

# GDP and Quarterly National Accounts

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## 3 Statistical presentation

### 3.1 Data description

National accounts data refer to all data generated and disseminated for the economy according to the definitions and guidelines of the European System of Accounts ( [ESA 2010](#) ). National accounts provide data for the whole economy, but may also include a breakdown of the total economy (into sectors, industries, products, regions, etc.). National accounts provide data for several domains: annual and quarterly national accounts (main aggregates), sector accounts, financial accounts, supply and use tables and input-output tables, regional accounts, public finance statistics, employment and hours worked.

One of the main aggregates of national accounts is the growth index of gross domestic product (GDP) at constant prices, which reflects the economic development of the country, region and it is also referred to as the rate of economic growth.

In the European database Eurobase there are country data presented in a standard data structure. As part of the ESA 2010 transmission program, the Statistical Office of the Slovak Republic publishes data on its “ [DataCube](#) ” website.

### 3.2 Classification system

The statistical classification of economic activities (SK NACE Revision 2).  
Classification of institutional sectors and subsectors ESA 2010.  
Classification of individual consumption by purpose (COICOP).  
The statistical classification of products by activity (CPA).  
Furthermore, the ESA 2010 defines the classifications to be used for: transactions related to products, transactions in non-produced non-financial assets, distribution transactions, transaction related to financial assets and liabilities, other changes in assets, balance sheet and net assets items, balance sheet items, non-financial assets and liabilities.

### 3.3 Sector coverage

National accounts describe the country's overall economy. They include all economic activities and size categories of institutional units. The most important breakdowns are the breakdowns by institutional sectors of ESA 2010 and the breakdown by economic activities of NACE Revision 2.

### 3.4 Statistical concepts and definitions

All statistical terms and definitions used in national accounts are described in Annex A of EU Regulation 549/2013 (ESA 2010 methodology).

Gross domestic product (GDP) at market prices is the final result of the production activity of resident production units. It can be defined in three ways:

- a. *production approach*: GDP is the sum of the gross value added of the various institutional sectors or various sectors plus taxes on products and minus subsidies on products (which are not allocated into sectors and industries);
- b. *expenditure approach*: GDP is the sum of the final use of goods and services by resident institutional units (final consumption and gross capital formation) plus exports and minus imports of goods and services;
- c. *income approach*: GDP is the sum of the items shown on the use of the economy-wide income generation account (compensation of employees, taxes on production and imports minus subsidies, gross operating surplus and mixed income for the whole economy).

The following data are published for the **GDP and quarterly national accounts** indicators in the DataCube database under Macroeconomic Statistics – National Accounts:

#### Key indicators – 2.1.1.1 GDP – quarterly data

- flash estimate of GDP and total employment according to ESA 2010 (nu0001qs),
- quarterly GDP data by industry at current prices (nu0005qs),
- quarterly GDP data by industry at constant prices chain – linked volumes with reference year 2015 (nu0006qs),
- quarterly GDP data at current prices (nu0002qs),
- quarterly GDP data at constant prices on the base of previous year (nu0003qs),
- quarterly GDP data at constant prices chain – linked volumes with reference year 2015 (nu0004qs),
- seasonally adjustment of GDP by expenditure components at current prices – quarterly data (nu2043qs),
- seasonally adjustment of GDP by expenditure components at chain – linked volumes – quarterly data (nu2044qs),
- seasonally adjustment of GDP resources at current prices – quarterly data (nu2051qs),
- seasonally adjustment of GDP resources at chain – linked volumes – quarterly data (nu2052qs).

#### Quarterly accounts – 2.1.2.1 Structural accounts – SLOVSTAT tables

- gross domestic product per capita (nu2028qs),
- gross domestic product recalculated per one working and calendar day (nu2034qs),
- disposable income at current prices (nu2054qs),
- gross output by branches of NACE Rev. 2 at current prices (nu2002qs),
- final consumption of households by classification COICOP at current prices (nu2020qs),
- final consumption of households by classification COICOP at constant prices (nu2022qs),
- intermediate consumption by branches of NACE Rev. 2 at current prices (nu2008qs),
- compensation of employees (ESA 2010) by branches of NACE Rev. 2 at current prices (nu2046qs),

- value added by branches of NACE Rev. 2 at current prices (nu2010qs),
- general government revenues at current prices – quarterly data (nu2039qs),
- generation and use of income in sector of households at current prices (nu2025qs),
- generation of use of income in sector of households at current prices – quarterly data – seasonally adjusted (nu2063qs),
- gross fixed capital formation by branches of NACE Rev. 2 at current prices (nu2012qs),
- gross fixed capital formation by classification of production at current prices (nu2014qs),
- gross fixed capital formation by sectors at current prices (nu2016qs),
- general government expenditure at current prices – quarterly data (nu2040qs),
- export and import of goods and services at current prices (nu2058qs).

### 3.5 Statistical unit

The national economy is defined in terms of resident statistical units (institutional units or local KAU). A unit is a resident unit of a country when it has its centre of main economic interest in the economic territory of this country, that is, when it has been engaged in economic activities in this territory for a long time (one year or more).

National accounts are exhaustive. This means that they include all resident statistical units of the Slovak Republic in terms of sectoral breakdown according to the ESA 2010 methodology (enterprises, public administration institutions, non-profit institutions, households, self-employed persons, etc.).

### 3.6 Statistical population

Reference population for national accounts is the overall economy of the country.

### 3.7 Reference area

Reference area for national accounts is the overall economy of the Slovak Republic.

### 3.8 Time coverage

The ESA 2010 transmission program generally requires quarterly data from 1995. In the Datacube database, the indicators of quarterly national accounts are usually published for the period 1995 – 2020.

### 3.9 Base period

The term 'base period' does not apply in national accounts. Instead, for some national accounts variables, the concepts of the previous year's price and constant prices calculated by chain-linking are used in accordance with [Commission Decision 98/715/EC](#). Expression of variables in previous year's prices allows the calculation of volume indexes between the current period and the previous year. After selecting the reference period, the volume indexes are chained and then used to calculate indicators at the current prices of the reference year. This allows to calculate volume indicators for any monitored period.

National accounts indicators for the Slovak Republic are compiled and sent to Eurostat at constant prices of the previous year (PPY) and at constant prices calculated by chaining volumes to the year reference year 2015.

## 4 Unit of measure

Data are given in mil. Euro.

The indexes are given in relation to the same period of the previous year (ROMR).

## 5 Reference period

The reference period is a quarter.

## 6 Institutional mandate

### 6.1 Legal acts and other agreements

#### At European level:

The national accounts are compiled in accordance with the methodology of the European System of National Accounts (ESA 2010), which is Annex A to Regulation (EU) No. 549/2013 and defines common standards, definitions, classifications and accounting rules to be used for the compilation of accounts and tables on a comparable basis.

The ESA 2010 transmission program can be found in Annex B to the Regulation and sets out the dates and scope of the data to be sent to Eurostat according to the ESA 2010 methodology.

#### At national level:

The Act on State Statistics of the National Council of the Slovak Republic no. 540/2001 regulates the conditions for obtaining statistical information needed to assess socio-economic development, the position and competence of bodies performing state statistics, the role of public authorities in the field of state statistics, rights and obligations of reporting units, protection of confidential statistical data from misuse, provision and publication of statistical data, ensuring comparability of statistical information and fulfilment of agreements in the field of state statistics, by which is the Slovak Republic bound.

Statistical surveys are governed by the Decree of the Program of Statistical surveys for a three-year period, which is compiled by the Office in cooperation with ministries and state organizations. The program contains a description and scope of surveys, including surveys carried out by other central authorities and ministries.

Basic information on the compilation of the program of state statistical surveys for the relevant year, the number of conducted surveys in the relevant year and the evaluation of the administrative burden of respondents are contained in the annual reports on the implementation of the program of state statistical surveys.

### 6.2 Data sharing

National accounts data are key sets of indicators used and published by many international organizations to improve data consistency and exploit synergies for data collection and validation. The inter-departmental group on economic and financial statistics was established in 2016 (composed of representatives of the Bank for International Settlements, the European Central Bank, Eurostat, the IMF, the Organization for Economic Cooperation and Development, the United Nations, and the World Bank) and it has started its work under the G20 to improve data sharing for national accounts.

## 7 Confidentiality

### 7.1 Confidentiality - policy

[Regulation \(EC\) No 223/2009 on European Statistics](#) (recital 24 and article 20 (4) of 11 March 2009 OJ EC L 87, page 164) establishes a need to set common principles and guidelines to

ensure the confidentiality of used data for the production of European statistics, and it provides access to such confidential data with due account for technical development and the requirements of users in a democratic society. The European Statistics Code of Practice provides additional conditions that statistical offices must comply with in the field of protection of confidential statistical data (Principle 5).

The Statistical Office of the Slovak Republic is responsible for the protection of confidential data obtained and guarantees their use exclusively for statistical purposes. In accordance with the Act on State Statistics no. 540/2001 Coll. §2g and §30, the Statistical Office of the Slovak Republic may not publish confidential statistical data, but only information that has been created by summarizing confidential data, which does not allow direct or indirect identification of the reporting unit.

The Directive on the Protection of Confidential Statistical Data at the Statistical Office of the Slovak Republic (No. SME-1/2015) is available on the internal website of the Statistical Office of the Slovak Republic, which regulates specific methods and parameter values used in protecting confidential statistical data of individual statistical surveys.

## 7.2 Confidentiality - data treatment

Confidential statistical data is defined as data relating to an individual statistical unit, which enables direct or indirect identification and was obtained for statistical purposes according to the law. The Statistical Office of the Slovak Republic provides or publishes statistical data and information without direct identifiers in such a form that the data provided by the applicant cannot be directly or indirectly identified in them, this means it applies active protection for all reporting units.

In ensuring the protection of confidential statistical data in tables with aggregated data, the Statistical Office of the Slovak Republic applies in all cases the rule of the minimum frequency for  $n=3$ , that is in each cell of the table there is a data that is an aggregation of data for at least 3 reporting units. The problem of sensitive cells may mainly concern data tables in more detailed breakdowns (e.g. by NACE industries rev. 2). In this case, confidentiality is ensured by a higher degree of data aggregation, e.g. in the supply and use tables.

## 8 Release policy

### 8.1 Release calendar

The best available practices require that new national accounts data and related press releases are announced in the release calendar, which is published well in advance of the relevant publications. The Statistical Office of the Slovak Republic regularly updates and publishes the release calendar, which contains the schedule of the first publication of selected indicators. The release calendar covers the whole calendar year and includes all published press releases and national accounts data, as mentioned above.

The first publication of data takes the form of an Information Report published on the Office's website or in the form of a press conference. According to the established principle of equal access to all users, the data are available to all at the same time and published at 9.00 am on the website of the Statistical Office of the Slovak Republic ( [www.statistics.sk](http://www.statistics.sk) ) in the [Catalogue of Information Reports section](#) .

### 8.2 Release calendar access

[The First release calendar](#) is available on the website of the Statistical Office of the Slovak Republic.

### 8.3 User access

In accordance with the Community's legal framework and [the Code of Practices for European statistics](#) (Principle 6 on impartiality and objectivity, Principle 13 on timeliness and punctuality and Principle 15 on accessibility and comprehensibility), national accounts data that meet quality standards, including relevant metadata, should be available to users. Users should be informed of the availability of the data and how it can be made available.

Accessibility and comprehensibility of statistical data is one of the principles of [the Declaration of Quality of the Statistical Office of the Slovak Republic](#).

The independence and impartiality of the Statistical Office of the Slovak Republic, ministries and other state administration bodies and organizations established by them in obtaining, processing, disseminating and evaluating statistical information is provided for in Act no. 540/2001 Coll. On State Statistics as amended (paragraph 3, part 2 of the Act on State Statistics).

## 9 Frequency of dissemination

The data are published quarterly.

## 10 Accessibility and clarity

### 10.1 News release

The most important results of national accounts are published in press releases. New, strategic national accounts data may also be published at a press conference or briefing. The exact dates are listed in advance in [the First release calendar](#).

The Statistical Office of the Slovak Republic publishes press releases on its website in the News section of the homepage, or in the Catalogue of Informative Reports (see section 8.1).

### 10.2 Publications

Publications related to national accounts data are published on the website of the Statistical Office of the Slovak Republic in [the Catalogue of Publications section](#).

These publications, which relate to national accounts data, include e.g. Statistical Yearbook of the Regions of Slovakia and Statistical Report on Basic Tendencies in the Slovak Economy.

### 10.3 On-line database

All national accounts data are available to users in the public database of the Statistical Office of the Slovak Republic [DataCube](#) (see the description of the tables in section 3.4).

### 10.4 Micro-data access

Micro-data are not published for national accounts indicators.

### 10.5 Other

All data available in the [DataCube](#) database are provided free of charge and are not subject to registration. In addition, the data is also available via the [STATdat](#) database, which contains reports (tables) of data from the DataCube database, which can then be exported to various data formats.

Predefined tables of national accounts data are available on the website of the Statistical Office of the Slovak Republic in the section Statistics – Macroeconomic statistics – National accounts – Indicators, which are also reported from the [DataCube](#) database. Data can also be provided within defined specific outputs to international organizations, especially Eurostat, IMF, OECD, etc.

## 10.6 Documentation on methodology

The general methodological framework for compiling national accounts in the EU is ESA 2010 methodology. All important metadata and methodological explanations for national accounts are available on the website of the Statistical Office of the Slovak Republic:

[National Accounts – Metadata](#)

Description of the new ESA 2010 methodology, or the transition from the old ESA95 methodology to the new ESA 2010, as well as other manuals and handbooks are available on the website of the Statistical Office of the Slovak Republic.

[New methodology for national accounts – ESA 2010](#)

## 10.7 Quality documentation

The importance of national accounts requires that documentation of quality management and quality assessment processes are available. Such documentation includes, for example, [the Declaration of Quality of the Statistical Office of the Slovak Republic](#), which is available on the website of the Statistical Office of the Slovak Republic.

Reports on the quality of national accounts, quality studies and reports on the analysis of revisions are also available on the website of the Statistical Office of the Slovak Republic.

[Quality reports – National accounts](#)

# 11 Quality management

## 11.1 Quality assurance

The quality of national accounts data is ensured by the exact application of the ESA 2010 concepts and the application of the ESS handbook guidelines on quality reporting.

Part of the revision policy is to ensure the quality of source data that enter into the calculation of national accounts indicators, e.g. GDP, in the collection, processing and subsequent evaluation of data, in order to ensure comparability of data at quarterly, annual and regional level.

Technical validation of national accounts data is ensured by means of the IT tool 'STRUVAL' and numerical validation of data via 'CONVAL'.

The management supervision of data collection and compilation of statistical data is regularly verified through internal audits (IA) according to a predetermined plan.

The Statistical Office of the Slovak Republic holds a quality management system certificate according to ISO 9001:2008, which was awarded in November 2006. It undergoes external and recertification audits at regular intervals; in 2010, 2011, 2013 and 2014, Bureau Veritas Certification Agency performed supervisory audits. Recertification audits in 2009, 2012, 2015 and 2017 confirmed the validity of the certificate of the Statistical Office of the Slovak Republic.

[The quality manual](#) describes the documented procedures of the quality system, which are used in the construction, implementation and continuous improvement of the quality management system in the Statistical Office of the Slovak Republic. It contains a description of the quality management system and compliance with the requirements of the ISO 9001 standard.

## 11.2 Quality assessment

During the whole compilation process, several quality checks of national and regional accounts data are performed, e.g. ex-ante (statistical resources), preliminary (results), ex-post (methods used) and external controls (Eurostat, European or National Court of Auditors, IMF). Detailed information concerning quality reports after approval by Eurostat is published on the website of the Statistical Office of the Slovak Republic, as stated in point 10.7.

## 12 Relevance

### 12.1 User needs

National accounts data provide important information for economic policy monitoring, decision-making, forecasting, administrative purposes, informing the public about economic development (either directly or indirectly through news agencies) and they also serve as inputs in economic research.

At the national level, the main users of national and regional accounts data are the Ministry of Finance, the Ministry of Transport and construction, the National Bank of Slovakia, scientific and academic societies and research institutes. Another group of users are students, analysts, journalists, foreign embassies in Slovakia and entrepreneurs.

At EU level, the main users of national accounts data are mainly Eurostat, OECD, the IMF and various national statistical institutes.

### 12.2 User satisfaction

The Statistical Office of the Slovak Republic regularly evaluates website traffic according to individual sections and departments. In addition, since 2009 it has been conducting regular customer surveys of its products and services at two-year intervals.

The aim of the surveys is to determine customer satisfaction with the products and services of the Statistical Office of the Slovak Republic, to obtain information about users, their interest and opinion on the provision and quality of statistical products and services. The obtained facts are a valuable source for directing other activities of the Statistical Office of the Slovak Republic.

The user satisfaction questionnaire, its evaluation as well as the reflection of the relevant requirements of the respondents in the action plans of the Statistical Office of the Slovak Republic are available on the website of the Statistical Office of the Slovak Republic.

[Satisfaction survey](#)

### 12.3 Completeness

The ESA 2010 transmission program, which consists of 22 tables from all areas of national accounts, specifies the minimum range of national accounts data that must be available in each EU member state.

The completeness of data for GDP and quarterly national accounts is at the level of 100 %.

## 13 Accuracy and reliability

### 13.1 Overall accuracy

Revisions of national accounts data are described in detail in the regular GNI data quality reports.

At the national level, standard cross-domain checks are usually performed.



At present, some revision indicators are subjects to the so-called pilot exercise, that is aimed at providing relevant information in the quality report and in the future, after approval by Eurostat, this procedure will be applied as standard in national practice.

### **13.2 Sampling error**

Not relevant for national accounts indicators.

### **13.3 Non-sampling error**

Not relevant for national accounts indicators.

## **14 Timeliness and punctuality**

### **14.1 Timeliness**

The ESA 2010 transmission program sets out the required time frame for all national accounts tables.

The first flash estimate of quarterly GDP is published at time T + 45 days after the end of the reference quarter T. Adjusted GDP estimates and other quarterly national accounts data according to the required breakdowns are sent to Eurostat at T + 60 days and are published in the DataCube at T + 75 days at the latest. Subsequently, the national accounts data for the reference quarter T can be revised several times until they become definitive at time T + 4 years.

More detailed information on the revision policy can be found in Section 17 – Data Revision.

### **14.2 Punctuality**

National accounts data under the ESA 2010 transmission program should be supplied to Eurostat on the exact dates stated in the transmission program (or earlier).

Usually, all required data is supplied on time.

## **15 Coherence and comparability**

### **15.1 Comparability - geographical**

The geographical comparability of the national accounts of the EU member states is ensured by the application of the common rules of the European System of Accounts ( [ESA 2010](#) ). A geographical comparison can also be made at international level, as most non-European countries use SNA 2008 standards that are in line with ESA 2010.

We have no information on the lack of comparability.

### **15.2 Comparability - over time**

As the data for all reference periods are compiled according to the requirements of ESA 2010, the national accounts data are fully comparable over the whole period. Even in the case of major changes in methods or classifications, revisions of long time series are usually made far into the past.

Until now, national accounts data have been compiled without significant interruptions in time series.

### **15.3 Coherence - cross domain**

Within the system of national accounts, there is full consistency in these areas: annual and quarterly national accounts, government accounts, sector accounts, financial accounts, regional accounts, supply and use tables. However, in practice it is sometimes not possible to ensure full consistency and therefore temporary deviations may occur. They are usually the result of older differences.

The input to national accounts is mainly primary statistics, such as structural business statistics (SBS), short-term statistics (STS) and labour force statistics (LFS). However, there is no complete consistency between these statistical domains and national accounts. The main reasons are differences in concepts, definitions and scope. The balance of payments is also used as a significant source of national accounts. The wording and scope of the balance of payments, as defined in the BPM6 manual, are fully compatible with ESA 2010. Balance of payments variables are in principle fully coherent with the relevant national accounts variables.

#### 15.4 Coherence - internal

GDP data and quarterly national accounts are fully internally coherent.

### 16 Cost and burden

Not relevant for national accounts indicators.

### 17 Data revision

#### 17.1 Data revision - policy

The revision policy is an important tool for improving the quality of statistical data. It regulates the basic rules and general procedures applied in revisions in the Statistical Office of the Slovak Republic.

For the purposes of this regulation, any change in the statistical value of indicators stored in the relevant databases and publicly published statistics is considered a revision of statistical data. The reasons for the changes are changes in current legislation, adjustment of methodological definitions and procedures, revisions of classifications and code lists, implementation of new statistical-mathematical methods, availability of later more accurate data as well as the errors in the source and calculated data. The aim of the revisions is to achieve or maintain consistency in the content of statistical data.

The basic rules and general procedures applied in revisions at the office are regulated by the SME-1/2020 Directive – Revision Policy of the Statistical Office of the Slovak Republic and the decision of the chairman of the Statistical Office of the Slovak Republic issuing [the revision calendar of the Statistical Office of the Slovak Republic](#) (updated every year).

Published data can have the following quality grades:

- **Flash estimation (flash)** – estimation of the relevant indicator on the basis of available current information, or extrapolation of development trends.
- **Adjusted estimate** – data that is obtained on the basis of the results of short-term reporting and the use of available administrative data sources.
- **Preliminary data** – data that is compiled from verified and revised sources used to compile a revised estimate or data available at the date of the 1<sup>st</sup> publication. It can be compiled in a smaller range of indicators.
- **Semi-definitive data** – data revised on the basis of refinements of statistical reporting and administrative sources, as well as additional information.

- **Definitive data** – data that is compiled from verified revised reports, administrative sources and data obtained on the basis of specified statistical – mathematical methods and other additional information. The definitive data changes only in the case of special revisions, otherwise these data are unchanged.

In terms of content, the reason for revision is considered to be:

- Incorporation of better quality data on the basis of a more complete source,
- Clarification of data due to the update of seasonal factors and changes in the base period,
- Specification based on updated methodology (in concepts, definitions and classifications) and changes in statistical methods,
- Corrections in source data and calculations.

In terms of time, revisions can be divided into these types:

- **Routine revisions** are revisions without major methodological changes. These are usually major data corrections, including large values obtained from new sources. They are carried out periodically at precisely defined dates, for updating monthly and quarterly data, until the next publication of the data.
- **Annual revisions** are revisions that are made when all monthly, quarterly data are available and more detailed results from annual surveys are already available.
- **Special and major revisions** are revisions of definitive data due to significant methodological changes resulting from the revision of methodologies, from changes in the procedures of statistical – mathematical methods of calculation or corrections of data. Special revision may result (e.g. by changing the definition) in disruption of time comparability of the data.

The schedule for revisions of annual and quarterly national accounts data is implemented in accordance with Annex B of European Parliament and the Council (EU) Regulation No 549/2013 of 21 May 2013 on the European system of national and regional accounts in the European Union (ESA 2010). The aim of the national accounts revision policy is to achieve consistency in the data supplied under the ESA 2010 Transmission program in line with the harmonized European revision policy.

## 17.2 Data revision - practice

**The annual accounts** are revised for the first time on the basis of the refinement of data obtained gradually from administrative sources and from the processing of annual statistical reports.

Adjustments resulting from the solution of balance differences in the compilation of supply and use tables as well as from corrections of revised own calculations are incorporated. Within this process, methodological changes based on new regulations, or guidelines and results from the spring EDP notification of the general government sector within T + 5 months of the current year are implemented gradually. The routine revision includes a gradual refinement of the data for year T-1, referred to as 'estimate' (sum of quarterly data), years T-2 and T-3 considered 'semi-definitive' and year T-4 as 'definite' version.

The second revision of the annual national accounts includes a refinement of the results of the autumn EDP notification, which will be reflected in selected TP ESA 2010 tables.

In accordance with Article 3 of Council Regulation (EC) No. 479/2009 of 25 May 2009 on the application of the Protocol on the excessive deficit procedure annexed to the Treaty establishing the European Community, as amended, **EDP notification tables** (Notification Tables of Excessive Deficit Procedure) are drawn up and amended as follows:

1. The spring notification of the general government deficit contains data for the period T-1 year to T-4 years. The data are sent within T + 3 months. Data for year T – 1 represent an estimate of the year and data for T – 2 years and T – 3 years are semi-definitive. Data for the year T – 4 years are definitive. Exceptions are cases of so-called major revision or specifically addressed items according to Eurostat guidelines.

2. The autumn notification of the general government deficit contains data for the period  $T - 1$  year to  $T - 4$  year. Data for year  $T - 1$  represent a more accurate estimate, data for  $T - 2$  and  $T - 3$  years are semi-definitive and for year  $T - 4$  definitive. They are sent at  $T + 9$  months and are consistent with the annual accounts for year  $T - 1$  and with the 'semi-definitive' version of the annual accounts  $T - 2$  and  $T - 3$  years and the 'definitive' version for year  $T - 4$ .

**The quarterly accounts** are reviewed regularly in accordance with the revision changes of the annual national accounts. This means that the first revision of the quarterly accounts assumes a refinement of the data as for the annual national accounts based on more accurate data from administrative sources, the processing of annual statistical reports and the spring EDP notification of the general government sector at  $T + 5$  months of the current year. The quarterly data for the 4<sup>th</sup> quarter and the summary of the quarters for the year are also presented as an 'estimate' of the annual account ( $T - 1$  year).

The second revision of the quarterly national accounts is carried out at  $T + 10$  months of the current year in accordance with the revision changes of the annual national accounts, which include the refinement of the results of the autumn EDP notification.

Detailed information on revision changes is provided in the quality reports on the website of the Statistical Office of the Slovak Republic.

[Quality reports EDP and GNI](#)

## 18 Statistical processing

### 18.1 Source data

National accounts data are aggregated data compiled according to the ESA 2010 methodology, based on a combination of several data sources – statistical surveys, administrative sources as well as alternative data sources. In addition to the basic statistical sources already mentioned, data from the surveys of sectoral statistics, the Population and Housing Census, the Farm Census, balance of payments statistics, foreign direct investment statistics and the international investment position are also used for national accounts. These surveys are generally carried out in accordance with specific laws adopted for this purpose.

A detailed description of the data sources for the compilation of the main national accounts aggregates can be found in Chapter 10 of the [GNI Inventory](#).

### 18.2 Frequency of data collection

National accounts are usually compiled on an annual or quarterly basis from primary statistics. The periodicity of data collection for primary statistics varies depending on the origin of the data source. For example, business statistics are available on a monthly quarterly or annual basis. Household data are available on a quarterly or annual basis (sometimes less frequently). The availability of administrative data varies country to country.

The periodicity and deadlines for compiling national accounts may not always coincide with the periodicity and deadlines for collecting (all) primary statistical data.

Information on individual statistical surveys and administrative sources, as well as their periodicity of data collection, is given in Chapter 10 of the '[GNI Inventory](#)' or in part 'C' of the '[ASA Inventory](#)'.

### 18.3 Data collection

Data collection for statistical surveys organized by the Statistical Office of the Slovak Republic is carried out in the form of statistical forms, in paper or electronic form.

Electronic data collection is a system enabling reporting units to fill in statistical forms online in the integrated statistical information system of the Statistical Office of the Slovak Republic. As of 1 January 2016 reporting units (legal entities, natural persons – entrepreneurs) are obliged to submit statistical reports electronically in accordance with the amendment to Act no. 540/2001 Coll. On state statistics as amended by Act no. 326/2014 Coll. (hereinafter referred to as the Act), which contains new rules for the submission of statistical reports.

The collection, control and processing of statistical information for the Office's statistical surveys for individual statistics according to industry, type and size category of reporting units is performed by the Office's field offices – mainly regional administrations, specialized for the entire territory of the Slovak Republic. Statistics on family accounts, labour force sample surveys, crop yield estimates, consumer prices, area censuses, city and municipal statistics are performed by regional administrations territorially.

All administrative data sources are obtained on the basis of signed agreements and protocols on technical cooperation with external institutions (e.g. National Bank of Slovakia, Ministry of Finance, State Treasury, Ministry of Interior, Ministry of Labour, Social Affairs and Family, Financial Administration, Data Centre, Geodesy, Cartography and Cadastre Authority of the Slovak Republic, National Centre for Health Information, etc.). By default, these agreements consist of a general part concerning the version of the contract, the specification and characteristics of the data provided between the two institutions, the forms and methods of data provision and the contact names from both institutions responsible for providing data in bilateral data exchange.

Samples and descriptions of all statistical forms are available on the website of the Statistical Office of the Slovak Republic.

[Samples of statistical forms](#)

#### **18.4 Data validation**

Source data from statistical surveys are monitored and validated at several levels, directly in the environment of the Integrated Statistical Information System (ISIS), as well as outside it, e.g. standard software tools and applications.

Initial validation and logical checks take place directly when the electronic form is filled in by the reporting unit, when in the case of input logical errors it is not even possible to send the form. The delivered report is subjected to further validation checks, from which error logs are prepared.

The analysis and subsequent validation of work outputs is carried out at the level of the responsible departments and is focused on capturing and possible elimination of disproportions in the relevant statistical domain. In case of more serious errors, extreme data, etc. the relevant reporting units are contacted directly in order to clarify the information provided.

The national accounts output data are compiled by aggregation from several data sources and are also subject to a validation process. The Statistical Office of the Slovak Republic provided metadata to support the validation process, taking into account revisions and extreme values. As part of internal management processes, the validation checks on the data related to the ESA 2010 transmission tables before the final data are sent to Eurostat are performed.

The results of these validation checks are the subject of quality reports (via ESS Metadata Handler).

#### **18.5 Data compilation**

Statistical procedures for data processing (e.g. imputations, calculation of weights, adjustments with respect to non-response, calibrations, etc.) are applied to individual statistical surveys, according to their type, nature, coverage and periodicity.

National accounts are compiled by aggregation from several data sources that have undergone the above statistical processing and calculations. In general, the data are compiled in accordance with the definitions and concepts of ESA 2010.

The methodology of compiling the main national accounts aggregates is described in more detail in the [GNI Inventory](#) .

## 18.6 Adjustment

The time series of selected quarterly national accounts data are usually published unadjusted, but also adjusted for the effect of seasonality. The aim of seasonal adjustments is to identify and eliminate seasonal fluctuations and calendar effects (e.g. the effect of different number of working days or the effect of Easter) that make it difficult to identify short-term and long-term effects in time series and make it impossible to understand the actual evolution of the indicator over time.

According to the ESA 2010 transmission program, quarterly data are provided unadjusted as well as seasonally adjusted (including any calendar adjustment), with the exception of data at previous year's prices. The provision of calendar-adjusted quarterly data is voluntary.

Seasonal adjustment of quarterly annual accounts time series for the Slovak Republic does not include calendar adjustments, as users require consistency of seasonally adjusted quarterly data and unadjusted annual summaries (according to SA recommendations, if a calendar adjustment is made, quarterly seasonally and calendar adjusted data can only be adjusted for calendar adjustment summaries, not to the original annual summaries). Therefore, the seasonally adjusted data are further adjusted by the Ecotrim benchmark tool to compensate for the unadjusted annual summary.

The TRAMO-SEATS method, which is part of the JDemetra+ software version 2.0.0, is used for seasonal cleaning of quarterly national accounts. Logarithmic transformation (multiplicative decomposition) is used for most series. All series are tested for extreme values (all three types – additive, transient changes, level change) and if the extreme value is statistically significant and economically plausible, it is adjusted and incorporated into the model.

According to the revision policy, a seasonally adjusted data approach is applied, where the model, filters and extremes are identified only once a year (usually after an annual revision of quarterly national accounts), but the relevant parameters and factors are reassessed each time new quarterly data are added.

## 19 Comment