing revenue or if they do not participate in general economic transactions, to secure other economic advantages and are not part of agriculture and forestry), which are to be allocated to one of the listed activities.

Only market producers were included into the survey.

Table 10.6: Sections covered by the SBS from 2008 onwards⁵⁵

ÖNACE 2008	Title
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade, repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities ¹⁾
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
S 95	Repair of computers and personal and household goods

¹⁾ With the exception of 64 (Financial service activities, except insurance and pension funding) and 65 (Insurance, reinsurance and pension funding, except compulsory social security).

All units which carried out an activity listed in the table for their own-account, regularly and with the aim of generating profit or other economic advantage were obliged to file reports. Small wine taverns, renting out of private accommodation within the meaning of §2 GewO 1994 (*Gewerbeordnung* – Trade Regulation), renting out of real estate or private households and small mutual insurance associations were not included. Industries A (Agriculture, forestry and fishing), K 64.2 (Activities of holding companies), K 64.3 (Trusts, funds and similar financial entities), O (Public administration and defence; compulsory social security), P (Education), Q (Human health and social work activities), R (Arts, entertainment and recreation), S (Other service activities – with the exception of S 95) T (Activities of households as employers) of ÖNACE 2008 were not surveyed.

From 2002 to 2007 the survey was conducted for ÖNACE 1995 respectively ÖNACE 2003 for divisions B to K with similar exceptions as described above. Since reporting year 2008 ÖNACE 2008 is used. This brought an expansion and more detailed breakdown of the service-divisions. The results of previous years were recalculated: For the years 2005 to 2007 on a microlevel and before 2005 on a macrolevel with conversion factors.

Periodicity

Data of SBS are collected annually.

Time of availability of results

Preliminary results are available at t+10 months after the reporting year, final results are available t+18 months.

⁵⁵ From 2002 to 2007 the survey was conducted for ÖNACE 1995 respectively ÖNACE 2003 for divisions B to K.

Compulsory or voluntary?

For the units above the threshold, the participation in the survey is compulsory.

Sampling frame

The business register of *Statistics Austria* provided the population for the SBS. The business register comprises all enterprises, with at least one employee or more than EUR 10,000 annual turnover, government units and Non-profit institutions. If an enterprise is recorded in the business register and allocated to ÖNACE divisions 05 to 82 (excluding 64 and 65) or 95 in the reporting year, it is covered by the SBS.

Survey methodology

In 2002 the Structural Business Statistics were compiled for the first time in accordance with a new survey design for a full-scale survey with recording thresholds, increased use of administrative sources, the application of statistical model calculations and the use of synergies between surveys. The thresholds are consistently adapted to the economic development.

In 2017 the recording **thresholds** were determined as the follows:

In the production sector (ÖNACE sections B-F) the threshold is determined by employee numbers, whereby enterprises with 20 employees or more are obliged to file reports. However, if the turnover of all the units obliged to file reports in one of the division from 05 to 43 does not account for at least 90% of total turnover of all enterprises active in the division, enterprises with less than 20 employees but a turnover (exclusive of turnover tax) of more than EUR 1 million in the reporting year also have to participate in the survey.

- In the services sector (ÖNACE sections G-N and division 95) the threshold is determined by turnover (depending on industry EUR 300,000, EUR 850,000, EUR 1.8 million or EUR 3 million) and partly in addition by number of employees (depending on industry there is a threshold of 10 or 20 employees). For enterprises in the division 45 (Wholesale and retail trade and repair of motor vehicles and motorcycles), 46 (Wholesale trade, except of motor vehicles and motorcycles) and 47.73 (Dispensing chemist in specialised stores) the threshold is EUR 3 million turnover. In the other remaining ÖNACE 47-classes, in 49.4, 52.29 and 79.1 the threshold is EUR 1.8 million turnover. In ÖNACE 75 the threshold is EUR 300,000 turnover. All other enterprises in the service industries covered by the SBS have a threshold of EUR 850,000. Furthermore, there are a couple of divisions, groups and classes which have a threshold regarding their number of employees – in ÖNACE 58.2, 62.03, 62.09 and 63.12 the threshold is 10 employees, in ÖNACE 62.01, 62.02, 63.11, 71, 73.2 and 78 the threshold is 20 employees.

1. *Enterprises which are above the threshold*

The statistical units above the thresholds are – barring the exceptions below - surveyed in primary statistical terms, i.e. the data are collected by means of direct surveying of the respondents.

The exceptions are as follows:

For ÖNACE 64 (Financial service activities, except insurance and pension funding) and ÖNACE 65 (Insurance, reinsurance and pension funding, except compulsory social security), administrative sources can be used for compiling Structural Business Statistics. For ÖNACE 64 SBS uses financial statements data that banks report to the Austrian National Bank who makes this data available to *Statistics Austria*. This data is then checked and supplemented by estimates on missing units. The results for financial intermediation were calculated on the basis of data from the Austrian National Bank and are based on supervisory statistics. Insurance and pension funds industry information is compiled exclusively from data from the financial market supervisory body (supervision of insurance enterprises and pension funds). Data on small insurance associations are not included in the data for insurance enterprises because they are of minor economic significance⁵⁶.

Missing data are replaced by various methods: For enterprises near the threshold the estimation model for enterprises which are below the threshold (which is explained under point 2) is applied. For bigger enterprises data from previous years and secondary statistical information is used to complete the record. In the manufacturing sector some of the data from the STS are adopted.

2. Enterprises which are below the threshold

For all small and micro enterprises which are not in the primary survey, the characteristics have to be calculated using administrative sources and synergies between statistical surveys according to the *Bundesstatistikgesetz 2000* and the use of statistical estimation models.

For statistical units which are below the threshold in the SBS administrative data are used and statistical estimation methods are used to compile datasets. The usage of administrative data as well as the estimation methods were adapted since 2002 – for example wage tax data are integrated.

The following administrative data are adopted to compile **key data** via existing links in the business register:

- data from the Umbrella Organisation of Austrian Social Security institutions for **employees**
- turnover tax data from the financial authorities for **revenue**
- data from wage tax statistics for **wages and salaries**

Where key data are **missing** various approaches are adopted. Where reports on employment are missing, it is assumed, that there are no employees in the enterprise. Where the information from the turnover tax data is missing the annual value for the monthly turnover tax advance returns (UVA) is used. When some monthly reports of the UVA are missing, they are supplemented by using a model taking the development of the enterprise itself and the industry overall into account. When there is a divergence between the information from the social insurance schemes and the wage tax statistics, total wages and salaries are weighted with the employment structure of the social insurance schemes or the wages and salaries are imputed with information from social insurance schemes and industry-sector-specific annual wages and salaries.

⁵⁶ These missing data are replaced on the basis of insurance statistics in national accounts.

The parameters for the **main and detailed characteristics** are estimated on the basis of the enterprises surveyed in the primary statistics which are active in the same industry as the enterprises for which estimates are to be made. The model parameters are calculated at the lowest possible ÖNACE breakdown level (subclasses), provided that there are sufficient data from the primary survey for the industry concerned. The model is based on the enterprises surveyed for primary statistics which came closest to the enterprises below the thresholds. Therefore, the smallest enterprises (the lowest turnover decile) which are surveyed primarily are used for the estimation model. If not enough primary survey units are available in an industry (at least 30 units in the lowest decile), higher deciles are used. If there are not enough units in the primary statistics up to the 7th decile, the parameters are calculated at a higher ÖNACE level.

The parameters for the **main characteristics** (revenue and earnings, purchases of goods and services, inventories, gross capital formation etc.) are estimated using the key values as regressors by means of a combined regression model. On the basis of the results of a robust regression estimate (recognition of extreme values by means of least trimmed squares LTS) an ordinary least square regression (OLS) was carried out. The purpose of using an LTS model is that not all residuals (outliers) but only a small quantity of the small residuals of a minimised function are to be used. For this reason large residuals no longer have any impact on the estimated magnitudes.

The parameters for the **detailed characteristics** (breakdown of revenue, purchases of goods and services, interest, securities and similar earnings, etc.) are calculated by means of ratio estimates.

Population and sample size

For 2017 the population comprised about 346,000 enterprises, in the SBS 2017 10% were surveyed (the sample was about 35,000 enterprises) and covered 75% of the employees and 90% of revenue⁵⁷.

Main variables collected

Total employees, employees

Total workforce comprises self-employed persons (active owners including co-owners or leaseholders), unpaid family workers and employees. Salaried employees, wage earners, apprentices and home workers are regarded as employees.

Personnel costs

Personnel costs comprise the gross salaries of employees, gross wages of workers, gross compensation for apprentices, homemaker remuneration, statutory compulsory employers' contributions and other social costs.

Revenue (turnover) and earnings

Turnover and earnings in the production and service sectors (except for financial intermediation and insurance) comprise turnover, income from company-produced additions to fixed assets, income from investments, income from interest, securities and similar income, subsidies and other operating

⁵⁷ Without ÖNACE 64 and 65.

income at enterprise level. Turnover includes the sum of amounts invoiced (excluding turnover tax) for normal business activities during the reporting period in the enterprise, which are sales or the surrender of use of products and goods or services to third parties less deductions (such as customer discounts).

Purchases of goods and services

Total purchases of goods and services comprise all goods and services purchased or input during the reporting period for resale or use in production or service process. These include the purchase of fuels and of electrical energy and district heating, purchase of materials for processing (raw and ancillary materials, including components and purchased semi-finished products), expenditure on subcontracts and on goods sent for processing, the purchase of goods and services for resale unchanged or services passed on and invoiced to the customer, expenditure for outward freight, expenditure for repairs and maintenance, expenditure for non-company workers, expenditure for renting and operating leasing and other operating expenditure.

Gross capital formation

Gross capital formation are all acquisitions of fixed assets which can be activated under tax law. It comprises advance payments, capital formation in assets (also expansions, reconstructions, improvements and repairs which enhance the value, extend useful life or increase productivity), assets purchased by finance leasing and capitalised production. It includes capital formation in undeveloped plots of land, old buildings, construction and reconstruction of buildings, machinery and machinery plants, tools, factory and office equipment, means of transport, used fixed assets, small tools, capital formation in software, concessions, industrial property rights and similar rights. Small tools are those whose costs are not in excess of EUR 400 and can be deducted from tax entirely in the same year.

Inventories

Inventories include all goods belonging to the enterprise or the establishment at the end of the reporting year even when stored outside the enterprise or establishment. These include fuels, raw, auxiliary and working materials, goods and services purchased for resale, unfinished products (including services not yet invoiced) and finished products (of own production).

Processing of the results of SBS 2017

Traditionally it was the establishment – and not the enterprise – which was the survey unit for economic activity but in the non-agricultural business census (*BZ 95*) and also in the subsequent surveys of Structural Business Statistics (SBS 1997 to 2001 and SBS from 2002 onwards) local units and enterprises as well as establishments were surveyed. However, this created the problem that some of the information required for determining production and goods and services accounts was collected at enterprise level only and no longer at establishment level. Information on establishments would no longer be available as detailed as for enterprises. This meant that statistical processing methods are required to fill the gap between information on enterprises and on establishments without contradicting the figures which have been recorded.

In the case of single-establishment enterprises, the information on the enterprises is the same as on establishments. However, the information on multi-establishment enterprises⁵⁸ is incomplete and these are important in Austria, because although single-establishment enterprises (in 2017 approximately 346,000 enterprises) account for the majority, the approximately 310 multi-establishment enterprises produce some 10% of Austrian value added.

The missing information therefore has to be estimated. The data are processed for each individual establishment rather than as an aggregate and the estimates are based on assumptions about the structure of the establishments. Basically two methods are used for the initial estimate: the enterprise structure method and the average structure method.

Enterprise structure method

In this method it is assumed that the characteristic structure of the enterprise (e.g. the share of revenue of own production of output or the share of intermediate consumption of output) is identical with that of its establishments. Therefore, the estimation of the establishment characteristics is based on characteristics of the enterprise (by means of quotas, relations or proportions). Implausible breakdowns arise in particular with very inhomogeneous enterprises and for this reason the method is used only for enterprises which are uniform regarding their economic activity, thus whose establishments belong to the same ÖNACE division.

Analysis shows that in 2017 approximately 40% of all multi-establishment enterprises have establishments confined to a single ÖNACE subclass. These enterprises are uniform in terms of economic activity and so the enterprise structure method is used.

Average structure method

For the remaining establishments the average structure of similar single-establishment enterprises is used for estimation. In order to obtain a similar characteristic structure as possible, these are graded according to the branch of industry they belong to and what size the establishment was (turnover stratum). The quality of the estimate naturally depends on the representativeness of the single-establishment enterprises on which they are based. After the first estimate a balancing procedure is conducted to create consistency between the estimate of the characteristics of the establishments and the surveyed characteristics of the enterprise.

⁵⁸ These are enterprises with more than one establishment.

Table 10.7 Structural business statistics (LSE)

Name of survey: Structural business statistics (LSE)
<p>Link to surveys undertaken at the European level (e.g. structural business statistics):</p> <p><i>The revised Leistungs- und Strukturstatistik-Verordnung (Structural Business Statistics Regulation BGBl. II No. 428/2003, modified in BGBl. II No. 266/2009) is the national legal basis for compiling Structural Business Statistics. It is based on the European legal basis (Council Regulation No. 295/2008 and No. 251/2009 on Structural Business Statistics). This was specified as a full-scale survey with recording thresholds to reduce the response burden. At the same time the use of administrative sources, the application of statistical model calculations and the use of synergies between surveys according to the Federal Statistics Act 2000 (Bundesstatistikgesetz 2000) are increased.</i></p>
<p>Reporting units (e.g. enterprise/ local KAU/ household):</p> <ul style="list-style-type: none"> ➤ enterprises ➤ establishments ➤ local units and ➤ industrial establishments of corporation tax statistics law corporations within the meaning of §2 KStG 1988 (i.e. establishments which are economically independent and exclusively or predominantly exercise a permanent activity of economic importance in the private economy for the purposes of securing revenue or if they do not participate in general economic transactions, to secure other economic advantages and are not part of agriculture and forestry), which are to be allocated to one of the listed activities.
<p>Periodicity (e.g. annual/quarterly/other- to be specified): <i>Data of SBS are collected annually.</i></p>
<p>Time of availability of results (e.g. 18 months after the end of the survey period):</p> <p><i>Preliminary results are available at t+10 months after the reporting year, final results are available t+18 months.</i></p>
<p>Sampling frame: (e.g. name of business register used/ population census):</p> <p><i>The business register of Statistics Austria provided the population for the SBS. The business register comprises all enterprises, with at least one employee or more than EUR 10,000 annual turnover, government units and Non-profit institutions. If an enterprise is recorded in the business register and allocated to ÖNACE divisions 05 to 82 (excluding 64 and 65) or 95 in the reporting year, it is covered by the SBS.</i></p>
<p>Survey is compulsory or voluntary?</p> <p><i>For the units above the threshold, the participation in the survey is compulsory.</i></p>
<p>Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview):</p> <p><i>In 2002 the Structural Business Statistics were compiled for the first time in accordance with a new survey design for a full-scale survey with recording thresholds, increased use of administrative sources, the application of statistical model calculations and the use of synergies between surveys. The thresholds are consistently adapted to the economic development. Recording thresholds in 2017 (see chapter 10.1.1.2.2)</i></p>
<p>Population size:</p> <p><i>For 2017 the population comprised about 346,000 enterprises, in the SBS 2017 10% were surveyed (the sample was about 35,000 enterprises) and covered 75% of the employees and 90% of revenue (without ÖNACE 64 and 65).</i></p>
<p>Sample size: <i>The sample was about 35,700 enterprises.</i></p>
<p>Survey response rate: <i>94–96% of reporting enterprises</i></p>
<p>Method used to impute for missing data:</p> <p><i>Missing data are replaced by various methods: For enterprises near the threshold the estimation model for enterprises which are below the threshold (which is explained under point 2) is applied. For bigger enterprises data from previous years and secondary statistical information is used to complete the record. In the manufacturing sector some of the data from the STS are adopted.</i></p>
<p>Variable used for grossing-up to the population (e.g. turnover/ employment):</p> <ul style="list-style-type: none"> ➤ <i>Enterprises which are below the threshold:</i> ➤ <i>For all small and micro enterprises which are not in the primary survey, the characteristics have to be calculated using administrative sources and synergies between statistical surveys according to the Bundesstatistikgesetz 2000 and the use of statistical estimation models.</i> ➤ <i>For statistical units which are below the threshold in the SBS administrative data are used and statistical estimation methods are used to compile datasets. The usage of administrative data as well as the estimation methods were adapted since 2002 – for example wage tax data are integrated.</i> ➤ <i>The following administrative data are adopted to compile key data via existing links in the business register:</i> ➤ <i>data from the Umbrella Organisation of Austrian Social Security Institutions for employees</i> ➤ <i>turnover tax data from the financial authorities for revenue</i> ➤ <i>data from wage tax statistics for wages and salaries</i>
<p>Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame):</p> <p><i>For 2017 the population comprised about 310,100 enterprises, in the SBS 2017 10% were surveyed (the sample was about 35,000 enterprises) and covered 75% of the employees and 90% of revenue (without ÖNACE 64 and 65).</i></p>

Main variables collected:

- *Total employees, employees*
- *Personnel costs*
- *Revenue (turnover) and earnings*
- *Purchases of goods and services*
- *Gross capital formation*
- *Inventories*

Further adjustments made to the survey data:

See chapter 10.1.1.2.2, Subsection "Processing of the results of SBS 2011"

10.1.1.3. Short term statistics

Council Regulation No. 1165/98 concerning short-term statistics (STS) created a uniform framework for the preparation of Community statistics on the business cycle. The aim was to quickly make available harmonised indicators to observe the business cycle in the Member States. In Austria the EU-harmonised short term statistics system was implemented in 1999. Since then several amendments have been made. Chapter 10.1.1.3.1 deals with the short term statistics in industry and construction and chapter 10.1.1.3.2 with the short term statistics for the services sector.

10.1.1.3.1. Short term statistics in industry and construction

Link to surveys undertaken at the European level and national legal basis

The monthly short term statistics in industry and construction forms the basis for meeting the requirements of the EU regulation on short term statistics (Council Regulation No. 1165/98 concerning short-term statistics). Furthermore, it determines national production of goods and services for the purposes of the EU regulation regarding a standardised survey on the production of goods and services (Council Regulation No. 3924/91 on the establishment of a Community survey of industrial production). The EU Regulation was transposed into national law by the Regulation on short term statistics in industry and construction (BGBl II No. 210/2003 and No. 315/2007).

Reporting units

The short term statistics in industry and construction cover all

- enterprises
- establishments
- consortia as a specific characteristic of the construction industry⁵⁹
- industrial establishments of public law corporations

which can be allocated to an activity listed below:

⁵⁹ Consortia in the construction industry are treated as legally separate enterprises for which the lead company in commercial matters is required to file reports and is classified statistically as a one-establishment enterprise. In order to avoid duplication all consortium partners report business data without their participation in consortia.

Table 10.8: Sections covered by the STS in industry and construction

ÖNACE 2008	Title
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction

All units which exercise one of these activities in an independent regular manner and with the aim of generating revenue or another economic advantage in Austria are obliged to file reports.

Periodicity

The short term statistics are compiled on a monthly basis.

Time of availability of results

Preliminary figures are available t+90 days (monthly figures) and t+6 months (accumulated monthly figures about production of goods). Final results of indices and absolute figures are available t+9 to t+12 months after the reporting year – depending on publication form.

Sampling frame

The population comprises all enterprises from the business register of *Statistics Austria* allocated to sections B-F of ÖNACE 2008.

Compulsory or voluntary?

For the units above the threshold (see Survey methodology), the participation is compulsory.

Population and sample size

In the year 2017, the population was an average of 65,000 enterprises. 10,000 were in average included in the survey every month, which are about 20% of the population. Regarding turnover and employees the primary survey covered 80% and 90% of the population in average in 2017.

Survey methodology

The short term survey in the manufacturing sector is a primary statistical survey carried out in the form of a full-scale survey with cut-off limits. The cut-off limits are defined by thresholds. The following units must file reports

- all enterprises with one or more establishments or industrial establishments of public law corporations with 20 or more employees
- all consortia irrespective of the number of employees, but with more than EUR 1 million turnover
- all newly founded units irrespective of the number of employees

However, if the turnover of all the units obliged to file reports in one of the division from 05 to 43 does not account for at least 90% of total turnover of all enterprises active in the division, enterprises with at least EUR 1 million turnover irrespective of their number of employees are also integrated in the

survey. Statistical units with fewer than 20 employees and a smaller turnover than EUR 1 million are always excluded from the survey, even when the required degree of representation is not achieved.

For all **small and micro enterprises which are not in the primary survey** the characteristics are calculated using administrative sources and synergies between statistical surveys and the use of statistical estimation models. The proceeding is similar to the method for the units under the threshold in the SBS (see chapter 10.1.1.2.2)

The following administrative data are adopted to compile **key data** via existing links in the business register:

- data from the Umbrella Organisation of Austrian Social Security Institutions for **employees**
- data on turnover tax advance return from the financial authorities for **turnover**

Where key data are **missing** various approaches are adopted. Where reports on employment are missing, it is assumed, that there are no employees in the enterprise. Where the information from the turnover tax advance return is missing entirely or when some monthly reports of the UVA are missing, there are several methods used to impute missing data by taking the development of the enterprise itself and the industry overall into account.

The parameters for the **main and detailed characteristics** are estimated on the basis of the enterprises surveyed in terms of primary statistics which are active in the same industry as the enterprises for which estimates are made. The model parameters are calculated at the lowest possible ÖNACE breakdown level (subclasses). It is assumed that there are sufficient data from the primary survey for the industry concerned. The model is based on the enterprises surveyed for primary statistics which come closest to the enterprises below the thresholds. Therefore, the smallest enterprises (the lowest turnover decile) which are surveyed primarily are used for the estimation model. If not enough primary survey units are available in an industry (at least 20 units in the lowest decile), higher deciles are use. If there are not enough units in the primary statistics up to the 7th decile, the parameters are calculated at a higher ÖNACE level.

The parameters for the **main characteristics** (wages and salaries, part-time employees, hours worked, own-account production, etc.) are estimated using the key values as regressors by means of a combined regression model. On the basis of the results of a robust regression estimate (recognition of extreme values by means of least trimmed squares [LTS]) an ordinary least square regression (OLS) is carried out. The purpose of using an LTS model is that not all residuals (outliers) but only a small quantity of the small residuals of a minimised function is used. For this reason large residuals no longer have any impact on the estimated magnitudes.

Furthermore, the imputation of the variables output sold, charges for goods for processing and the breakdown of the revenue on product level is necessary. For this also certain ÖNACE-levels and administrative data are used. Output sold can be estimated on the basis of turnover. The revenue on product level is estimated with a model taking into account the shares of products on the revenue of the enterprises in the primary data collection. There is a strong connection between the code for activity ÖNACE and the ÖCPA code of the mainly produced product (e.g. establishments in ÖNACE 10 Manufacture of food products produce mainly ÖCPA 10 Food products).

As the STS is a monthly survey, sometimes a supplementation of monthly reports is necessary.

The data recorded generally include errors caused by incorrect information provided by respondees but sometimes also as a result of incorrect recording or signing. In order to eliminate errors as far as possible plausibility-testing programmes are used.

Methods used to impute for missing data

Missing reports are imputed depending on the processing stage, the cause of the missing report and the basis for substitution. The sources of data used include the previous month's or the previous year's reports, quotas for specific branches (e.g. earnings depending on the number of reported employees and average earnings in the corresponding sector) and secondary statistical data (such as turnover tax returns or data of the Umbrella Organisation of Austrian Social Security Institutions).

There is no extrapolation to the population.

Main variables collected

The survey characteristics are:

- legal form
- employees
- total hours worked
- earnings
- volume of orders
- turnover
- production

Table 10.9 Short term statistics (industry and construction)

Name of survey: Short term statistics (industry and construction)
Link to surveys undertaken at the European level (e.g. structural business statistics): <i>The monthly short term statistics in industry and construction forms the basis for meeting the requirements of the EU regulation on short term statistics (Council Regulation No. 1165/98 concerning short-term statistics). Furthermore, it determines national production of goods and services for the purposes of the EU regulation regarding a standardised survey on the production of goods and services (Council Regulation No. 3924/91 on the establishment of a Community survey of industrial production). The EU Regulation was transposed into national law by the Regulation on short term statistics in industry and construction (BGBl II No. 210/2003 and No. 315/2007).</i>
Reporting units (e.g. enterprise/ local KAU/ household): <ul style="list-style-type: none"> ➤ <i>In short term statistics in industry and construction:</i> ➤ <i>Enterprises</i> ➤ <i>Establishments</i> ➤ <i>consortia as a specific characteristic of the construction industry</i> ➤ <i>industrial establishments of public law corporations</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>The short term statistics are compiled on a monthly basis.</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>Preliminary figures are available t+90 days (monthly figures) and t+6 months (accumulated monthly figures about production of goods). Final results of indices and absolute figures are available t+9 to t+12 months after the reporting year – depending on publication form.</i>
Sampling frame: (e.g. name of business register used/ population census): <i>The population comprises all enterprises from the business register of Statistics Austria allocated to sections B-F of ÖNACE 2008.</i>
Survey is compulsory or voluntary? <i>For the units above the threshold (see Survey methodology), the participation is compulsory.</i>

<p>Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview):</p> <p>The short term survey in the manufacturing sector is a primary statistical survey carried out in the form of a full-scale survey with cut-off limits. The cut-off limits are defined by thresholds. The following units must file reports</p> <ul style="list-style-type: none"> ➤ all enterprises with one or more establishments or industrial establishments of public law corporations with 20 or more employees ➤ all consortia irrespective of the number of employees, but with more than EUR 1 million turnover ➤ all newly founded units irrespective of the number of employees <p>However, if the turnover of all the units obliged to file reports in one of the division from 05 to 43 does not account for at least 90% of total turnover of all enterprises active in the division, enterprises with at least EUR 1 million turnover irrespective of their number of employees are also integrated in the survey. Statistical units with fewer than 20 employees and a smaller turnover than EUR 1 million are always excluded from the survey, even when the required degree of representation is not achieved.</p> <p>For all small and micro enterprises which are not in the primary survey the characteristics are calculated using administrative sources and synergies between statistical surveys and the use of statistical estimation models. The proceeding is similar to the method for the units under the threshold in the SBS (see chapter 10.1.1.2.2).</p> <p>The following administrative data are adopted to compile key data via existing links in the business register:</p> <ul style="list-style-type: none"> ➤ data from the Umbrella Organisation of Austrian Social Security Institutions for employees ➤ data on turnover tax advance return from the financial authorities for turnover
<p>Population size:</p> <p>In the year 2017, the population was an average of 65,000 enterprises. 10,000 were in average included in the survey every month, which are about 15% of the population. Regarding turnover and employees the primary survey covered 80% and 90% of the population in average in 2017.</p>
<p>Sample size: See population size</p>
<p>Survey response rate: 98%</p>
<p>Method used to impute for missing data:</p> <p>Missing reports are imputed depending on the processing stage, the cause of the missing report and the basis for substitution. The sources of data used include the previous month's or the previous year's reports, quotas for specific branches (e.g. earnings depending on the number of reported employees and average earnings in the corresponding sector) and secondary statistical data (such as turnover tax returns or data of the Umbrella Organisation of Austrian Social Security Institutions). There is no extrapolation to the population.</p>
<p>Variable used for grossing-up to the population (e.g. turnover/ employment):</p> <p>See survey methodology.</p>
<p>Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame):</p> <p>In the year 2017, the population was an average of 65,000 enterprises. 10,000 were in average included in the survey every month, which are about 15% of the population. Regarding turnover and employees the primary survey covered 80% and 90% of the population in average in 2017.</p>
<p>Main variables collected:</p> <ul style="list-style-type: none"> ➤ legal form ➤ employees ➤ total hours worked ➤ earnings ➤ volume of orders ➤ turnover ➤ production
<p>Further adjustments made to the survey data: -</p>

10.1.1.3.2. Short term statistics trade and services

Up until reporting year 2003 only ÖNACE G in the services sector was surveyed in the short term statistics. With the Council Regulation No. 1165/98 concerning short-term statistics a legal basis was created for compiling short term statistics in other services sectors. In Austria short term statistics were implemented for ÖNACE 2003 divisions 55, 60, 61, 62, 63, 64, 72 and 74 from reporting year 2003. The EU Regulation was transposed into national law by the Regulation on short term statistics in the services sector (BGBl II No. 233/2003 and No. 30/2009).

A second major change resulted from *Bundesstatistikgesetz 2000* (Federal Statistics Act). One of the main provisions of this Act was to reduce the response burden as a result of statistical surveys of data for public registers and administrative departments as far as possible. The method for calculating business statistics in the services sector therefore had to be changed. From reporting year 2003 and from reporting year 2004 for ÖNACE G respectively, short term statistics have been maintained by means of secondary statistics.

Chapter 10.1.1.3.2.1 deals with the short term statistics in trade for reporting years 1999 to 2002 and chapter 10.1.1.3.2.2 describes short term statistics in trade and services from reporting year 2003 onwards.

10.1.1.3.2.1 Short term statistics in trade for the reporting years 1999 to 2002

Short term statistics for trade and for maintenance and repair of motor vehicles have a long tradition in Austria and have been gathered since 1973. The EU harmonised system of short term statistics in trade was implemented in Austria in 1999. From reporting year 2003 and 2004 respectively another change was made: the trade short term statistics were no longer primarily compiled as primary but as secondary statistics.

Reporting units

The trade short term statistics cover all enterprises which are allocated to one of the activities listed below:

Table 10.10: Sections covered by the STS in trade 1999 to 2002

ÖNACE 2003	Title
G (excluding 52.7)	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods (excluding repairs of personal and household goods)

All units which exercise an activity listed in the table for their own-account, regularly and with the aim of generating profit or other economic advantage are obliged to file reports.

Periodicity

Short term statistics are compiled on a monthly basis.

Sample Frame

The population for surveying revenue included all enterprises from the business register of *Statistics Austria* allocated to section G, excluding 52.7 (repair of personal and household goods) of ÖNACE 2003.

Survey Methodology

The trade short term statistics survey is a stratified sample survey with free extrapolation. The surveys were invariably carried out as primary statistical surveys up to reporting year 2002, i.e. the data were surveyed directly.

The section procedure was a stratified random selection. The main stratification process included 57 branches (three to six-digit ÖNACE 2003 codes) and a maximum of four turnover size classes for each sector.

Sample size

The sample size was fixed at approximately 4,500 enterprises. In order to reduce the response burden the sample units were always rotated annually, i.e. the enterprises surveyed changed from one year to the next, except from strata which were surveyed in full.

Methods used for grossing-up to the population

After the individual data have been checked the individual figures are extrapolated for the population. A free extrapolation method was used, i.e. each set of data were weighted N/n where N was the number of enterprises in a stratum of the selection framework and n the corresponding number of sample units in this stratum. Substitutions were made for non-responses.

Main variables collected

- revenue
- number of employees

10.1.1.3.2.2 Short term statistics in trade and services from reporting year 2003 onwards

Reporting units

Since reporting year 2003 short term statistics in the services sector have covered all enterprises allocated to one of the activities listed below.

Table 10.11: Sections covered by the STS in trade and services from 2003 onwards

ÖNACE 2008	Title
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
L	Real estate activities
M (excluding 70.1, 72, 75)	Professional, scientific and technical activities
N (excluding 77, 81.1)	Administrative and support service activities

All units which exercise an activity listed in the table for their own-account regularly and with the aim of generating profit or other economic advantage are obliged to file reports.

Periodicity

Short term statistics are compiled monthly for ÖNACE G and quarterly for the other services sectors.

Time of availability of results

Preliminary results of division 47 (Retail trade, except of motor vehicles and motorcycles) are available t+30 days after the reporting month. Results for the monthly STS for ÖNACE G (Wholesale and retail trade; repair of motor vehicles and motorcycles) are available t+60 days. STS for the other service sections are published t+60 days after the reporting quarter.

Sampling frame

The sampling frame is made up of enterprises assigned to one of the sections of ÖNACE above in the business register of *Statistics Austria*.

Population and sample size

In 2017 in the population of ÖNACE G there are 80,000 enterprises, the sample in this industry comprises 6,300 enterprises (8% of all enterprises, 71% of turnover). The population in the other service sections H, J, M and N comprises 105,700, of which 4,800 are in the sample (5% of all units or 64% of turnover). The STS in ÖNACE I (46,000 units) is a full sample survey.

Compulsory or voluntary?

Since reporting year 2003 short term statistics in the service sector have largely been maintained as secondary statistics. The reports on turnover of trading companies are voluntary.

Survey methodology

The secondary data sources are:

- Business register (*Statistics Austria* - see chapter 10.0.1):

enterprises in the above-listed ÖNACE sectors

self-employed persons

- Turnover tax advance returns (Federal Ministry of Finance - see chapter 10.1.3): Turnover
- Data from Umbrella Organisation of Austrian Social Security Institutions (see chapter 10.2.2): employees

Furthermore, there are primary data on turnover from trading companies.

The sample is a stratified random selection. The stratification is conducted in 114 industries in ÖNACE G and 78 industries in the other sections (mainly subclasses of the ÖNACE-classification). Within every industry there are at least 4 classes on turnover defined. The sample is adapted every month, the sample design is revised every five years. The turnover of the population is determined by a free extrapolation where each set of data were weighted N/n . N was the number of enterprises in a stratum of the selection framework and n the corresponding number of sample units in this stratum.

Method used to impute for missing data

Due to the exhaustive linkage between data from the Business register of *Statistics Austria* and data from the Umbrella Organisation of Austrian Social Security Institutions regarding the number of employed persons, only missing reports on turnover have to be imputed. Missing monthly reports on

Turnover tax advance return are estimated by using the data of the previous month (except the enterprise is actually inactive). For the estimation the development of the stratum and industry overall are taken into account.

Main variables collected

- Turnover
- Number of employed persons
 - Employees
 - Self-employed persons

Table 10.12 Short term statistics (trade and services)

Name of survey: Short term statistics (trade and services)
Link to surveys undertaken at the European level (e.g. structural business statistics): <i>With the Council Regulation No. 1165/98 concerning short-term statistics a legal basis was created for compiling short term statistics in services sector. The EU Regulation was transposed into national law by the Regulation on short term statistics in the services sector (BGBl II No. 233/2003 and No. 30/2009).</i>
Reporting units (e.g. enterprise / local KAU / household): <i>Short term statistics in the services sector covers all enterprises allocated to ÖNACE G, H, I, J, L, M (excluding 70.1, 72, 75), N (excluding 77, 81.1). All units which exercise an activity mentioned before for their own account regularly and with the aim of generating profit or other economic advantage are obliged to file report.</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>The short term statistics are compiled monthly for ÖNACE G and quarterly for the other services sectors.</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>Preliminary results of division 47 (Retail trade, except of motor vehicles and motorcycles) are available t+30 days after the reporting month. Results for the monthly STS for ÖNACE G (Wholesale and retail trade; repair of motor vehicles and motorcycles) are available t+60 days. STS for the other service sections are published t+60 days after the reporting quarter.</i>
Sampling frame: (e.g. name of business register used/ population census): <i>The sampling frame is made up of enterprises assigned to one of the sections of ÖNACE above in the business register of Statistics Austria.</i>
Survey is compulsory or voluntary? <i>The reports on turnover of trading companies are voluntary.</i>
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): <i>The secondary data sources are:</i> <ul style="list-style-type: none"> ➤ <i>Business register (Statistics Austria - see chapter 10.0.1):</i> <ul style="list-style-type: none"> • <i>enterprises in the above-listed ÖNACE sectors</i> • <i>self-employed persons</i> ➤ <i>Turnover tax advance returns (Federal Ministry of Finance - see chapter 10.1.3): Turnover</i> ➤ <i>Data from Umbrella Organisation of Austrian Social Security Institutions (see chapter 10.2.2): employees</i> <i>Furthermore, there are primary data on turnover from trading companies.</i> <i>The sample is a stratified random selection. The stratification is conducted in 114 industries in ÖNACE G and 78 industries in the other sections (mainly subclasses of the ÖNACE-classification). Within every industry there are at least 4 classes on turnover defined. The sample is adapted every month, the sample design is revised every five years. The turnover of the population is determined by a free extrapolation where each set of data were weighted N/n. N was the number of enterprises in a stratum of the selection framework and n the corresponding number of sample units in this stratum.</i>
Population size: <i>In 2017 in the population of ÖNACE G there are 80,000 enterprises, the sample in this industry comprises 6,300 enterprises (8% of all enterprises, 71% of turnover). The population in the other service sections H, J, M and N comprises 150,000, of which 5,600 are in the sample (5% of all units or 64% of turnover). The STS in ÖNACE I (46,000 units) is a full sample survey.</i>
Sample size: <i>See population size</i>
Survey response rate: <i>services: 75%; trade: 70%</i>
Method used to impute for missing data: <i>Due to the exhaustive linkage between data from the Business register of Statistics Austria and data from the Umbrella Organisation of Austrian Social Security Institutions regarding the number of employed persons, only missing reports on</i>

turnover have to be imputed. Missing monthly reports on Turnover tax advance return are estimated by using the data of the previous month (except the enterprise is actually inactive). For the estimation the development of the stratum and industry overall are taken into account.
Variable used for grossing-up to the population (e.g. turnover/ employment): -
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame):
Main variables collected: <ul style="list-style-type: none"> ➤ Turnover ➤ Number of employed persons <ul style="list-style-type: none"> • Employees • Self-employed persons
Further adjustments made to the survey data: -

10.1.2. Turnover tax statistics

Organisation collecting the data

Turnover tax statistics as secondary statistics are based on the fiscal administration's assessment data. *Statistics Austria* is responsible for annual statistical analysis of the turnover tax. Data are collected by the Federal Ministry of Finance and transferred to *Statistics Austria* by the *Bundesrechenzentrum*.

Reporting Units

The entrepreneur or the enterprise is obliged to file reports. An entrepreneur is a person exercising a commercial or professional activity as a self-employed person. Similarly, the enterprise covers the entire industrial or occupational activity of the entrepreneur and also extends to activities carried out in agriculture and forestry and activities in the liberal professions.

Any permanent activity is described as commercial or professional if it is intended to secure revenue, even in the absence of any profit motive or when an association of persons is active only *vis-à-vis* its own members.

If the entrepreneur has more than one establishment, all the revenue from all the establishments is to be added together.

Public law corporations are only considered to be commercially and professionally active in their commercial establishments (Article 2 of the Corporation Tax Act 1988) and in their agricultural and forestry establishments. Commercial establishments for the purposes of the *Umsatzsteuergesetz* are waterworks, installations for refuse disposal and for disposal of waste water and waste and renting and leasing of land by public law corporations.

The activity of social security funds and their associations, health welfare institutions and public welfare funds and the activities of the Federal State in tolerating the use of or allocating the use of the railway infrastructure against payment are also deemed to be commercial or professional activities.

Periodicity

Data on turnover tax are collected annually.

Variables collected

Turnover tax assessment has been based on the *Umsatzsteuergesetz* (Turnover Tax Act) 1994⁶⁰ since reporting year 1995. The following taxable turnover must be reported in order to determine turnover tax:

- Turnover on the basis of deliveries and other goods and services rendered by an enterprise in Austria against payment.

Deliveries are goods and services by which an entrepreneur enables a purchaser or a third person on his behalf to dispose of an object in his own name. The right of disposal of an object can be conferred by the entrepreneur himself or a third party on his behalf.

Other goods and services are goods and services which do not comprise a delivery. This may also comprise refraining from acting or tolerating an action or a situation.

- Turnover on the basis of own consumption in Austria. Own consumption is when:

an entrepreneur uses objects for purposes or provides goods and services for purposes which are extraneous to the enterprise

an entrepreneur incurs expenses which, under § 20 of the 1988 *Einkommensteuergesetz* (Income Tax Act) or § 8 and 12 of the 1988 *Körperschaftsteuergesetz* (Corporation Tax Act), are not tax-deductible or which, if incurred in Austria, would not have been tax-deductible. This does not apply to monetary payments.

The assessment basis for turnover on deliveries and other goods and services is remuneration. Remuneration covers everything that the recipient of a delivery or other goods and services provides in order to receive the delivery or other goods and services. In the case of own consumption, the remuneration is replaced by the partial value of the object which is taken or given without remuneration or the costs for use of the object or the non-deductible expenditure. Turnover tax and items entered in a suspense account do not form part of the assessment basis.

Tax declarations are to be made by the end of April (in written form) or end of June (in electronic form) of the following year. By a decision of the tax board, tax declarations are converted into tax assessment notices.

⁶⁰ BGBl I No 663/1994 in the version valid for the respective assessment year.

Table 10.13 Turnover tax statistics

Name of survey: Turnover tax statistics
Link to surveys undertaken at the European level (e.g. structural business statistics): -
Reporting units (e.g. enterprise/ local KAU/ household): <i>Enterprises</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>Data on turnover tax are collected annually.</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>Annual turnover tax statistics: t + 29 months</i>
Sampling frame: (e.g. name of business register used/ population census): <i>Tax databases of the federal ministry of finance</i>
Survey is compulsory or voluntary? <i>compulsory</i>
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): <i>Secondary statistics (full survey), based on administrative data, allocated and stored in databases by the financial administration</i>
Population size: <i>All enterprises subject to turnover tax with an annual turnover of more than € 30,000 (up to 2010: more than € 7,500) or a tax credit.</i>
Sample size: <i>2011: 653.969 enterprises; 2017: 690.221 enterprises</i>
Survey response rate: <i>98 % of enterprises, 90 % of turnover</i>
Method used to impute for missing data: <i>use of turnover tax advance return</i>
Variable used for grossing-up to the population (e.g. turnover/ employment): <i>not applicable</i>
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): <i>not applicable</i>
Main variables collected: <i>Subject of turnover tax statistics are the turnover from deliveries and services, self-consumption and the importation of goods and the turnover tax resulting from it.</i>
Further adjustments made to the survey data: -

10.1.3. Turnover tax advance return

Organisation collecting the data

Data are collected by the Federal Ministry of Finance (*Bundesministerium für Finanzen*) and transferred by the *Bundesrechenzentrum (Federal Computing Centre)*.

Reporting units

From 1 January 2003 the *Umsatzsteuergesetz* was changed so that enterprises whose turnovers including own consumption in the previous calendar year was at least EUR 100,000 had to submit a turnover tax advance return every month to the competent tax board up until the 15th day of the second following month. Since 2011 Enterprises with a turnover between EUR 30,000 and EUR 100,000 have to submit quarterly. Only enterprises which exclusively generate turnover which is tax free according to §6, Abs.1, Z.7-28 are released from this obligation.

Periodicity

Data on turnover tax advance return are available per month. Results are published quarterly and annually.

Main Variables collected

For explanation to the data on turnover collected in turnover tax statistics see chapter 10.1.2.

There are two main problems with turnover tax advance returns:

- They generally do not match the final tax assessment notices. In the case of some enterprises the return is almost identical with the tax assessment notice but for some there are large differences. Accordingly, tax assessment notices are used as far as possible in national accounts. Only when no tax assessment notice is available for an enterprise is the return used.
- In the case of tax assessment notices, enterprises do not always file their reports within the statutory period.

10.1.4. Microcensus Housing Survey

The microcensus is a primary survey, which deals with employment and housing in Austria. For the production approach especially the Microcensus Housing Survey is of importance. For income approach also the Microcensus Labour Force Survey is used (see chapter 10.2.3).

Link to surveys undertaken at the European level and national legal basis

The European legal basis is the Council Regulation No. 577/98 on the organisation of a labour force sample survey in the Community, which was transposed into national law *Erwerbs- und Wohnungsstatistikverordnung* (BGBl. II Nr. 111/2010).

Sampling frame, reporting units and sample size

The sampling frame is made up of dwellings (private households) in the Central Population Register with at least one person registered as having his or her main residence there at the beginning of the previous quarter.⁶¹ The sample is stratified by *Bundesland* and comprises approximately 22,500 dwellings throughout Austria per quarter⁶². The extrapolated number of main residences was 3,890,092 on average in 2017. A reference week is assigned to each household and the survey generally takes place in the calendar week following the reference week. There are therefore around 1,700 households in the sample for each calendar week. Every dwelling remains in the sample for five surveys (i.e. for one year).

Periodicity

The survey is conducted quarterly.

Time of availability of results

The results are available in t+80 days after the reporting quarter.

Compulsory or voluntary?

Participation is compulsory.

⁶¹ The Central Population Register is congruent with the Buildings and Dwellings Register of *Statistics Austria*.

⁶² The size of the sample is geared to the corresponding requirements in Article 3 of Regulation (EC) No 577/98.

Survey methodology

When a household is new in the sample the first survey is carried out face-to-face. For the following four surveys a telephone studio is set up at *Statistics Austria* where the surveys are carried out in the form of computer-assisted telephone interviewing (CATI). The questions on housing expenditure are asked at each interview without any knowledge of the information he or she supplied in the previous quarter. This increases the quality of the response; previously there might have been a tendency to underestimate the changes of these expenditures.

Methods used to impute for missing data

A sequential procedure ensures, that the imputed values are consistent with the structure of the survey (e.g. filter). Mainly hot-deck-methods are used to impute for missing data, where the selection of the stratification variables is very important. Relationships within a household are imputed by using a logic method. For few cases, where many important characteristics are missing, a distance function is used to replace the report completely.

Main Variables collected

In the Microcensus Housing survey among other variables the most important for computing the value added in ÖNACE L are the following:

- Size of the residential unit
- Housing expenditure (rent, operating costs etc.)

Extrapolation

The sample in the Microcensus is stratified, therefore the extrapolation of the surveyed values is conducted per stratum too (*Bundesland*, age and sex; *Bundesland* and nationality). It is based on the population register of *Statistics Austria* (POPREG), which provides data quarterly.

Furthermore, the weights of the projection are adapted. The distribution of household sizes are adjusted according to the household forecast of *Statistics Austria*.

Table 10.14 Microcensus Housing Survey

Name of survey: Microcensus Housing Survey
Link to surveys undertaken at the European level (e.g. structural business statistics): <i>The European legal basis is the Council Regulation No. 577/98 on the organisation of a labour force sample survey in the Community, which was transposed into national law Erwerbs- und Wohnungsstatistikverordnung (BGBl. II Nr. 111/2010).</i>
Reporting units (e.g. enterprise/ local KAU/ household): <i>The sampling frame is made up of dwellings (private households) in the Central Population Register with at least one person registered as having his or her main residence there at the beginning of the previous quarter. The sample is stratified by Bundesland and comprises approximately 22,500 dwellings throughout Austria per quarter. The extrapolated number of main residences was 3,890,092 on average in 2017. A reference week is assigned to each household and the survey generally takes place in the calendar week following the reference week. There are therefore around 1,700 households in the sample for each calendar week. Every dwelling remains in the sample for five surveys (i.e. for one year).</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>Quarterly</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>The results are available in t+80 days after the reporting quarter.</i>
Sampling frame: (e.g. name of business register used/ population census): <i>See reporting units</i>
Survey is compulsory or voluntary? <i>Compulsory</i>
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): <i>When a household is new in the sample the first survey is carried out face-to-face. For the following four surveys a telephone studio is set up at Statistics Austria where the surveys are carried out in the form of computer-assisted telephone interviewing (CATI). The questions on housing expenditure are asked at each interview without any knowledge of the information he or she supplied in the previous quarter. This increases the quality of the response; previously there might have been a tendency to underestimate the changes of these expenditures.</i>
Population size: <i>See reporting units</i>
Sample size: <i>See reporting units</i>
Survey response rate: <i>above 90%</i>
Method used to impute for missing data: <i>A sequential procedure ensures, that the imputed values are consistent with the structure of the survey (e.g. filter). Mainly hot-deck-methods are used to impute for missing data, where the selection of the stratification variables is very important. Relationships within a household are imputed by using a logic method. For few cases, where many important characteristics are missing, a distance function is used to replace the report completely.</i>
Variable used for grossing-up to the population (e.g. turnover/ employment): <i>gender (sex), age in groups, nationality in groups, household size in groups, administrative data, federal countries (NUTS 2)</i>
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): <i>it depends on the different variables</i>
Main variables collected: <i>In the Microcensus Housing survey among other variables the most important for computing the value added in ÖNACE L are the following:</i> <ul style="list-style-type: none"> ➤ <i>Size of the residential unit</i> ➤ <i>Housing expenditure (rent, operating costs etc.)</i>
Further adjustments made to the survey data: <i>The sample in the Microcensus is stratified, therefore the extrapolation of the surveyed values is conducted per stratum too (Bundesland, age and sex; Bundesland and nationality). It is based on the population register of Statistics Austria (POPREG), which provides data quarterly.</i> <i>Furthermore, the weights of the projection are adapted. The distribution of household sizes are adjusted according to the household forecast of Statistics Austria.</i>

10.1.5. Data sources for the general government sector

For the general government sector or for units which are separated for ESA purposes the closed accounts of the *Bund*, the *Länder* and the municipalities and public accounts statistics of other units of government sector are analysed by macroeconomic criteria. For detailed information about data sources and processing of Government Finance Statistics data see chapter 3.21.2 on ÖNACE O.

10.1.6. Other data sources

For the production approach further statistical surveys and other data are used:

- **Statistics on dwellings and buildings – Statistics on building activities** (see chapter 10.3.4)
- Survey of aquaculture production (for ÖNACE 03)
- **Accommodation statistics** (for ÖNACE 55)
- **Survey about private educational institutions, kindergartens and universities** (for ÖNACE 85)
- For calculation of **FISIM** the following sources are used: quarterly reports on stocks of deposits and loans and the corresponding interest flows between resident and non-resident banks and non-banks (Austrian National Bank), ECB MFI interest rate statistics (Austrian National Bank), interest rates and stocks of loans from banks to central government (Austrian Treasury), quarterly reports on stocks of deposits and loans by user sector (Austrian National Bank), national financial accounts and balance of payments statistics (see chapter 10.3.2) – for further information about FISIM see chapter 3.17.1.4.
- For the calculation of the **Market Making Services** the following sources are used: Data from the balance of payments statistics (see chapter 3.17.1.4) and monthly reports on investment funds
- Data from the **Supervisory authority statistics for banks and insurances** (*Statistiken der Banken- und Versicherungsaufsichtsbehörden*)
- Scientific studies etc.

10.2. **Statistical surveys and other data sources used for the income approach**

In addition to the following information on the data sources for the income approach see also the descriptions made in chapter 7.4.2.

10.2.1. Wage tax statistics

Organisation collecting the data

Wage tax statistics are an administrative data source – data are collected by the Austrian tax authorities.

Reporting units

Wage tax statistics are based on pay slips issued to employees and pensioners. In 2017 data comprised about 6,955,700 taxpayers, of which 4,524,800 were employees.

Periodicity

Data are transferred to *Statistics Austria* by the *Bundesrechenzentrum* annually.

Variables collected

For the compilation of National Accounts the most important collected variables are the following:

- Gross earnings
- Social benefits like pensions or long-term care allowance etc.
- Number of employees

10.2.2. Data from the Umbrella Organisation of Austrian Social Security Institutions

Organisation collecting the data

The Umbrella Organisation of Austrian Social Security Institutions (*Dachverband der Sozialversicherungsträger DV*) is the umbrella organisation of all Austrian health, accident and pension insurance institutions. Among other tasks the HV serves as a data hub between these organisations and other institutions like Austrian Job Center (*Arbeitsmarktservice*), employers, medical institutions and others and provides *Statistics Austria* with various data.

Reporting units

Data are collected on persons who have a social insurance – in Austria this is compulsory. Social insurance includes health insurance (about 8.7 million people in 2017), accident insurance (about 6.4 million people in 2017) and pension insurance (about 4.0 million people).

Variables collected

Data from the Umbrella Organisation of Austrian Social Security Institutions provide information about:

- Number of employees
- Number of self-employed persons
- Social benefits in kind

Table 10.15 Umbrella Organisation of Austrian Social Security Institutions

Name of survey: Umbrella Organisation of Austrian Social Security Institutions <i>The Umbrella Organisation of Austrian Social Security Institutions (Dachverband der Sozialversicherungsträger DV) is the umbrella organisation of all Austrian health, accident and pension insurance institutions. Among other tasks the DV serves as a data hub between these organisations and other institutions like Austrian Job Center (Arbeitsmarktservice), employers, medical institutions and others and provides Statistics Austria with various data.</i>
Link to surveys undertaken at the European level (e.g. structural business statistics): -
Reporting units (e.g. enterprise/ local KAU/ household): <i>Data are collected on persons who have a social insurance – in Austria this is compulsory. Social insurance includes health insurance (about 8.7 million people in 2017), accident insurance (about 6.4 million people) and pension insurance (about 4.0 million people).</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>monthly</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>1 month</i>
Sampling frame: (e.g. name of business register used/ population census): -
Survey is compulsory or voluntary? -
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): -
Population size: -
Sample size: -
Survey response rate: -
Method used to impute for missing data: -
Variable used for grossing-up to the population (e.g. turnover/ employment): -
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): -
Main variables collected: <i>Number of employees, number of self-employed persons, social benefits in kind</i>
Further adjustments made to the survey data: -

10.2.3. Microcensus Labour Force Survey

For general information on the Microcensus see chapter 10.1.4.

Survey methodology of the LFS

Besides the usual methods of data collection in the Microcensus for the LFS since 2009 also administrative data from Austrian Job Center and Umbrella Organisation of Austrian Social Security Institutions are used.

Main variables collected

In the microcensus various variables are collected. For income approach

- Working time total and working time per full-time job
- Number of family workers

Furthermore, it is used for plausibility checks.

10.2.4. Other data sources

For the income approach following statistical surveys and other data are used:

- SBS (see chapter 10.1.1.2.2)
- STS (see chapter 10.1.1.3)
- Income tax statistics (for the ÖNACE-attribution)
- Register-based census
- Registers of public servants of the federation and the federal states (*Personalinformationssystem des Bundes* PIS, MIS)
- Closed accounts of the *Bund*, the Länder and the municipalities and public accounts statistics on other units of the government sector (see chapter 3.21)
- Annual balance of accounts of enterprises from the *Firmenbuch* (Commercial register - see chapter 10.0.2)

10.3. Statistical surveys and other data sources used for the expenditure approach

10.3.1. Household budget survey

The results of the Household Budget Survey (HBS) provide information about consumption expenditure, household income and the possession of consumer durables of private households living in Austria.

Reporting units

The survey units of the household budget survey are private households with a main residence in Austria. A household is defined as

- a single person occupying a dwelling, part of a dwelling or house or
- two or more persons occupying a dwelling, part of a dwelling or house and are sharing their expenditures.

So it covers all types of households as well single-person households as large households (up to ten persons), except institutional households. Institutional households, persons living in community accommodations (e.g. prisons, retirement or nursing homes) or persons without a permanent residence in Austria are not included in the sample.

Approximately 99% of the Austrian population lives in private households. Therefore the exclusion of institutional household has only little influence on the total expenditures and most of the expenditure groups. Only the expenditure for some special positions, e.g. expenditures for retirement homes for elderly persons or nursing homes are underestimated for this reason.

Periodicity

Household Budget Surveys in Austria are implemented as random sample surveys every five years (till 1993/94 every ten years). The survey used for the reporting year 2017 was the HBS 2014/2015.

Time of availability of results

Preliminary results are available t+11 months. Final results are available t+13 months.

Compulsory or voluntary?

The co-operation of the households is voluntary.

Population and sample size

The population comprises all private households in Austria (about 3.6 million). The total number of households surveyed was about 6,500 (unweighted), the over-all response-rate was about 38%.

Survey methodology

The primary objective of the survey is to record all expenditures of private households in a detailed way. Therefore, the households were asked to list their expenditures in a diary for two weeks.

In addition, they answered questions about housing, the possession of consumer durables as well as basic demographic questions for each household member.

The following survey instruments were used:

Data checks and imputations

The data of the household budget survey data were checked on micro and macro level.

Micro level: Every single entry was transferred to the COICOP-nomenclature. Implausible values have been corrected. After aggregation to higher COICOP-levels, minimum and maximum values have been checked and if necessary corrected.

Macro level: Expenditures of different types of households have been compared. For some checks other sources have been considered, e.g. data of the Austrian Microcensus, EU-SILC, etc.

With the exception of imputed rents, no other expenditures were imputed.

Imputed rents: Values for rents were imputed in case of owner-occupied housing or rent-free properties. They are included in the total consumption expenditures and (for a part) in the household income. These imputed rents allow comparing the expenditure of households living in different types of dwellings.

In the HBS 2014/15 imputed rents have been calculated with linear regression models, which were applied to the Microcensus data. Independent variables in the model were region, apartment size, facilities of the apartment and type of the building. The resulting algorithm was then used to estimate imputed rents for the dwellings in the HBS.

Definition of Consumption expenditure

The total consumption expenditure include all expenditure for goods and services at COICOP⁶³-3-digit-level as well as products of own production and benefits in kind and imputed rents. Due to the survey period of one year also seasonal expenditures are included.

Consumption expenditure does not include:

- non-private expenditure (e.g. tractors for farmers),
- interest payments and fees for reminders,
- presents from persons outside the household (which would be included in the expenditure of the household buying the present),
- monetary transfers between household members or households,
- savings, pension schemes, donations and fines,
- capital formation and construction/conversion of buildings if the value of the property is added to (such as purchase of an owner-occupied apartment) and
- expenditure of institutional households.

Data of the household budget survey used as input for national accounts

The results of the household budget survey are primarily used for calculating private consumption but they are also used as an indicator for various supplementary estimates for the purposes of exhaustiveness.

⁶³ Classification of Individual Consumption Expenditures by Purpose.

Table 10.16 Household budget survey 2014/2015

Name of survey: Household budget survey 2014/2015
Link to surveys undertaken at the European level (e.g. structural business statistics): https://ec.europa.eu/eurostat/web/household-budget-surveys/overview
Reporting units (e.g. enterprise/ local KAU/ household): <i>The survey units of the household budget survey are private households with a main residence in Austria. A household is defined as</i> <ul style="list-style-type: none"> ➤ a single person occupying a dwelling, part of a dwelling or house or ➤ two or more persons occupying a dwelling, part of a dwelling or house and are sharing their expenditures.
Periodicity (e.g. annual/quarterly/other- to be specified): <i>Household Budget Surveys in Austria are implemented as random sample surveys every five years (till 1993/94 every ten years). The survey used for the reporting year 2015 was the HBS 2014/2015.</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>Preliminary results are available t+11 months. Final results are available t+16 months.</i>
Sampling frame: (e.g. name of business register used/ population census): <i>Households were randomly selected on the basis of a 1-stage stratified probability samples taken from the Central Register of Residents.</i>
Survey is compulsory or voluntary? <i>The co-operation of the households is voluntary.</i>
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): <i>The Household Budget Survey ranges over a period of one year. Survey periods were determined at 52 overlapping accounting periods of a fortnight each. Households were randomly selected on the basis of stratified probability samples taken from the Central Register of Residents. The primary objective of the survey is to record all expenditures of private households in a detailed way. Therefore the households were asked to list their expenditures in a diary for two weeks. In addition they answered questions about housing, the possession of consumer durables as well as basic demographic questions for each household member.</i>
Population size: <i>The population comprises all private households in Austria (about 3.8 million). The total number of households surveyed was about 7,162 (unweighted), the over-all response-rate was about 28,4%.</i>
Sample size: <i>See population size</i>
Survey response rate: <i>28,4%</i>
Method used to impute for missing data: <i>No imputations done (exemption: imputed rents for owner-occupied dwellings)</i>
Variable used for grossing-up to the population (e.g. turnover/ employment): <i>Sample weight adjusted to unit nonresponse and calibrated to external marginal distributions.</i>
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): <i>Based on an evaluation of addresses selected for the sample, 96.6% turned out to be eligible (i.e. part of the target population).</i>
Main variables collected: <i>The results of the household budget survey provide information on consumption expenditure, income and the possession of main consumer durables of private households in Austria.</i>
Further adjustments made to the survey data: <i>None</i>

10.3.2. Balance of payments

The balance of payments provides a systematic record of all economic transactions made during a specific period between a given economy and all other countries, thus reflecting the degree of economic integration between this economy and the rest of the world. Within the balance of payments, transactions involving real resources are recorded in the current account, whereas financial transactions are recorded in the financial account. Balance of payments data are compiled according

to the rules of the Balance of Payments Manual 6 (BPM6) which is completely harmonized with ESA 2010.

As laid down in Article 6 paragraph 1 of the exchange control act 2004 (Devisengesetz), the Oesterreichische Nationalbank (OeNB) is responsible for compiling and publishing the Austrian balance of payments and related statistics in line with EU provisions.

Since the reporting year 2006, the production of the Austrian balance of payments has been a joint venture between the OeNB and *Statistics Austria*. This cooperation was motivated by increasing information needs and growing costs to help ensure the timely provision of high-quality balance of payments data as input for the calculation of GDP as well as to meet national and international statistical requirements (including requirements of the ECB, the European Commission and the IMF) and the requirements of other data users. The joint production has been instrumental in keeping the reporting burden low by using existing administrative data and in avoiding the duplication of compiling efforts.

In line with international conventions the balance of payments is broken down into the following sections:

- Current account
- Capital account
- Financial account
- Statistical difference

The current account is broken down into:

- Goods
- Services
- Primary income (compensation of employees, property income, taxes and subsidies)
- Secondary income

10.3.2.1. International trade in goods statistics (ITGS)

Link to surveys undertaken at the European level and national legal basis

The legal basis for the ITGS has been created by EU regulations, which have the force of law without requiring transposition into national legislation. The legal provisions created by the EU have the purpose of harmonizing methodology and collection frameworks in all Member States (Regulation No. 638/2004 on Community statistics relating to the trading of goods between Member States and the Regulation No. 471/2009 on Community statistics relating to external trade with non-member countries). The Austrian ITGS are essentially based on Community provisions or on national laws (BGBl No. 173/1995, BGBl No. 181/1995 and BGBl. II Nr. 306/2009).

Periodicity

The ITGS are compiled on a monthly basis.

Time of availability of results

The initial detailed monthly results are available approximately ten weeks after the end of a reporting month. The first preliminary annual results typically are available in March of the following year. The deadline for the delivery of detailed ITGS to the EU has been defined as t+70 days by the European Commission. It also takes approximately t+70 days to compile the quarterly foreign trade data that are relevant for the balance of trade. The final annual results are typically released in June of the following year.

Statistical concepts and methodology

The ITGS covers exports from the reporting economy to the rest of the world and imports by the reporting economy from the rest of the world. The statistical territory for which exports and imports are covered is the customs area defined in Article 3 of the Customs Law Implementation Act, Federal Law Gazette No. 659/1994. The rest of the world, as defined in the ITGS, is the territory beyond the territory of the reporting economy. Goods transactions are to be reported to facilitate compilation of the official trade statistics (Trade Statistical Law (HStG) of March 9, 1995, Federal Law Gazette No. 173/1995 as amended).

Since 1995 a distinction has been made between, and two different reporting frameworks have been in place for, the trading of goods with other EU Member States (Intrastat) and the trading of goods imported and exported across the external borders of the EU into and from the reporting economy (Extrastat). Since then, data on trading with other EU Member States have been compiled with the primary data collection system Intrastat, while data on trading with non-EU Member States (Extrastat) continue to be compiled in the process of customs formalities.

The principle of physical border crossing as a key defining criterion for coverage by the ITGS is subject to exceptions for so-called specific movements of goods. Specific movements of goods are to be reported as laid down in the provisions for the implementation of the respective EU regulations. For instance, with regard to ship and aircraft, the defining criterion is not the physical border crossing, but the transfer of economic ownership between a taxable person, or a natural or legal person, established in Austria and a taxable person, or a natural or legal person, established in a non-EU Member State.

Intrastat

Via Intrastat, the data on intra-EU trade are collected directly (2017) from around 12,500 reporting entities and cover (2017) about 94% of total intra-EU-imports and about 97% of total intra-EU-exports. In Austria, there are about 163,500 intra-EU importers and around 41,000 intra-EU exporters.

Intrastat refers to the statistics that reflect the arrivals and dispatches of merchandise moved between EU Member States and to the common framework established for the collection and production of Community statistics on the trading of goods between EU Member States. Austrian exporters and importers record the arrival of goods from other EU Member States and the dispatch of goods to other EU Member States according to the rules of Intrastat on a special trade basis.

Arrivals in a given Member State and dispatches from another Member State cover:

- Goods in free circulation that enter the reporting economy or leave the reporting economy for a destination in another Member State;
- Goods that enter the reporting economy after having been placed under the customs procedure for inward processing or for processing or transformation under customs control, or goods destined for the statistical territory of another EU Member State which have been placed under the customs procedure for inward processing or for processing or transformation under customs control in the Member State.
- Some movements of goods are subject to specific reporting rules, in particular ship and aircraft, industrial plants and sea products. The reporting requirements do not extend to in-transit goods. In-transit goods are goods that cross a given country, irrespective of the means of transport and that are not discharged and stored there unless this is required for transport purposes.

Extrastat

The data on trade with non-EU countries (Extrastat) are collected by the customs authorities on the basis of customs declarations and reported to *Statistics Austria*. Economic operators provide the relevant data when submitting their customs declarations, thus generating secondary statistics for *Statistics Austria*.

Extrastat refers to the statistics on Community trading with non-EU Member States and to the common framework established for recording imports by and exports from the European Union.

Imports by and exports from a Member State are defined as follows:

- Imports to a given Member State include goods originating in a non-EU Member State that enter the statistical territory of an EU Member State and are placed under the customs procedure

for release into free circulation (goods that will be consumed in the importing Member State or dispatched to another Member State);

or are placed under the customs procedure for inward processing or processing under customs control (usually goods destined to be processed or transformed for subsequent re-export).

- Exports from a given Member State include goods which leave the statistical territory of the Member State bound for a non-EU member country

after having been placed under the customs export procedure (final export, export following inward processing, etc.); or

under the customs outward-processing procedure.

- Some movements of goods are subject to specific reporting rules, in particular ship and aircraft, industrial plants and sea products.

Producing ITGS for Austria based on national and EU concepts

Statistics Austria publishes the results of Austria's ITGS from the domestic perspective based on national concepts. These results are not directly comparable with the results for Austria published by

Eurostat from a European perspective based on Community concepts, because the underlying conceptual frameworks do not fully match, even though they are both based on the special trade system. In essence, the Community concept and the national concept differ in two instances, namely in the method of trade allocation to a partner country for imports and in the statistical treatment of indirect trading in goods.

From the EU's perspective, trading in goods between Member States is intra-EU trade; for arrivals, the trading partner is the Member State from which the goods were dispatched. In other words, if a good originating in non-EU country A is imported, cleared through customs and released for free circulation by EU country B and subsequently shipped to EU country C, the EU country B rather than the originating non-EU country A will show up as the country from which the good has been imported in the Community statistics. This procedure makes sense in so far as reporting imports based on the country of origin would inflate the EU sum on account of double counting. Yet from a national, i.e. Austrian, point of view, it does make sense to record data based on the country of origin. This is why *Statistics Austria* generally uses the country of origin as the criterion for imports, handling imports from non-EU countries via Austria destined for other EU Member States as indirect imports and exports routed through Austria but originating in another EU Member States as indirect exports. Under the national concept, both transactions are regarded as transit trade and hence are not recorded in the Austrian ITGS. However, as such exports and imports qualify as Community exports and imports from an EU perspective. *Statistics Austria* reports such transactions to Eurostat.

Method of data collection

Intrastat: Since the Intrastat system is based on a close link with the VAT system relating to intra-EU trade, all natural or legal persons with a VAT identification number that have engaged in intra-EU trade are required to report their transactions unless these transactions are below the assimilation threshold. The respondents submit their trade figures on a monthly basis to *Statistics Austria*.

Extrastat: Economic operators provide the relevant data when submitting their customs declarations, thus generating secondary statistics for *Statistics Austria*.

Main variables collected

The most important collection characteristics in respect of physical flows of goods are:

Inward or outward flows

In broad terms, outward flows from an EU Member State to a non-EU member country are called "extra-EU-exports", while outward flows from one Member State to another are called "intra-EU-exports". Inward flows from a non-member country are called "extra-EU-imports", while inward flows from another Member State are called "intra-EU-imports".

Country information

The ITGS cover some 238 countries and areas as classified under ISO Alpha2. Moreover, data on the partner countries are also coded with the national geo codes. Those codes are three-digit numerical codes, e.g. "004" for Germany and "400" for the United States. Aggregates must be used with particular caution following changes in the definition of the zone (such as when the EU-15 turned into

the EU-27). *Statistics Austria* will ensure that the data series it produces will be based on current definitions or on the definitions that were current for the given reporting year.

Principles of partner country allocation

Country of origin: For imports, the trading partner is the country of origin of the goods. Goods obtained entirely from a given country are regarded as originating in that country; goods produced in two or more countries are deemed to originate in the last country where substantial processing took place. If goods are mixed with foreign goods, the country providing the bigger part of the mixed or processed good is deemed to be the country of origin. In case of re-imports after outward processing, goods are deemed to have been imported from the country indicated as the country of destination when exported. For imports, the trading partner disclosed in the Austrian ITGS is by default the country of origin. It is, however, possible to regroup the data according to the country of consignment.

Country of consignment: The country of consignment is the country from which the goods were dispatched by the sender to the reporting economy, without some halt or legal formality in another country apart from any for transport reasons.

Country of destination: The country of destination is defined as the country in which the goods are required or to be used or to be processed. If the destination is not known, information providers must indicate the last country of destination known to them. For exports, the trading partner disclosed in the Austrian trade statistics is by default the country of destination.

Nature of transaction

Nature of transaction refers to the particularities of the underlying transaction, such as exports or imports with ownership transfer, to return goods, for or after inward or outward processing.

Mode of transport:

The mode of transport is defined as the active means of transport with which goods are deemed to leave the statistical territory of Austria or with which they are deemed to have entered the statistical territory of Austria. The modes of transport to be distinguished under EU legislation are: rail transport, road transport, air transport, postal consignment, fixed transport installation, inland water transport and own propulsion.

Classification of goods:

The basic classifications to be used for the trade statistics are the eight-digit Combined Nomenclature (CN), i.e. the tariff and statistical classification of the EU based on the international classification known as the Harmonised System (HS)

Statistical value:

Goods values indicated in the ITGS are typically expressed in euro. The statistical value is defined as the value calculated at the national frontiers of the reporting economy, i.e. the free-at-frontier value. Hence, in the case of imports, the statistical value does not include import duties and other costs that arise on the way from the border to the final destination in the reporting economy (CIF). Similarly, export costs do not include freight and other costs that arise between the point destination and the

border of the statistical territory of the reporting economy (FOB). The CIF format for imports and the FOB format for exports reflect the value of the goods including transport and insurance costs up to the Austrian border.

The statistical value is thus the invoiced amount plus or minus freight and other costs, depending on the delivery conditions (such as free at frontier, freight paid, ex works price). In the event of free delivery and in the case of goods imported or exported for processing, the statistics generally reflect the value at the national frontier.

Data Collection

The ITGS data are collected on the basis of two different data collection systems, depending on whether the data refer to extra-EU trade (Extrastat) or intra-EU trade (Intrastat). While the Extrastat system is fed with data available electronically from the customs authorities, Intrastat data must be reported actively either in electronic format (e.g. using the online web form IDEP-KN8) or on paper. An important tool for the statistics collection and compilation process is the register of providers of statistical information (PSIs) (external trade register), which is closely linked with the company register maintained by *Statistics Austria*. The PSI register lists those firms that trade, or have traded until recently, with other EU countries or non-EU countries.

Apart from basic information, such as company addresses and contact details, the PSI register also contains information that is relevant for processing and analysing the data.

EU legislation requires the foreign trade data to be cross-checked for exhaustiveness and data quality with VAT data as a secondary source of data. Therefore, the register also lists firm-related data on intra-EU trade derived from the monthly national VAT returns and the VAT Information Exchange System (VIES).

The register is linked with a processing application for plausibility checks. A number of functions required to check specific firm data have therefore also been implemented in the register. This includes a history function for the monthly reports, information on reporting thresholds and a function to cross-check the data reported under Extrastat, Intrastat, VAT and VIES. As the data in the register are updated systematically at regular intervals, they are always current.

Data plausibility checks

Once the foreign trade data have been fed into the register and the processing application, the data are put through several checks:

- Aggregate plausibility
- Detail plausibility
- Exhaustiveness check (Intrastat only)
- Quality control

Methods used to impute for missing data

Extrastat data are secondary data that have been validated by the customs authorities before they are transmitted to the statistical authorities. Therefore, Extrastat data need not be checked for data integrity; the data must be checked only for plausibility.

The data integrity of Intrastat data has increased significantly since the introduction of electronic reporting. The electronic reporting tools flag data entries that may not be correct and they do not allow respondents to send incomplete data sets. Therefore, item nonresponse is now largely limited to paper-based reports. In such cases, desk officers need to intervene manually and to enter the missing data as estimated based on their experience or as indicated ex post by the recipients.

The statutory requirements notwithstanding, some respondents will fail to submit their reports in time or at all. Their trade volumes therefore need to be estimated. As a rule, a distinction is made between late responses and so-called hard nonresponses.

Late responses can typically be replaced by previous responses taking into consideration average change rates available for the given industry or the average trade volumes and the main direction of trade flows of related businesses which have transmitted their reports in time. Given the seasonal pattern of product demand, data reported in the same reporting period of the previous year are typically chosen over data reported earlier in the current year. Estimates for hard nonresponses for which no previous data are available either are produced like the estimates for firms which are below the assimilation threshold. For the reporting year 2017, gap estimates for nonresponses were ultimately produced for 1.1% of arrivals and 1.0% of dispatches in 2017.

Gap estimates for data below the assimilation threshold

ITGS are not based on extrapolations, as they constitute universal surveys. However, as those surveys are subject to cutoff limits, the Intrastat data are adjusted with gap estimates to make up for reports below the cutoff limits and for unit nonresponse. With regard to Extrastat, transactions below the customs threshold were added to the list of goods transactions that need not be reported to the EU in 2010 following statutory changes. Therefore, it is no longer necessary to supply such gap estimates for Extrastat data.

The assimilation threshold below which no statistical declaration is required is revised every two to three years. The data below that threshold are provided through estimates. *Statistics Austria* uses information provided in advance VAT returns to estimate the volume of intra-EU trade by the economic operators. Firms are required to fill in their advance VAT returns by the 15th of the second month following the reporting month with the fiscal authorities. The information relating to intra EU-trade in the advance VAT returns is limited to the value of the intra community acquisitions and supplies made during the reporting month, without a breakdown by products or countries. Firms are allocated to a bracket based on their NACE sector, their trade volume and the main direction of their trade flows. The trade operations of the firms below the assimilation threshold and of the hard nonresponse firms are adjusted in line with information available from the data reported by other firms in the respective bracket according to the trade volumes they have indicated in their VAT returns. This staggered extrapolation procedure produces gap estimates at the lowest disaggregation level, i.e. at the product

level. The volume information is derived from the VAT data on the intra-EU trade of the economic operators which are exempt from filling in a statistical declaration. The available Intrastat data serve to produce a structural breakdown for both Intra-EU exports and Intra-EU imports for the different brackets.

In the reporting year 2017, trade below the assimilation threshold accounted for 3.1% of intra-EU exports and 6.0% of intra-EU imports. Together with the estimates for late responses, the gap estimate ratio was thus 7.1% for intra-EU imports and 4.1% for intra-EU exports.

Table 10.17 International trade in goods statistics (ITGS)

Name of survey: International trade in goods statistics (ITGS)
Link to surveys undertaken at the European level (e.g. structural business statistics): <i>The legal basis for the ITGS has been created by EU regulations, which have the force of law without requiring transposition into national legislation. The legal provisions created by the EU have the purpose of harmonizing methodology and collection frameworks in all Member States (Regulation No. 638/2004 on Community statistics relating to the trading of goods between Member States and the Regulation No. 471/2009 on Community statistics relating to external trade with non-member countries). The Austrian ITGS are essentially based on Community provisions or on national laws (BGBl No. 173/1995, BGBl No. 181/1995 and BGBl. II Nr. 306/2009).</i>
Reporting units (e.g. enterprise/ local KAU/ household): <i>All VAT registered economic operators or customs declarants with cross-border movement of goods.</i>
Periodicity (e.g. annual/quarterly/other- to be specified): <i>The ITGS are compiled on a monthly basis.</i>
Time of availability of results (e.g. 18 months after the end of the survey period): <i>The initial detailed monthly results are available approximately ten weeks after the end of a reporting month. The first preliminary annual results typically are available in March of the following year. The deadline for the delivery of detailed ITGS to the EU has been defined as t+70 days by the European Commission. It also takes approximately t+70 days to compile the quarterly foreign trade data that are relevant for the balance of trade. The final annual results are typically released in June of the following year.</i>
Sampling frame: (e.g. name of business register used/ population census):
Survey is compulsory or voluntary? <i>Mandatory (No INTRASTAT reporting obligation for economic operators below the assimilation threshold for each trade flow)</i>
Main features of survey methodology (e.g. PPS sampling/ panel of respondents/ use of a size threshold for sampling/ postal questionnaire/ telephone interview): <i>The ITGS data are collected on the basis of two different data collection systems, depending on whether the data refer to extra-EU trade (Extrastat) or intra-EU trade (Intrastat). While the Extrastat system is fed with data available electronically from the customs authorities, Intrastat data must be reported actively either in electronic format (e.g. using the online web form IDEP-KN8) or on paper. An important tool for the statistics collection and compilation process is the register of providers of statistical information (PSIs) (external trade register), which is closely linked with the company register maintained by Statistics Austria. The PSI register lists those firms that trade, or have traded until recently, with other EU countries or non-EU countries. Apart from basic information, such as company addresses and contact details, the PSI register also contains information that is relevant for processing and analysing the data. EU legislation requires the foreign trade data to be cross-checked for exhaustiveness and data quality with VAT data as a secondary source of data. Therefore, the register also lists firm-related data on intra-EU trade derived from the monthly national VAT returns and the VAT Information Exchange System (VIES). The register is linked with a processing application for plausibility checks. A number of functions required to check specific firm data have therefore also been implemented in the register. This includes a history function for the monthly reports, information on reporting thresholds and a function to cross-check the data reported under Extrastat, Intrastat, VAT and VIES. As the data in the register are updated systematically at regular intervals, they are always current. Intrastat: Since the Intrastat system is based on a close link with the VAT system relating to intra-EU trade, all natural or legal persons with a VAT identification number that have engaged in intra-EU trade are required to report their transactions unless these transactions are below the assimilation threshold. The respondents submit their trade figures on a monthly basis to Statistics Austria. Via Intrastat, the data on intra-EU trade are collected directly (2017) from around 12,500 reporting entities and cover (2017) about 94% of total intra-EU-imports and about 97% of total intra-EU-exports. In Austria, there are about 163,500 intra-EU importers and around 41,000 intra-EU exporters. Extrastat: Economic operators provide the relevant data when submitting their customs declarations, thus generating secondary statistics for Statistics Austria. The data on trade with non-EU countries (Extrastat) are collected by the customs authorities on the basis of customs declarations and reported to Statistics Austria. Economic operators provide the relevant data when submitting their customs declarations, thus generating secondary statistics for Statistics Austria.</i>
Population size:

All VAT registered economic operators or customs declarants with cross-border movement of goods.
Sample size: <i>INTRASTAT: Census with variable threshold values with mandatory representation criteria.</i> <i>EXTRASTAT: Census</i>
Survey response rate: <i>Intra-EU-Exporte over 98% and Intra-EU-Importe over 98%</i>
Method used to impute for missing data: <i>Extrastat data are secondary data that have been validated by the customs authorities before they are transmitted to the statistical authorities. Therefore, Extrastat data need not be checked for data integrity; the data must be checked only for plausibility.</i> <i>The data integrity of Intrastat data has increased significantly since the introduction of electronic reporting. The electronic reporting tools flag data entries that may not be correct and they do not allow respondents to send incomplete data sets. Therefore, item nonresponse is now largely limited to paper-based reports. In such cases, desk officers need to intervene manually and to enter the missing data as estimated based on their experience or as indicated ex post by the recipients.</i> <i>The statutory requirements notwithstanding, some respondents will fail to submit their reports in time or at all. Their trade volumes therefore need to be estimated. As a rule, a distinction is made between late responses and so-called hard nonresponses.</i> <i>Late responses can typically be replaced by previous responses taking into consideration average change rates available for the given industry or the average trade volumes and the main direction of trade flows of related businesses which have transmitted their reports in time. Given the seasonal pattern of product demand, data reported in the same reporting period of the previous year are typically chosen over data reported earlier in the current year. Estimates for hard nonresponses for which no previous data are available either are produced like the estimates for firms which are below the assimilation threshold. For the reporting year 2017, gap estimates for nonresponses were ultimately produced for 1.1% of arrivals and 1.0% of dispatches in 2017.</i>
Variable used for grossing-up to the population (e.g. turnover/ employment): <i>For Intrastat: VAT-data</i>
Sample coverage, as % in terms of variable used for grossing-up (e.g. sample covers 60% of employment recorded on the sampling frame): <i>In the reporting year 2017, trade below the assimilation threshold accounted for 3.1% of intra-EU exports and 6.0% of intra-EU imports. Together with the estimates for late responses, the gap estimate ratio was thus 7.1% for intra-EU imports and 4.1% for intra-EU exports.</i>
Main variables collected: <i>Inward or outward flows, Country information, Principles of partner country allocation (country of origin, country of consignment, country of destination), Nature of transaction, Mode of transport, Classification of goods, Statistical value</i>
Further adjustments made to the survey data: -

10.3.2.2. Balance of payments statistics of services

10.3.2.2.1. Cross-border services survey

In this quarterly survey data on services among non-financial corporations excluding agricultural and forestry enterprises are collected. It is a direct survey of all enterprises whose international trade in services transactions exceed a certain threshold and which are not classified under agriculture, forestry, banks, insurance companies, the public sector or the non-profit sector. Currently about 4,800 enterprises are reporting data on a quarterly basis to *Statistics Austria*. The mandatory annual threshold for reporting year 2017 was EUR 500,000. For unit non-response and for all enterprises that are below the given annual thresholds the following estimation models are used to derive the missing values:

All enterprises that have services exports/imports above the prescribed reporting threshold but fail to submit corresponding data are considered to be unit non-responses. To prefill the data gaps the extrapolated values of the same quarters of the previous year are used for such enterprises, and adjusted for the current reporting quarter by performing a robust least-trimmed squares (LTS) regression on them, where industry-specific service import and export developments in similar

enterprises are being taken into account. The estimates are then rated by experts to rule out the effects of atypical quarterly reports of the previous year. Enterprises not previously covered or new entries are assigned the corresponding values from the VAT Information Exchange System (VIES).

For estimation of small enterprises below the threshold, VIES data are used as a statistical population. Then, three steps are necessary to derive final estimations of enterprises below the threshold from VIES data. First, missing values for extra-EU imports and extra-EU exports are added. The estimation of extra-EU transactions is based on primary respondent's data on an industrial sector level. Second, breakdown of total imports and exports according to services type is obtained by using primary respondent's services structure on an industry level or, if possible, data from previous periods from the same respondent (if the respondent was above the threshold in a preceding period). Third, country codes are assigned to the weighted exports and imports according to the original VIES data.

The listed services transactions below are recorded as follows:

- Construction services abroad are distinguished between short term projects that last less than one year and long term construction projects that last longer than one year.
- Cross border insurance and pension services are recorded according to the methodology described in BPM6. Different service charges are being used for life insurance, nonlife insurance, reinsurance and freight insurance.
- The survey questionnaire was extended in order to obtain information of the relevant fees that result from exports and imports of processing services on physical inputs owned by others according to BPM6 methodology.
- For the compilation of the balance of payments statistics royalties and licence fees for software are being surveyed separately from other royalties and licence fees transactions.

To make sure that the recording of exports of services is consistent with the application of the economic ownership principle for the underlying intellectual property assets, clear guidance is given to respondents whether to record services for the use of intellectual property under charges for the use of intellectual property n.i.e. or under other relevant service items depending on whether the rendered service excludes reproduction and distribution (relevant service item) or not (charges for the use of intellectual property n.i.e.).

10.3.2.2.2. Survey regarding services in the enterprise sector among financial institutions

The OeNB collects data regarding exports and imports of services from financial and insurance enterprises, pension funds and holding companies that are domiciled in Austria. The survey is conducted quarterly. The threshold for a mandatory report is EUR 500,000 worth of exports or imports of services during a given reporting year.

10.3.2.2.3. Survey regarding services in travel

Expenditure on all goods and services purchased for personal travel are part of services in travel, whereas expenditure on international passenger transport (this includes the transport of residents by a non-resident carrier and the transport of non-residents by a resident carrier) are part of the quarterly survey regarding services among non-financial corporations and are not covered by the travel services

survey. Data regarding cross border transport services are collected by the quarterly survey among non-financial corporations excluding agricultural and forestry enterprises.

Exports of services in travel

A bottom-up method is used to calculate exports of services in travel. It is based mainly on the monthly statistics of overnight stays and data concerning the average day expenses by tourists in Austria. Information regarding average day expenditure by tourists in Austria are being surveyed in the *Tourismus Monitor Austria (T-Mona)* compiled by the Austrian National Tourist Office (*Österreich Werbung*). By linking the average daily expenditure with the number of overnight stays total expenditure related to exports of services in travel can be obtained. Nevertheless, some additional resources are required, because the above-mentioned statistics do not include the following information:

- Expenditure related to business travel
- Expenditure by persons staying overnight with friends or relatives or at second homes
- Expenditure on day trips
- Expenditure regarding fuel tourism
- Expenditure regarding shopping tourism
- Expenditure by seasonal and border workers
- Expenditure by students

The following data sources are used to capture these types of expenditure related to services in travel

- Mirror data
- European Travel Monitor
- Studies published by the Deutsches Wirtschaftswissenschaftliches Institut für Fremdenverkehr (DWIF)
- ABTA study on business travel
- UNWTO data
- Erasmus statistics
- Wage tax statistics
- Household budget survey
- Eurostat database
- Umbrella Organisation of Austrian Social Security Institutions (*Dachverband der Sozialversicherungsträger DV*)
- Central Residence Register (*Zentrales Melderegister*)
- Short term statistics
- Price statistics

Imports of services in travel

The main source of data for travel debits (expenditure by residents traveling abroad) is the quarterly survey of personal and business travel by Austrians. To capture also expenditure on cross-border day trips by Austrians, the survey is complemented by a set of questions about day trips. The regional breakdown is adjusted for package tour transactions that are purchased from tour operators in third

countries. In addition, the expenditure excludes domestic expenditure components, such as travel agency fees or the cost of passenger transport, so that only cross-border payment flows are captured. As a consequence of the sample size (n=3,500) the survey cannot provide reliable data for all countries regarding the daily expenses by Austrian tourists abroad. Therefore, the detailed geographical breakdown for this expenditure component is based on ATM (Automatic Teller Machine) and credit card information. Additional estimates have to be made on the following expenditure categories that are not covered by the survey:

- Expenditure by Austrian border workers and students
- Extraordinary expenditure on health services and special purchases
- Expenditure regarding illegal or socially unacceptable activities

The following data sources are used for these additional estimates

- Survey of travel offers by travel agencies (ad hoc modules)
- Reservations index of the reservation provider (Amadeus and Travi Austria)
- Income tax statistics
- Statistics of the Austrian agency for international mobility and cooperation in education, science and math (OeAD)
- Eurostat database
- National Accounts estimations on illegal transactions in travel
- Motor vehicle statistics

10.3.2.2.4. **Other services**

Agricultural and forestry services among non-financial corporations

The results of the following three surveys are used to obtain information about cross-border agricultural and forestry services.

- Regional surveys of Austrian forestry enterprises in the framework of the annual wood harvest statistics of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management are recording the amount of wood harvested by non-resident enterprises.
- The survey of Austrian wood harvesting companies conducted by the Federal Research and Training Centre for Forests, Natural Hazards and Landscape are recording information about the wood harvesting work performed abroad.
- The survey of the Austrian federal forests (*Österreichische Bundesforste AG*): The information provided in the three surveys about agricultural and forestry services rendered is given in solid cubic meters of wood. By using conversion factors that are provided by the University of Natural Resources and Life Sciences in Vienna, these data can be converted into monetary values.

Services among non-profit organisations

Data collection forms are sent to the 110 most important non-profit organizations in Austria every quarter to request information about their international trade in services.

Exports of non-profit research and development services (R&D) are derived on the basis of data from the annual Austrian Report on Research and Technology.

Government services

The Austrian Development Agency provides annual data about development aid programs run by the individual Austrian ministries (Federal Ministry of the Interior, Federal Ministry of Defence and Sports, Federal Ministry for Education, Arts and Culture). The respective values are recorded as exports of services and additionally as current transfers from Austria to the rest of the world.

The government services item comprises all imported services of Austrian embassies, consulates and cultural institutes abroad and service imports by various offices of the Austrian Economic Chambers abroad. The final budget account serves as a source of data about embassies, consulates and cultural institutes. Information about service imports by the foreign offices of the Austrian Economic Chambers is provided directly by the Austrian Economic Chambers.

Furthermore, the item government services include the 25% collection fee on total customs duties on goods imported to Austria from outside the EU that Austria may retain. Austria is obliged to transfer the remaining 75% of the customs duties to the EU. The collection fee is recorded as an export of government services whereas the transfer payments to the EU are recorded as paid taxes on imports under primary income.

Vienna Municipal Department 5 provides annual data on service exports from Austria to the individual international organizations located in Austria, such as the United Nations Office or OPEC.

As no data are available, service imports by representative offices of foreign governments – embassies, consulates and cultural institutes located in Austria have to be estimated based on information provided by the Austrian Foreign Ministry.

R&D service exports of the public sector including universities and research institutions are calculated from information published in the annual Austrian Report on Research and Technology. Values regarding R&D service imports are taken out of the documentation of facts by the federal offices.

The Umbrella Organisation of Austrian Social Security Institutions (DV) provides information regarding cross-border health services that are consumed during personal travel.

FISIM

FISIM are implicit charges for services of financial intermediation that are not directly monitored by clients. These charges are estimated as the spread between a reference rate (interbank interest rate) and actual interest rates for loans and deposits weighted with the corresponding loan and deposit stocks. All data on interest flows that are necessary to calculate FISIM values are compiled by the OeNB as part of the compilation of the balance of payments and are forwarded to *Statistics Austria*. Based on these data *Statistics Austria* calculates FISIM values that according to BPM6 methodology have to exclude the interbank FISIM. In the process table the corresponding values regarding exports and imports of FISIM are recorded in the column FISIM. See chapter 3.17.1.4 for an extensive description of FISIM.

Digital communication services (MOSS)

Exports and imports of digital communication services with households (non-taxable persons) as final recipients are not captured in the cross-border services survey (see chapter 10.3.2.2.1). As a result, values from MOSS data, namely imports and exports of telecommunication services, television and radio broadcasting services and electronically supplied services are used to capture these missing transactions. A more detailed description of the data source can be found in chapter 10.3.3.

Other services not included elsewhere

The refuelling value of diesel gasoline in Austria by non-resident carriers is estimated by using a model that takes into account the total payload distance by foreign carriers in Austria during a given year, as well as the average fuel consumption per payload distance and the difference in diesel prices between Austria and the adjacent countries.

10.3.2.2.5. Exhaustiveness

Data on illegal cross-border services are derived from national accounts estimation models. Non-registered construction and housekeeping activities by resident workers are recorded as workers' remittances under secondary income⁶⁴. Non-registered nursing services provided by non-residents are treated as an import of health care services. The corresponding values (for reference year 2017 EUR 370 million) are displayed under column N1 *Schwarzarbeit* in the process table.

Services offered by non-resident prostitutes working in Austria are recorded as imports of other personal, cultural and recreational services and recorded under N2 *Illegale Aktivitäten*.

10.3.3. Digital communication services (MOSS)

The mini One Stop Shop (MOSS) came into force on 1 January 2015 and allows taxable persons supplying telecommunication services, television and radio broadcasting services and electronically supplied services to non-taxable persons in Member States in which they do not have an establishment to account for the VAT due on those supplies via a web-portal in the Member State in which they are identified. This scheme is optional, and is a simplification measure following the change to the VAT place of supply rules, in that the supply takes place in the Member State of the customer, and not the Member State of the supplier. This scheme allows these taxable persons to avoid registering in each Member State of consumption.

In practice, under the scheme, a taxable person which is registered for the mini One Stop Shop in a Member State (the Member State of Identification) electronically submits quarterly mini One Stop Shop VAT returns, detailing supplies of telecommunications, broadcasting and electronically supplied services to non-taxable persons in other Member States (the Member State(s) of consumption), along with the VAT due. These returns, along with the VAT paid, are then transmitted by the Member State

⁶⁴ The difference in being treated as a resident or a non-resident worker in Austria is related to the duration of stay. Persons that stay in Austria for a period shorter than one year are considered to be non-residents whereas persons that stay in Austria for a continuous period longer than one year are treated as residents.

of Identification to the corresponding Member States of consumption via a secure communications network.

The mini One Stop Shop VAT returns are additional to the VAT returns a taxable person renders to its Member State under its domestic VAT obligations. Before the MOSS came into force, an agreement was reached between Statistics Austria and the ministry of finance to enable national accounts to access the MOSS databases that are managed by the Austrian Federal Computing Center (BRZ). The data set is requested at monthly intervals. The raw data are processed and converted into the BOP data format. In addition, goods are assigned to the reported units. For units that exceed a threshold value (imports 1 million euros, exports 500,000 euros), this assignment is made manually after research, and automatically for smaller units. The results are booked as exports or imports of certain service transactions in the quarterly BOP. In NA imports and exports are booked in external accounts. Additionally, imports are part of household consumption expenditures.

10.3.4. Statistics on dwellings and buildings – Statistics on building activities

Organisation collecting the data

The statistics on dwellings and buildings (statistics on building activities) is a secondary statistics based on the Buildings and Dwellings Register which is maintained by municipalities and partly administrative districts.

Reporting units

The municipalities have a duty to record data to the Buildings and Dwellings Register.

Periodicity

Data on building permits are collected quarterly and data on completions of buildings are collected annually.

Variables collected

The Buildings and Dwellings Register contains address details of land, buildings and dwellings as well as structural data. The initial data came from the Building and Dwelling Census 2001 and the subsequent construction activity statistics. Missing initial data had to be entered subsequently. Ongoing updating of the Buildings and Dwellings Register is performed by the registration of changes to address and building data and by the recording of construction activities.

10.3.5. Other data sources

For the expenditure approach following statistical surveys and other data are used:

- STS (see chapter 10.1.1.3)
- Economic Accounts for Agriculture and Forestry (see chapter 10.0.4)
- Data from the Umbrella Organisation of Austrian Social Security Institutions (see chapter 10.2.2)
- Motor vehicle statistics (registrations), Price statistics for motor vehicles,
- Statistics of Austrian leasing associations
- Statistics of Austrian insurance associations
- Closed accounts of the *Bund*, the *Länder* and the municipalities and public accounts statistics on other units of government sector (see chapter 3.21)
- Annual balance of accounts of enterprises from the *Firmenbuch* (Commercial register - see chapter 10.0.2)

10.4. Statistical surveys and other data sources used for the transition from GDP to GNI

For data regarding the cross-border compensation of employees the following sources are used:

- Wage and income tax statistics (for information on wage tax statistics see chapter 10.2.1)
- Data from the Umbrella Organisation of Austrian Social Security Institutions (see chapter 10.2.2)
- Data on compensation of employees in international organizations from the Vienna Municipal Department 5
- Data on compensation of Austrian commuters and seasonal workers via the bilateral data exchange of national statistical institutes

For data sources regarding cross-border property income see chapter 8.3 and 10.3.2.

For data regarding paid taxes to institutions of the EU and received subsidies from the EU the following sources are used:

- Data on sugar levies and levies for agricultural products from the Austrian Federal Ministry of Finance
- Data on payments from the European Agricultural Guarantee Fund (EAGF) from the final budget accounts

11. ANNEXE

11.0. ANNEX 1 – ESA 2010 transmission programme

An overview table for current revisions provided linking the revision timetable to the main data sources available and used at the consecutive revision dates (see GNI Inventory Guide (GNIG/068 Rev.1)).

Table 11.1: ESA 2010 transmission programme with the revision time table for each published data set.

Table No.	Subject of the tables	Main source
1	Main aggregates, quarterly	
	t+2 months	STS; ITSG; ITSS; BOP; quarterly indicators
	t+5 months	STS; ITSG; ITSS; BOP; quarterly indicators
	t+8, t+11, t+n months: revision only for those quarters , for which new annual benchmarks are available	
1	Main aggregates, annual	
	t+2 months	Sum of 4 Quarters
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT
2	Main aggregates general government, annual	
	t+3 months	Provisional data from GFS
	t+9 months	Provisional data from GFS
	t+21 months	Revised data from GFS
	t+33 months	Final data from GFS

Table No.	Subject of the tables	Main source
3	Tables by industry - annual	
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT
5	Household final consumption expenditure by purpose - annual	9
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT
6	Financial accounts by sector (transactions) - annual	9
7	Balance sheets for financial assets and liabilities - annual	9
8	Non-financial accounts by sector - annual	9
801	Non-financial accounts by sector - quarterly	85 days
9	Detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including list of taxes and social contributions according to national classifications - annual	9

Table No.	Subject of the tables	Main source
10	Tables by industry and by region, NUTS level 2 - annual	12 / 24
	t+12 months	National benchmarks from table 1 at t+7
	t+24 months	National benchmarks from table 1 at t+19
	t+36 months	Final national benchmarks from SUIOT
11	General government expenditure by function - annual	12
12	Tables by industry and by region, NUTS level 3 - annual	24
	t+24 months	National benchmarks from table 1 at t+19
	t+36 months	Final national benchmarks from SUIOT
13	Household accounts by region, NUTS level 2 - annual	24
	t+24 months	National benchmarks from table 8 at t+21
	t+36 months	National benchmarks from table 8 at t+33 and from SUIOT
15	Supply table at basic prices incl. transformation into purchasers' prices - annual	
	t+36 months	Final SUIOT
16	Use table at purchasers' prices - annual	
	t+36 months	Final SUIOT
17	Symmetric input-output table at basic prices - five yearly	
	t+36 months	Final SUIOT
20	Cross-classification of fixed assets by industry and by asset - annual	
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT

Table No.	Subject of the tables	Main source
22	Cross-classification of gross fixed capital formation by industry and by asset - annual	
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT
26	Balance sheets for non-financial assets - annual	
	t+7 months	STS; ITSG; ITSS; BOP; Tax statistics, provisional results; BOP, provisional results; First business reports available; Provisional data from GFS
	t+19 months	SBS, provisional results; Tax statistics, more complete provisional results; More business reports available; Revised data from GFS
	t+31 months	SBS, final results; Tax statistics, final results; BOP, final results; First findings SU balancing; Final data from GFS
	t+36 months	Final SUIOT
27	Financial accounts of general government - quarterly	85 days
28	Government debt of general government - quarterly	3
29	Accrued-to-date pension entitlements in social insurance – three yearly	24
	Not yet delivered	

11.1. ANNEX 2 - SBS and STS Questionnaires

Available in pdf format.



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SBS_2017_Services_
Establishment.pdf



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