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**COMMISSION STAFF WORKING DOCUMENT**

**Quality Report on National and Regional Accounts. 2016 data.**

*Accompanying the document*

**Report from the Commission to the European Parliament and the Council**

**on the application of 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 and on the application of the granted derogations**

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# Table of contents

|  |           |
|--|-----------|
| <b>Executive summary .....</b>                                       | <b>4</b>  |
| <b>1. Introduction .....</b>   | <b>6</b>  |
| <b>2. Scope of the quality assessment.....</b>                       | <b>7</b>  |
| <b>3. Legislation, classifications, manuals .....</b>                | <b>9</b>  |
| <b>3.1. Legislation .....</b>  | <b>9</b>  |
| 3.1.1. Legal basis for ESA 2010 .....                                | 9         |
| 3.1.2. Other legal acts.....   | 10        |
| <b>3.2. Classifications used in the ESA 2010 .....</b>               | <b>11</b> |
| <b>3.3. Manuals and guidelines.....</b>                              | <b>11</b> |
| <b>3.4. Other information.....</b>                                   | <b>11</b> |
| <b>4. Relevance.....</b>   | <b>13</b> |
| <b>4.1. Use of ESA 2010 data .....</b>                               | <b>13</b> |
| 4.1.1. National uses of ESA 2010 data .....                          | 13        |
| 4.1.2. European Semester.....  | 14        |
| 4.1.3. Business cycle and macroeconomic policy analysis .....        | 15        |
| 4.1.4. EU cohesion policies .....                                    | 16        |
| 4.1.5. Use in other EU policy areas .....                            | 16        |
| 4.1.6. Use for EU administrative purposes .....                      | 17        |
| <b>4.2. User satisfaction .....</b>                                  | <b>17</b> |
| <b>4.3. Further actions to meet user needs .....</b>                 | <b>20</b> |
| <b>4.4. Completeness rate .....</b>                                  | <b>21</b> |
| 4.4.1. Quarterly data .....  | 21        |
| 4.4.2. Annual data.....  | 23        |
| <b>4.5. Completeness rate of data underlying key indicators.....</b> | <b>29</b> |
| <b>5. Accuracy .....</b>   | <b>31</b> |
| <b>5.1. Revision policy.....</b>                                     | <b>31</b> |
| 5.1.1. Harmonised European revision policy .....                     | 32        |
| 5.1.2. Documentation on national data revision policy .....          | 32        |
| <b>5.2. Revisions of data submitted by Member States .....</b>       | <b>32</b> |
| <b>5.3. Revisions of European aggregates .....</b>                   | <b>35</b> |
| <b>6. Timeliness and punctuality .....</b>                           | <b>39</b> |
| <b>6.1. Timeliness.....</b>  | <b>39</b> |
| <b>6.2. Punctuality of ESA 2010 tables.....</b>                      | <b>40</b> |
| 6.2.1. Quarterly data .....  | 40        |

|  |           |
|--|-----------|
| 6.2.2. Annual data.....  | 41        |
| <b>6.3. Punctuality of data underlying key indicators .....</b>  | <b>47</b> |
| <b>7. Accessibility and clarity .....</b>  | <b>52</b> |
| 7.1. Dissemination by Eurostat.....  | 52        |
| 7.2. ESA 2010 metadata .....   | 52        |
| 7.3. Inventories .....   | 53        |
| 7.3.1. Mandatory inventories .....   | 53        |
| 7.3.2. Voluntary inventories .....   | 55        |
| 7.4. International data sharing .....  | 56        |
| <b>8. Comparability .....</b>  | <b>57</b> |
| 8.1. Methodological soundness.....   | 57        |
| 8.1.1. Validation process for national accounts .....  | 57        |
| 8.1.2. Statistical cooperation and harmonisation .....   | 58        |
| 8.1.3. Gross national income .....   | 59        |
| 8.1.4. Excessive deficit procedure and government finance statistics.....                              | 60        |
| 8.2. Comparability over time .....   | 61        |
| <b>9. Coherence .....</b>  | <b>62</b> |
| 9.1. Coherence between quarterly and annual data .....   | 62        |
| 9.2. Coherence between totals and sum of components .....  | 63        |
| 9.3. Coherence of identical variables across national accounts main aggregates tables                  | 63        |
| <b>10. Cost and burden .....</b>   | <b>65</b> |
| <b>11. Overall quality assessment results and recommendations.....</b>                                 | <b>66</b> |
| <b>Annexes.....</b>  | <b>69</b> |
| <b>Tables included in the ESA 2010 Transmission Programme and deadlines for data transmission.....</b> | <b>69</b> |
| <b>List of figures .....</b>   | <b>71</b> |
| <b>List of tables.....</b>   | <b>73</b> |
| <b>List of acronyms .....</b>  | <b>74</b> |

# Executive summary

This document presents Eurostat's assessment of the quality of the national and regional accounts submitted by the EU Member States, Iceland, Norway and Switzerland in 2016, and quality information on Eurostat's own publications of European aggregates.

The quality assessment was carried out in accordance with Article 4 of Regulation (EU) No 549/2013, also called the ESA 2010 Regulation, which requires the quality of national and regional accounts data sent to Eurostat to be assessed against the quality criteria set out in Regulation (EC) No 223/2009 on European statistics. Commission Implementing Regulation No 2016/2304 sets out the modalities, structure, periodicity and indicators of the assessment process.

This quality report presents the first assessment results since 1 September 2014, when the European System of Accounts (ESA 2010) was introduced and data started being sent according to the new methodology. The assessment is based on national quality reports introduced in 2017. Quality reporting will now be carried out annually.

This year's report is based on a number of quality indicators (completeness, revision policy, punctuality, coherence between sub-annual and annual statistics and within tables for selected variables and datasets, documentation on methodology). In 2019, in the third quality reporting round, the report will be extended to include additional indicators on revision rates of quarterly and annual data for selected variables as well as coherence between non-financial and financial accounts. Finally, in 2021, when the existing ESA 2010 derogations fully expire, the quality reporting will be conducted within a full scope of all quality indicators foreseen in the above mentioned Implementing regulation.

Chapters 1 and 2 of the document introduce the quality reporting and assessment framework of the European Statistical System (ESS) applied to national and regional accounts. Chapter 3 presents the body of legislation and guidance documents pertinent to ESA 2010. Chapters 4 to 9 provide an analysis of country data sent in 2016 and some European aggregates published by Eurostat in line with the ESS quality criteria, namely relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability and coherence. Where appropriate, this analysis interprets the results of data delivery in the context of compilation of EU policy indicators such as the Principal European Economic Indicators (PEEIs) and indicators in support of the Macroeconomic Imbalance Procedure (MIP). Chapter 10 presents ongoing work to assess the cost of statistics. The overall assessment results and Eurostat's recommendations to countries are summarised in Chapter 11 of the report.

The data sent in 2016 were broadly in line with the ESS quality standards and the ESA 2010 Regulation. Member States have been able to comply with the new data requirements and methodology, while the process of adapting national data compilation systems will continue until 2020. The overall results for the different quality criteria are as follows:

## Relevance

National and regional accounts data are highly relevant to users as demonstrated by the results of the latest user satisfaction survey of Eurostat. Their completeness rate was very high, both for quarterly and annual tables. The average completeness rate for national account main aggregates (NAMA), government finance statistics (GFS), non-financial sector accounts (NFSA) and financial accounts was between 95 % and 100 %; for supply, use and input-output tables (SUIOT) and regional accounts it was between 88 % and 97 %. All countries sent non-required additional data on a voluntary basis.

|                                   |   |
|-----------------------------------|---|
| <b>Accuracy</b>                   | Most EU Member States, Iceland and Norway publish online information on their national revision policies. Even though a detailed revision analysis of data sent by Member States was not carried out for this report, the analysis of the revision rates of key European aggregates showed that countries contribute with data of good quality, enabling Eurostat to publish early and reliable GDP and employment estimates for both the EU and the euro area (EA) aggregates. |
| <b>Timeliness and punctuality</b> | In 2016, thanks to the data sent by EU Member States, the timeliness of European aggregates was significantly improved. The preliminary EU/EA GDP flash estimates were published 15 days earlier and the euro area quarterly sector accounts 18 days earlier. Overall, the punctuality of transmission of quarterly national accounts was relatively high while the punctuality of transmission of annual data was rather low: this is an area for improvement.                 |
| <b>Accessibility and clarity</b>  | All EU Member States as well as the EFTA countries publish online documentation on national accounts methodology and compilation methods. However, the content of the available information varies substantially among countries and could be enriched in some cases. Specific information on implemented revisions by ESA 2010 table or domain is often missing.   |
| <b>Coherence</b>                  | The overall internal coherence within and between selected NAMA tables was very high for nearly all countries. Small discrepancies noted for a few countries were mainly caused by rounding practices.  |

Based on the quality assessment, Eurostat makes the following general recommendations to countries:

- Continue the adaptation of national statistical systems to achieve full implementation of ESA 2010.
- Ensure full data completeness of mandatory data in order to comply with Regulation (EC) No 549/2013.
- Respect the transmission deadlines set out in Regulation (EC) No 549/2013 and address the overall delayed delivery of annual data.
- Make specific information on implemented major revisions by ESA 2010 table or domain publicly available on national websites.
- Enrich the online documentation on methodology, including metadata, available on national websites to better inform users.
- When sending data, use the structural validation service set up by Eurostat to ensure compliance with the statistical data and metadata exchange (SDMX) standard.

In addition, Eurostat bilaterally provided country-specific recommendations based on national quality reports and analysis of submitted data.

# 1.

## Introduction

Data on national and regional accounts underpin the development, implementation and monitoring of a broad range of European policies. These data are indispensable for the description and analysis of the economy of the EU, the euro area, and individual Member States and EU regions. They are used for administrative purposes as well, e.g. for the calculation of Member State contributions to the EU budget. Therefore, it is of high importance that these European statistics are accurate, timely and complete and that information about their quality is communicated to users regularly and in a transparent way.

Publication of national accounts data aggregated at European level started in the 1970s. Since then, the methodological framework has been updated several times, in line with the developments of the United Nations System of National Accounts (SNA). The current compilation requirements have been established by Regulation (EU) No 549/2013 which defines the European system of national and regional accounts of 2010 (ESA 2010). ESA 2010 corresponds to the 2008 edition of the SNA and has been used in the EU since September 2014.

Regulation (EU) No 549/2013 prescribes that the quality of national and regional accounts data sent in to Eurostat are assessed according to the quality criteria set out by Regulation (EC) No 223/2009 on European statistics. The modalities, periodicity and indicators of this assessment process are defined in Commission Implementing Regulation No 2304/2016. Every year, under Article 4(2) of the ESA 2010 Regulation, each Member State provides a report on the quality of data sent to Eurostat. Based on these country reports, Eurostat prepares an overall assessment in accordance with Article 4(4). Under Article 12, every fifth year starting from 2018 the Commission will inform the European Parliament and the Council about the quality of national and regional accounts. The country reports and Eurostat reports follow the recommendations of the European Statistical System (ESS) Handbook for Quality Reports. The information provided by all reports covers all ESA 2010 domains, namely the main aggregates, government finance statistics, non-financial sector accounts, regional accounts, and supply, use and input-output tables.

This quality report presents Eurostat's assessment of the quality of data sent in by Member States in 2016 and includes information on the quality of key European aggregates published by Eurostat. It is addressed to users and is therefore structured to provide information which helps understand the published data and, where applicable, the factors that improve or limit their quality. Although the report contains specific information and indicators for individual Member States, its focus is solely on data quality. The Commission (Eurostat) assesses Member States' adherence to the requirements of Regulation (EC) No 549/2013 (the ESA 2010 Regulation) separately.

# 2.

## Scope of the quality assessment

Eurostat's quality assessment of national and regional accounts covers data submitted by EU Member States, EFTA countries and Switzerland as well as own publications of EU and euro area aggregates.

The quality reporting and assessment exercise starts on 15 February. Eurostat provides countries with pre-filled national quality reports containing quantitative indicators and qualitative information. The countries complement the national quality reports and send them back to Eurostat by the end of May. Eurostat assesses the results and prepares and publishes an overall assessment based on the national quality reports and other available information. This exercise was carried out for the first time in 2017 and will be repeated on an annual basis.

Data transmissions based on the ESA 2010 methodology started from 1 September 2014. By 2020, after the expiry of derogations granted by the Commission to the Member States, they will all be made in line with all provisions set out in the ESA 2010 Transmission Programme. Consequently, the quality reporting is being introduced gradually in three steps. The first two quality exercises in 2017 and 2018 require that countries report to Eurostat on a limited number of quality indicators (completeness, published revision policy, punctuality, coherence between sub-annual and annual statistics and within tables for selected variables, documentation on methodology). With the third quality exercise in 2019, the quality reporting will be extended to additional indicators (revision rates of quarterly and annual data for selected variables as well as coherence between non-financial and financial accounts). In 2021, when the existing ESA 2010 derogations fully expire, quality reporting will be conducted fully within the scope of the Transmission Programme and include the last envisaged indicators (e.g. revision rates of other quarterly variables as well as cross-table consistency).

This assessment report concerns the ESA 2010 mandatory data submitted by countries to Eurostat in 2016. Due to the temporary derogations, countries did not send the same data. Only the Czech Republic was due to submit all data; other countries were exempt from certain data requirements in 2016. More specifically, for the NFSA domain data requirements differ depending on if the country is a small or a big economy and if it is a member of the euro area or not. These differences in mandatory data requirements are reflected in Eurostat's assessment.

National data submitted on a voluntary basis are not part of this quality assessment. The references to voluntary data made in this report are there to acknowledge the efforts of countries to make additional data available to users.

In addition to national quality reports, the following sources were also used to prepare this quality assessment: information collected during the data validation process; information contained in the provided mandatory and voluntary inventories of methods and data sources; information collected in surveys, during the verification processes for EDP and GNI and from country visits. More specifically, for data used to compile the Macroeconomic Imbalance Procedure (MIP) indicators, available country self-assessment reports and ECB metadata for data compiled by national central banks are taken into account.

When national data or EU/EA aggregates are used to compile policy indicators such as the MIP



and the Principal European Economic Indicators (PEEIs), the assessment draws information from the quality requirements applied to these indicators. This report covers the headline MIP indicators based on national ESA 2010 data, namely the nominal unit labour cost index, general government gross debt, private sector credit flow, private sector debt and total non-consolidated financial sector liabilities. The report also includes the quarterly EU/EA aggregates published in Eurostat's news releases as PEEIs: GDP growth rates, gross fixed capital formation and household and non-profit institutions serving households final consumption, employment volume growth rates, government deficit and debt, investment rates of non-financial institutions and household saving rates.

# 3

## Legislation, classifications, manuals

### 3.1. Legislation

#### 3.1.1. Legal basis for ESA 2010

- 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, 26 June 2013, p. 1-727
- Commission Implementing Decision of 26 June 2014 on granting derogations to Member States with respect to the transmission of statistics pursuant to Regulation (EU) No 549/2013 of the European Parliament and of the Council concerning the European system of national and regional accounts in the European Union (notified under document C(2014) 4164), OJ L 174, 26.6.2013, p. 1
- Commission Implementing Regulation (EU) No 724/2014 of 26 June 2014 on the interchange standard for the transmission of data required under Regulation (EU) No 549/2013 of the European Parliament and of the Council on the European system of national and regional accounts in the European Union, OJ L 174, 26.6.2013, p. 1
- Commission Delegated Regulation (EU) 2015/1365 of 30 April 2015 on the transmission format for research and development expenditure data, OJ L 174, 26.6.2013, p. 1
- Commission Delegated Regulation (EU) 2015/1342 of 22 April 2015 amending the methodology for the classification of products by activity given in Annex A to Regulation (EU) No 549/2013 of the European Parliament and of the Council, OJ L 174, 26.6.2013, p. 1
- Commission Implementing Regulation (EU) No Commission Implementing Regulation (EU) 2016/2304 of 19 December 2016 on the modalities, structure, periodicity and assessment indicators of the quality reports on data transmitted under Regulation (EU) No 549/2013 of the European Parliament and the Council of 21 May 2013 on the European system of national and regional accounts in the European Union, OJ L 174, 21.5.2013, p. 1

Regulation (EU) No 549/2013 defines the methodology (Annex A) and the transmission programme (called ESA 2010 Transmission Programme, Annex B) for the compilation of national and regional accounts. Methodology comprises the common standards, definitions, classifications and accounting rules. The transmission programme sets out the accounts and tables as well as the legal deadlines by which Member States must submit data to the Commission (Eurostat). The complete list of tables is presented in the Annex, Table 12. For the purpose of this report, these tables are organised in the following six groups:

|   |   |
|---|---|
| ESA 2010 domain                             | Tables of the ESA 2010 Transmission Programme |
| National accounts main aggregates (NAMA)    | 1A, 1Q, 3, 5, 20, 22                          |
| Government finance statistics (GFS)         | 2, 9, 11, 27, 28                              |
| Annual financial accounts (AFA)             | 6, 7  |
| Non-financial sector accounts (NFSA)        | 8, 801  |
| Regional accounts (RA)                      | 10, 12, 13                                    |
| Supply, use and input-output tables (SUIOT) | 15, 16, 17                                    |

The Commission has granted around 800 derogations from mandatory data transmission requirements on the request of EU Member States. These derogations are temporary and expire progressively by 2020. They vary in substance and the number of variables included, e.g. different years (quarters), different prices, seasonally or non-seasonally adjusted data, breakdown of the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2). Derogations have also been agreed with Iceland and Norway and are being discussed with Switzerland.

### 3.1.2. Other legal acts

- Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics, OJ L 087 31.3.2009, p. 164, as amended by Regulation (EU) 2015/759 of the European Parliament and of the Council of 29 April 2015, OJ L 123, 19.5.2015, p. 90–97
- Regulation (EU) No 99/2013 of the European Parliament and of the Council of 15 January 2013 on the European statistical programme 2013-2017, OJ L 39, 9.2.2013, p. 12–29 and the related Annual Statistical Programme 2016, <http://ec.europa.eu/eurostat/web/ess/-/the-european-statistics-annual-work-programme-2016>

Regulation (EC) No 223/2009 sets out the legal framework for the development, production and dissemination of European statistics. European statistics are determined in the European statistical programmes and are developed according to the statistical principles of professional independence, impartiality, objectivity, reliability, statistical confidentiality and cost effectiveness. National and regional accounts data submitted in 2016 and covered by this report are produced under the European statistical programme 2013-2017 and the Annual Statistical Programme 2016.

Furthermore, Regulation (EC) No 223/2009 sets out the requirements on statistical quality. The quality criteria applied to European statistics are as follows: relevance, accuracy, timeliness, punctuality, accessibility and clarity, comparability and coherence. Member States must provide the Commission (Eurostat) with reports on the quality of data submitted, including any concerns they have regarding data accuracy. The Commission (Eurostat) assesses the quality of submitted data based on an appropriate analysis, and prepares and publishes reports and communications on the quality of European statistics. In the interest of transparency, the Commission (Eurostat) must make public its assessment of the quality of national contributions to European statistics, where appropriate. Specific quality requirements, such as target values and minimum standards for the production of statistics, may also be set out in sectoral legislation.

## 3.2. Classifications used in the ESA 2010

- Statistical Classification of Economic Activities in the European Community (NACE), Rev. 2 (2008)
- Statistical Classification of Products by Activity, Version 2.1 (CPA)
- Classification of Individual Consumption by Purpose (COICOP), 1999 version
- Classifications of functions of government, [1999 version](#).
- Classification of the Purposes of (Private) Non-Profit Institutions serving Households, 1999 version (COPNI)
- Classification of institutional sectors
- NUTS

## 3.3. Manuals and guidelines

- System of National Accounts 2008 (SNA 2008)
- ESS Guidelines on national and regional accounts

The ESA 2010 is aligned with the SNA 2008 to make comparable analysis with non-EU economies possible.

The ESS has put together several manuals and guidelines to facilitate the implementation of the ESA 2010 in the EU. Their application is not mandatory for Member States.

## 3.4. Other information

Additional information on national and regional accounts is available on the following sections of Eurostat's website:

- [ESA 2010](#)
- National accounts (including GDP)
- Government finance statistics
- European sector accounts
- Supply, use and input-output tables
- Regional economic accounts

Data submitted under the ESA 2010 Transmission Programme is assessed in the context of what is needed at policy level for the principal European economic indicators, the Macroeconomic Imbalance Procedure indicators, the calculation of GNI for the purposes of EU

budget own resources and the excessive deficit procedure indicators. Additional information is available in the following sections of Eurostat's website:

- Principal European Economic Indicators
- Macroeconomic Imbalance [Procedure](#)
- GNI for own resource purposes
- Excessive Deficit [Procedure](#)

The activities of multinational enterprises are increasingly important for the compilation of national accounts. National compilers and international organisations are working together to further develop the concepts and methods that address the globalisation phenomenon.

- Economic globalisation

# 4.

## Relevance

**Relevance** is the degree to which statistics meet current and potential user needs.

It examines whether all the statistics that are needed are produced and the extent to which the concepts used (definitions, classifications, etc.) reflect user needs.

### 4.1. Use of ESA 2010 data

National accounts can be used for various types of analysis and evaluation. The use of internationally accepted concepts and definitions makes it possible to carry out different analyses, such as of the interdependencies between the economies of EU Member States, or a comparison between EU and non-member countries.

Effective policy and decision-making depends on the regular supply of reliable information. Statistics are one of the principal sources of such information, providing quantitative support to policy development, implementation, and monitoring. They are also a powerful tool for communicating with the general public.

Policymakers often require highly aggregated indicators which provide a comprehensive and clear picture of the different phenomena in which they are interested. Statisticians therefore have to filter and aggregate basic, detailed data in order to increase data readability and extract information (or indicators).

Eurostat, together with other European Commission services, has responded to decision makers' needs by helping to develop sets of indicators on EU policies and initiatives. In recent years, a number of indicator-based tools have been developed with Eurostat's involvement. This chapter gives an overview of the main uses of ESA 2010 data, with a focus on the EU context.

#### 4.1.1. National uses of ESA 2010 data

National accounts statistics are used in decision-making processes at national level.

National accounts are often explicitly included in decision making on investment, consumption and wages. Statistics on the growth of national economies are used as an indicator of financial strength and economic performance. National accounts are also used for setting up indicators of various public policies or tax or aid measures at national or regional level. Price indices from the national accounts can also serve as an automatic adjustment for price changes. National budgetary cycles also require up-to-date and comprehensive national accounts statistics.

## 4.1.2. European Semester

Launched in 2010 as a response to the global financial and economic crisis, the European Semester is a policy coordination tool, developed to ensure stronger economic governance and better policy coordination across the EU. This framework governs the:

- implementation of structural reforms to ensure progress towards the agreed goals of the Europe 2020 strategy;
- implementation of fiscal policies under the Stability and Growth Pact to strengthen economic governance and ensure budgetary discipline;
- prevention of excessive macroeconomic imbalances.

The European Semester is an annual country assessment cycle starting in November. With the publication of several documents on economic policy and fiscal stance in the Member States, the Commission sets out general economic priorities for the EU and provides EU countries with policy guidance for the following year. Based on these inputs, national reform programmes and stability and convergence programmes are reviewed and updated later in the cycle. The Council concludes the European Semester in June/July by agreeing on a set of country-specific recommendations, highlighting areas where EU Member States need to take further action.

The role of Eurostat in the context of the European Semester is to:

- provide methodological support in the process of choosing and defining indicators;
- liaise with the other European Commission Directorate-Generals, in particular on the definition and choice of indicators to support the strategy;
- produce and supply the relevant statistical data;
- ensure high quality standards for all data.

### MACROECONOMIC IMBALANCE PROCEDURE

One of the principal EU policy initiatives launched in response to the financial, economic and sovereign debt crisis of 2008 was the establishment of the Macroeconomic Imbalance Procedure (MIP). The procedure focuses on the identification and correction of emerging or persistent macroeconomic imbalances in a Member State at an early stage. The MIP is part of a surveillance framework that aims to identify potential macroeconomic risks early on, prevent the emergence of harmful macroeconomic imbalances and correct the imbalances that are already in place. It is a system for monitoring economic policies and detecting potential risks to the proper functioning of the economy of a Member State, of the economic and monetary union, and of the EU as a whole.

The MIP comprises a number of sequential steps, with the Alert Mechanism Report as a starting point. It contains a scoreboard which consists of a number of relevant, practical, simple, measurable and available macroeconomic and macro-financial indicators. Once a year, a snapshot of the latest available data on the MIP scoreboard is taken and combined with economic reading (assessment / evaluation) to form the basis for the Alert Mechanism Report — one of the major components of a set of documents kicking off the European Semester.

The MIP scoreboard indicators cover the major sources of macroeconomic imbalances with a particular focus on the smooth functioning of the euro area. The scoreboard consists of indicators which can monitor external imbalances, competitiveness positions and internal imbalances. Indicative thresholds have been set for each indicator. The MIP scoreboard indicators should not be regarded as either policy targets or policy instruments; their interpretation is supplemented by economic judgment and expertise specific to each Member State.

In addition, a set of 28 auxiliary indicators provide additional information on aspects linked to the general macroeconomic situation, nominal and real convergence inside and outside the EU and the euro area. The auxiliary indicators widen the scope of information to better understand potential imbalances and adjust the capacity of the economy.

The national accounts are one of the major data sources that underpin the MIP indicators. Five out of 14 headline MIP scoreboard indicators and ten out of 28 auxiliary ones are derived from national accounts. Moreover, many of the MIP indicators are expressed relative to GDP.

## STABILITY AND GROWTH PACT

The Stability and Growth Pact (SGP) is a set of rules designed to ensure that the Member States pursue sound public finances and coordinate their fiscal policies. Some of the pact's rules aim to prevent fiscal policies from heading in potentially problematic directions (the so-called 'preventive arm' of the SGP), while others are there to correct excessive budget deficits or excessive public debt burdens (the so-called 'corrective arm', also known as the Excessive Deficit Procedure (EDP)). The SGP is based on two main principles: that the general government deficit (planned or actual) must not exceed 3 % of GDP and that the general government debt-to-GDP ratio should not be more than (or should be falling towards) 60 %.

In the annual cycle of the European Semester, the Member States provide the European Commission with detailed information on the state of their public finances and their medium-term fiscal plans. Euro area countries provide this information in the context of the stability programmes, while other Member States do so in the context of the convergence programmes. The Commission assesses whether the policies are in line with the SGP rules and issues proposals for country-specific recommendations to be adopted by the Council. In case of breach of the deficit and debt criteria mentioned above, an EDP can be opened.

### 4.1.3. Business cycle and macroeconomic policy analysis

#### PRINCIPAL EUROPEAN ECONOMIC INDICATORS

One of the main uses of national accounts data is to support European economic policy decisions and the achievement of economic and monetary union objectives with high-quality short-term statistics that make it possible to monitor macroeconomic developments and derive macroeconomic policy advice. For instance, one of the most basic and long-standing uses of national accounts is to quantify the rate of growth of an economy, in simple terms the growth of GDP. Core national accounts figures are notably used to develop and monitor macroeconomic policies, while detailed national accounts data can also be used to develop sectoral or industrial policies, particularly through an analysis of input-output tables.

Since 2001, euro indicators/Principal European Economic Indicators (PEEIs) have been the reference point for all users of official statistics dealing with short-term data. Euro indicators/PEEIs aim to supply business-cycle analysts, policymakers, the media, researchers, students, and other interested parties with a comprehensive, well-structured and high-quality set of information which is useful for their daily work. They include a set of statistical indicators that give an accurate and as timely as possible overview of the economic evolution of the euro area, the EU, and individual EU Member States. The following indicators are derived from national accounts:

- GDP in current prices and volume,
- household and NPISH final consumption,



- gross fixed capital formation,
- household saving rates,
- investment rates of non-financial institutions,
- government deficit,
- government debt,
- employment volume growth rates.

Each year, in cooperation with the European Central Bank, Eurostat drafts a status report on information requirements in the European economic and monetary union which is first submitted to the Council's Economic and Financial Committee and then to the Economic and Financial Affairs Council.

#### 4.1.4. EU cohesion policies

The allocation of expenditure for cohesion policy funds is based on data from the ESA 2010 regional accounts. Regional statistics are also used for ex-post assessment of the results of regional and cohesion policy.

The EU's cohesion policy is set out in seven-year programming periods. The current period covers 2014–2020, and almost €352 billion has been allocated for cohesion policy measures put in place during this time across the EU. This is equivalent to almost one-third (32.5 %) of the total EU budget.

The Nomenclature of Territorial Units for Statistics (NUTS) is used to define regional boundaries and to determine geographic eligibility for European structural and investment funds. Regional eligibility for the European Regional Development Fund during the 2014–2020 programming period was calculated based on regional GDP per inhabitant (in pps) averaged over the 2007–2009 period. NUTS2 regions were ranked into three groups:

- less developed regions where GDP per inhabitant was less than 75 % of the EU-28 average;
- transition regions where GDP per inhabitant was between 75 % and 90 % of the EU-28 average; and
- more developed regions where GDP per inhabitant was more than 90 % of the EU-28 average.

Regional eligibility for the Cohesion Fund was calculated based on gross national income per inhabitant (in pps) and averaged over the 2008–2010 period. Only Member States whose gross national income per inhabitant was less than 90 % of the EU-28 average are supported.

#### 4.1.5. Use in other EU policy areas

One of the seven flagship initiatives of the Europe 2020 strategy is its industrial policy: 'An integrated industrial policy for the globalisation era' to improve the business environment, notably for small and medium enterprises, and to support the development of a strong and sustainable industrial base able to compete globally.' Reliable indicators of economic globalisation and its impact on the EU economy are essential for the effective implementation of this policy.

Economic globalisation indicators provide an overview of main globalisation trends. They are based on data already available in the Eurostat database and have been constructed so that

they can be meaningfully compared across countries.

Inter-country supply, use and input-output tables typically serve to support the analyses of the economic, social and environmental consequences of globalisation by means of studies on competitiveness, growth, productivity, employment, environmental footprints and international trade (e.g. global value chains). For this purpose, Eurostat and the Joint Research Centre together are developing the FIGARO tables (full international and global accounts for research in input-output analysis), which aim to be the reference tool for policy makers in the above domains.

The FIGARO tables help measure the EU's progress in relation to several of the UN's 17 sustainable goals (Goal 8: promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; and Goal 12: ensure sustainable consumption and production patterns).

### 4.1.6. Use for EU administrative purposes

National accounts data are used for administrative purposes in the EU. For instance, this is the case when the contribution of EU Member States or the EFTA countries to the EU budget are determined or when the Commission calculates and proposes to the Court of Justice lump sum and penalty payments to be used in infringement proceedings. Among these uses, it is important to highlight the use of data in the budgetary context where a reinforced quality assurance is applied.

The EU has its 'own resources' to finance its administrative expenditure. There are three kinds of own resources:

- traditional own resources (mainly customs duties on imports from outside the EU and sugar levies),
- own resource from [value added tax \(VAT\)](#),
- own resource based on [gross national income \(GNI\)](#).

The GNI own resource is a uniform percentage rate applied to the GNI of each Member State (Article 2(1c) of Council Decision 2014/335 on the system of the European Communities' own resources (Own Resource Decision)). GNI has become the largest source of own resources and today accounts for around three quarters of total EU revenue.

Article 2(7) of the Own Resource Decision states that GNI must be defined in accordance with the European system of national and regional accounts (ESA 2010). GNI represents total primary income receivable by resident institutional units: compensation of employees, taxes on production and imports less subsidies, property income (receivable less payable), gross operating surplus and gross mixed income. It equals the better-known gross domestic product minus primary income payable by resident units to non-resident units, plus primary income receivable by resident units from the rest of the world.

## 4.2. User satisfaction

Statistical offices and national central banks conduct regular surveys to better understand the needs of national accounts data users. The surveys are addressed to a wide range of users, including research institutes and professional associations. User data requests and inquiries are also scrutinised to identify data needs.

National statistical institutes and national central banks also carry out regular enquires related to user satisfaction. The results are published at national level.

Each year, Eurostat conducts an EU-level user satisfaction survey. This survey is based on a model questionnaire designed to obtain a better knowledge about users, their needs and satisfaction with the services provided by Eurostat. The ESA 2010 domains are included in the 'Economy and Finance' theme and grouped as follows: national accounts (including GDP, main aggregates, sector accounts, input-output tables and regional accounts) and governance finance statistics.

The 2016 user satisfaction survey is the most recent one for which the results were published. They are based on 3038 replies. 'Economy and finance' is one of the most often utilised statistical areas and received the highest positive evaluation (63.2 % of 'very good/good' answers) for the overall quality of statistics, including for timeliness, completeness and comparability. At a more disaggregated level, respondents ranked 'National accounts' first (67.0 % of 'very good/good' assessments), with 'Government finance statistics' following closely with 62.2 %.

Figure 1: User satisfaction survey — overall quality of 'National accounts' — 2016 as compared to 2015

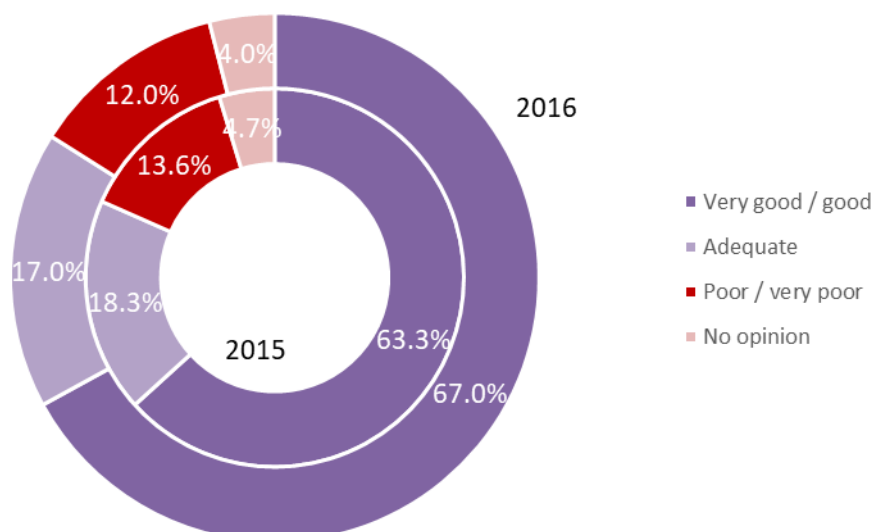
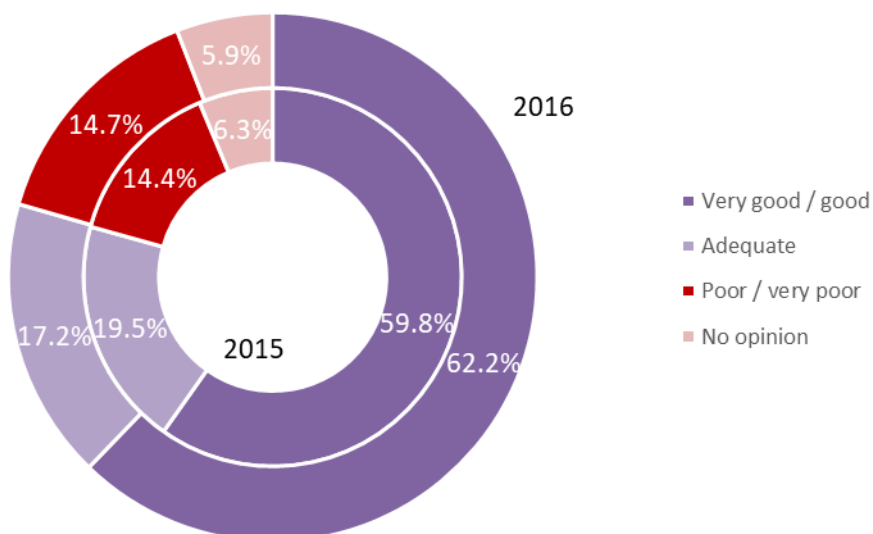


Figure 2: User satisfaction survey — overall quality of 'Government finance statistics' — 2016 as compared to 2015



In 2016, the overall quality of 'National accounts' was perceived as very good or good by 67 % of users, which represents an increase of 3.7 percentage points as compared to 2015. The overall quality of 'Government finance statistics' received 62.2% of 'very good/good' assessments, which was 2.4 percentage points more than in 2015.

The data completeness of 'National accounts' and 'Government finance statistics' was perceived as very good or good by 58.4 % of users in 2016, timeliness by 57.4 % of users and data comparability by 56.7 %.

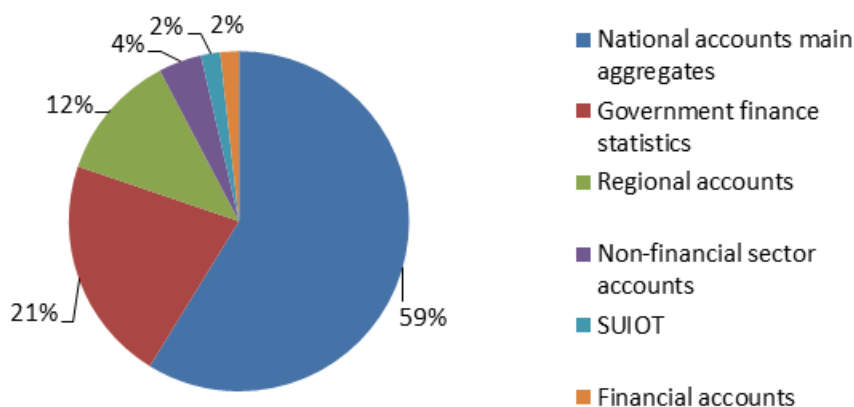
Eurostat regularly measures the impact of European statistics by monitoring:

- the number of downloads from its database containing national and regional accounts data,
- the impact after a news release is issued.

The results for national and regional accounts data published in 2016 are summarised below.

Downloads of main aggregates of national accounts accounted for nearly 60 % of downloads from Eurostat's database containing national and regional accounts (see Figure 3). Further, 21 % of downloads were in government finance statistics and 12 % in regional accounts.

Figure 3: Number of downloads from the database containing national and regional accounts data in 2016



Eurostat measures the impact after issuing a news release by monitoring the number of downloads of each news release.

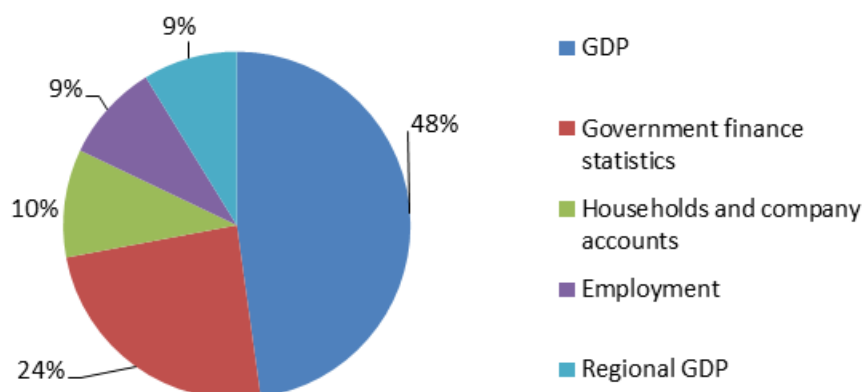
The news releases related to ESA 2010 domains were among the most popular of all the releases published by Eurostat in 2016. In this year, 15.3 % of news releases downloaded from Eurostat's website were on national accounts and government finance statistics, an increase compared to 2015 (from 13.8 %).

Two national accounts news releases were among the top 10 releases published by Eurostat in 2016:

- on regional GDP for the reference year 2014, issued in February 2016,
- on quarterly national GDP for the 1st quarter of 2016, issued at the end of May.

In 2016, the total number of downloaded news releases on national accounts and government finance statistics reached over three hundred eighty thousand. Quarterly GDP releases represented 48 % of these downloads, followed by Government Finance Statistics news releases — 24 % (see Figure 4).

Figure 4: Number of downloads of national accounts news releases in 2016.



### 4.3. Further actions to meet user needs

Many users from European and international organisations as well as from the research community request longer time series and more granular breakdowns, enabling additional analysis of macro-economic developments. To address these user demands, Eurostat together with Member States analysed the potential for voluntary transmission of additional national accounts data that are available at the national level.

To better understand the needs of the main users, Eurostat collected data requests from the OECD, DG ECFIN and the ECB. It sent two questionnaires on the availability of the requested voluntary data: one on financial and another on non-financial accounts data. The questionnaire on the data requests for non-financial accounts covered issues related to all tables of the ESA 2010 Transmission Programme, except the Government Finance Statistics tables (where user

needs had already resulted in voluntary transmissions having been set up prior to the exercise conducted by other national accounts domains), and included a broad range of topics and questions on 'main aggregates', 'sector accounts' and 'supply and use/input output tables'. The questionnaire on the data requests for financial accounts, compiled jointly by Eurostat and the ECB, covered both annual and quarterly data.

For the non-financial accounts, it was agreed that the technical infrastructure would be prepared in 2017, whenever at least nine countries were able to send voluntary data. For the financial accounts, the request for back data can generally be satisfied from 1995 onwards by all countries apart from Croatia and Luxembourg, who have derogations until 2020. The ESA 2010 transmission programme also contains many voluntary series relevant to the data request, including who-to-whom tables. Eurostat strongly encourages countries to submit these voluntary data series where feasible.

## 4.4. Completeness rate

The ESA 2010 Transmission Programme specifies the data requirements for Member States. However, due to the derogations from the data transmission requirements up to 2020, the scope of data to be submitted to Eurostat is not the same for all countries. Derogations have also been established for Iceland and Norway and are being negotiated with Switzerland.

This section provides an overview of the data that countries were expected to submit by ESA 2010 domain and the data that were actually received/validated by Eurostat. To allow for comparable assessment, the percentages are defined based on the number of data cells included in the tables. The information covers all reference periods specified in the ESA 2010 Transmission Programme. The indicator is derived from the data received by Eurostat from 1 January 2016 to 31 December 2016.

### 4.4.1. Quarterly data

The ESA 2010 Transmission Programme requires EU Member States to submit quarterly tables for:

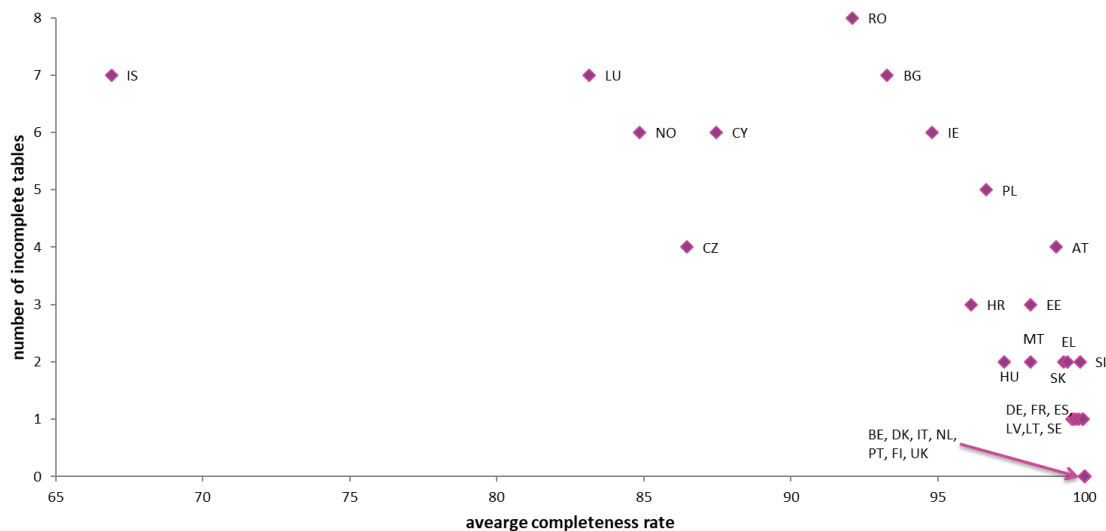
- national accounts main aggregates (Table 1),
- government finance statistics (Tables 27 and 28),
- non-financial sector accounts (Table 801).

The overall completeness rate measured at the data cell level was very high in 2016 for the majority of EU countries. 22 out of 28 EU Member States submitted all or nearly all required data (above 95 %, see Figure 5). Seven countries achieved a full completeness rate for all quarterly tables: Belgium, Denmark, Italy, the Netherlands, Portugal, Finland and the United Kingdom.

A relatively low completeness rate for quarterly data submissions was observed in 2016 for Luxembourg, the Czech Republic and Cyprus<sup>1</sup>. Data submitted by the two EFTA countries – Norway and Iceland – also had a low completeness rate.

Figure 5: Completeness rate of national accounts quarterly tables reported in 2016

<sup>1</sup> Luxembourg, the Czech Republic and Cyprus put in place improvement actions for quarterly data; it is expected that the quality report for 2017 data transmissions will show progress



For **quarterly national accounts main aggregates**, data availability was high, reaching on average 96.7% in the four quarters from Q42015 until Q32016 for the EU-28. A 100% completeness rate was observed in twelve Member States. The completeness rate was below 90% in four Member States (the Czech Republic, Cyprus, Luxembourg and Romania) and in the two EFTA countries.

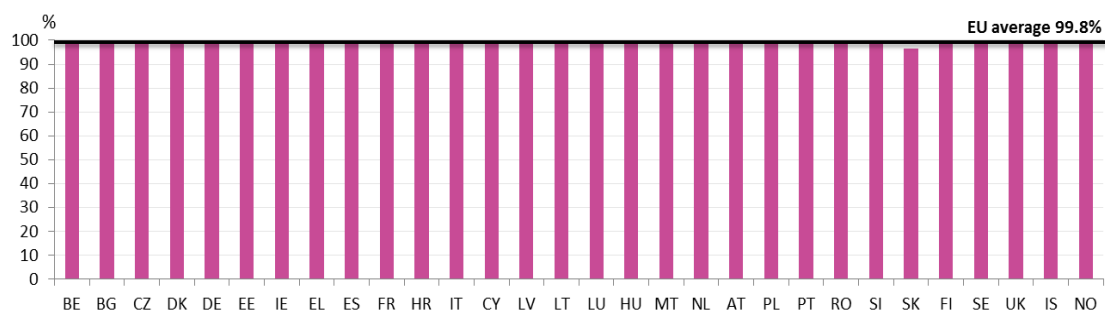
Figure 6: Quarterly national accounts main aggregates (T1), average data availability for 2015Q4-2016Q3 (as reported in 2016)



The completeness rate of **quarterly government finance statistics** was on average higher than the one observed for tables submitted for other quarterly national accounts domains. It reached 99.8% in 2016. Completeness was 100% for almost all EU Member States as well as for Norway and Iceland.

All submitted mandatory series were validated and published in Eurobase for all EU Member States, except for Table 27 (Financial accounts of general government) submitted by Greece. The data could not be validated and published due to non-adherence to ESA 2010 rules. Significant concerns about the quality of supplied information have prevented the validation and publication of Greek Table 27 since October 2015.

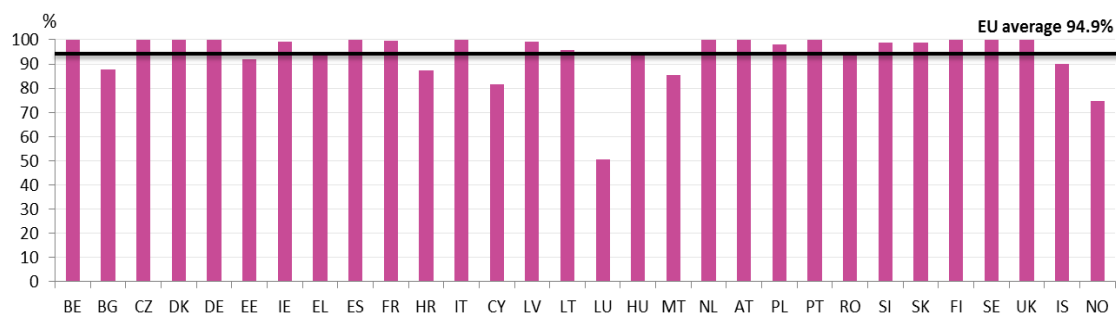
Figure 7: Quarterly government finance statistics (T27 and T28), average data availability for 2015Q4-2016Q3 (as reported in 2016)



For **quarterly non-financial sector accounts**, the completeness rate was 94.9 % on average. Figure 8 presents the percentages of data provided by individual Member States for the four reference quarters Q42015 - Q32016. For 20 Member States, the completeness rate was higher than the EU average; this includes the twelve countries that submitted all required data. In five EU countries and in Norway, the completeness rate was relatively low — below 90 %. The lowest completeness rate was observed for Luxembourg, for which an informal dialogue, in the context of Themis/EU pilot, is currently taking place between Eurostat and the Grand Duchy of Luxembourg. The delivery of missing data is expected by the end of 2017-2018.

Croatia and Bulgaria submitted very few series that were fully complete. In addition, there were quality issues with the submitted data. Both countries are in communication with Eurostat in order to address the situation regarding data timeliness and relevance.

Figure 8: Quarterly non-financial sector accounts (T801), average data availability for 2015Q4-2016Q3 (as reported in 2016)



## 4.4.2. Annual data

In 2016, the 28 EU Member States as well as Norway and Iceland reported mandatory annual national accounts tables for six domains:

- National accounts main aggregates (Tables 1, 3, 5 and 20),
- Government finance statistics (Tables 2, 9, 11),
- Non-financial sector accounts (Table 8),
- Financial accounts (Tables 6 and 7),
- Supply, use and input-output tables (Tables 15, 16, 17),



- Regional accounts (Tables 10, 12, 13).

The completeness rate of 2016 annual data was high for all domains, on average between 87.9% for annual supply and use tables and 99.8% for annual government finance statistics. Twelve countries submitted all or nearly all mandatory data (less than one per cent of incomplete tables). Two EU Member States (Luxembourg and Cyprus) and both EFTA countries had relatively low completeness rates (on average more than 15% incomplete tables). Eight countries, including six EU Member States (Bulgaria, Luxembourg, Cyprus, Croatia, Poland, Ireland), submitted 15 or more incomplete annual tables in 2016.

### National accounts main aggregates

For **annual national accounts main aggregates**, the overall completeness rate was very high in 2016. On average, it exceeded 97% for all tables.

For main aggregates — Table 1 (Figure 10) — 19 countries submitted all or nearly all mandatory data (completeness rate above 99%) and only three EU Member States (Bulgaria, the Czech Republic and Cyprus) and Iceland recorded a completeness rate below 90%.

The MIP scoreboard headline indicator of unit labour cost is derived from Table 1 of national accounts main aggregates, combining GDP volumes, compensation of employees, employment and employee data. The transmission of complete and consistent time series is therefore important for the quality assessment of Unit labour cost (ULC) figures.

Figure 9: Completeness rate of national accounts annual tables reported in 2016

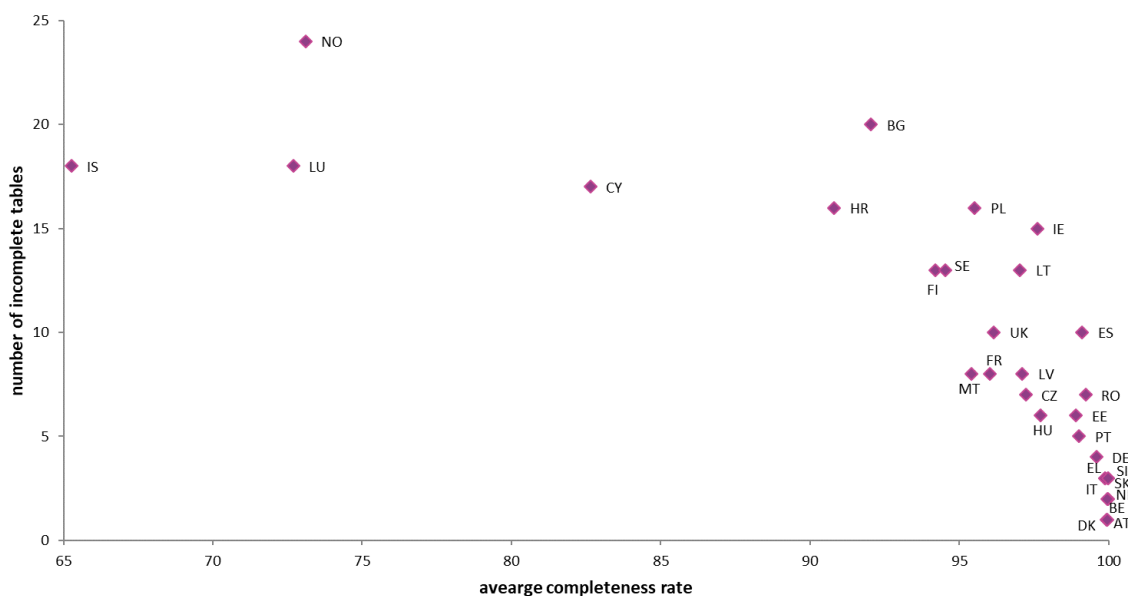
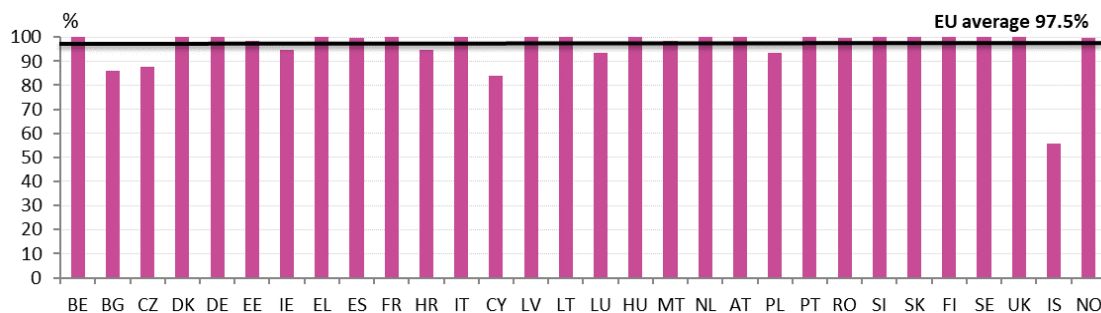


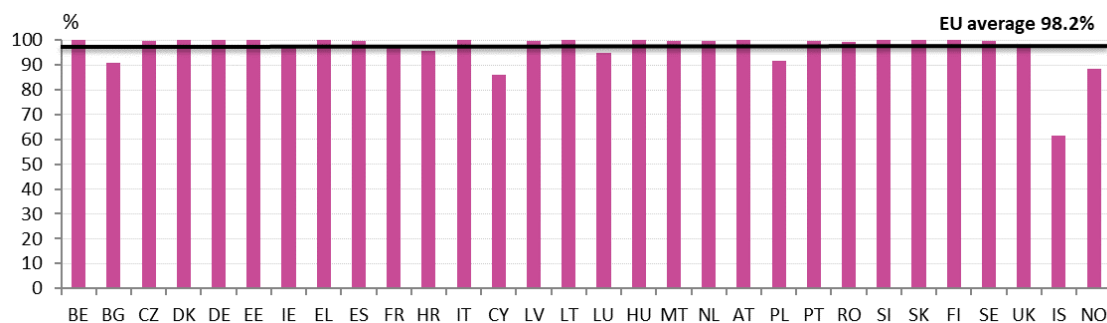
Figure 10: Annual national accounts main aggregates (T1); average data availability as reported

in 2016



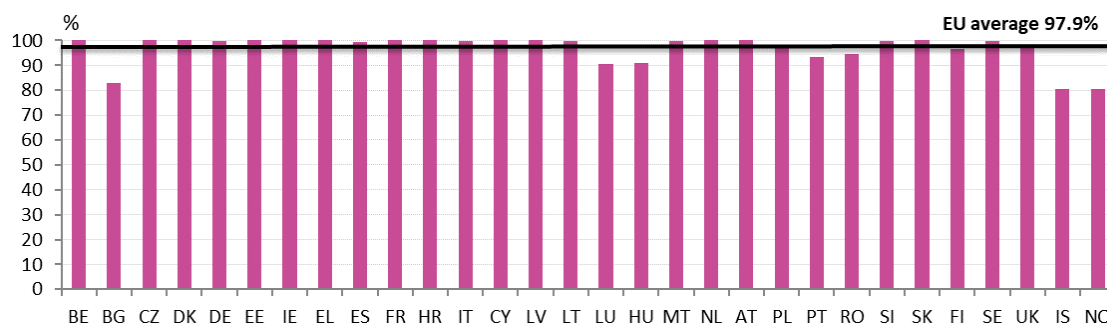
The annual tables by industry (Table 3) and on household final consumption expenditure by purpose (Table 5), had an average 98.2 % completeness rate (see Figure 11). Only one EU Member State (Cyprus) submitted Tables 3 and 5 less than 90 % complete and 20 Member States submitted all mandatory data.

Figure 11: Annual tables by industry (T3) and for household final consumption expenditure by purpose (T5); average data availability as reported in 2016



In 2016, the completeness rate for the mandatory annual Table 20 was high, on average 97.9 %. 20 countries submitted 99 % or more of mandatory data and only 1 EU Member State (Bulgaria) and the 2 EFTA countries had a completeness rate lower than 90 %.

Figure 12: Annual tables on cross classification of fixed assets by industry and by asset (T20), cross classification of gross fixed capital formation by industry and by asset (T22) and balance sheets for non-financial assets (T26); average data availability as reported in 2016



## Government finance statistics

The average completeness rate for **annual government finance statistics** was highest from among all ESA 2010 domains. The average completeness rate of main aggregates of general government (Table 2) was 99.8 % while for detailed tax and social contribution receipts (Table 9) and general government expenditure by function (Table 11) it reached an average of 99.3 %.

For main aggregates of general government, all EU Member States and Norway submitted all or nearly all mandatory data (more than 97 % complete tables, see Figure 13). For Tables 9 and 11, the incompleteness was slightly higher (Figure 14).

Figure 13: Annual main aggregates of general government (T2); average data availability as reported in 2016

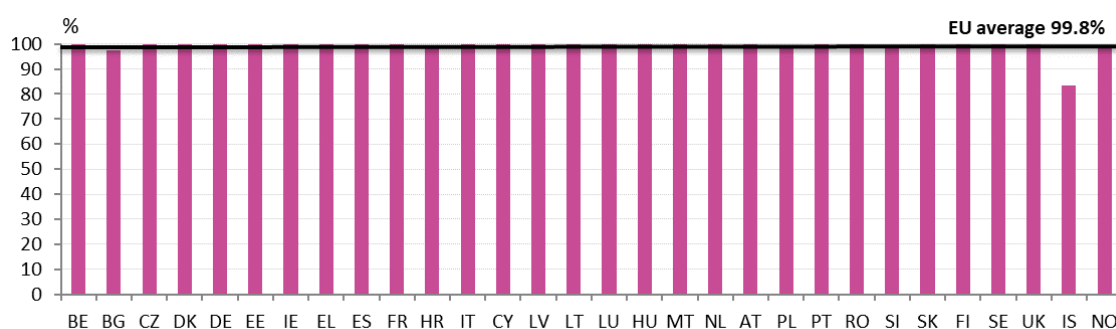
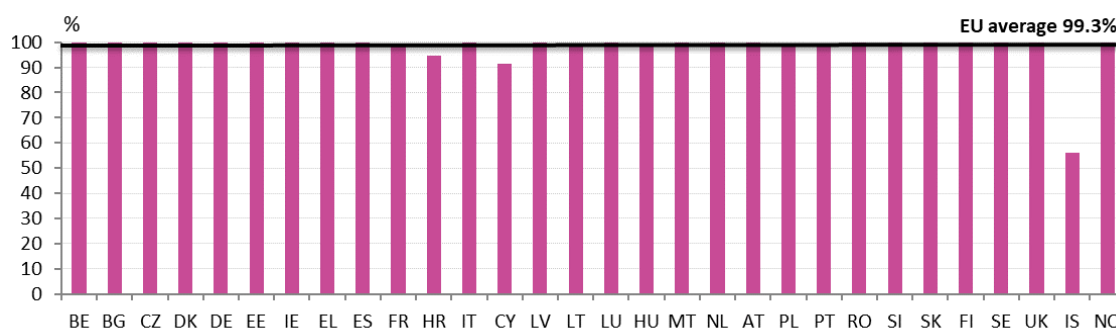


Figure 14: Annual detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification (T9) and general government expenditure by function (T11); average data availability as reported in 2016



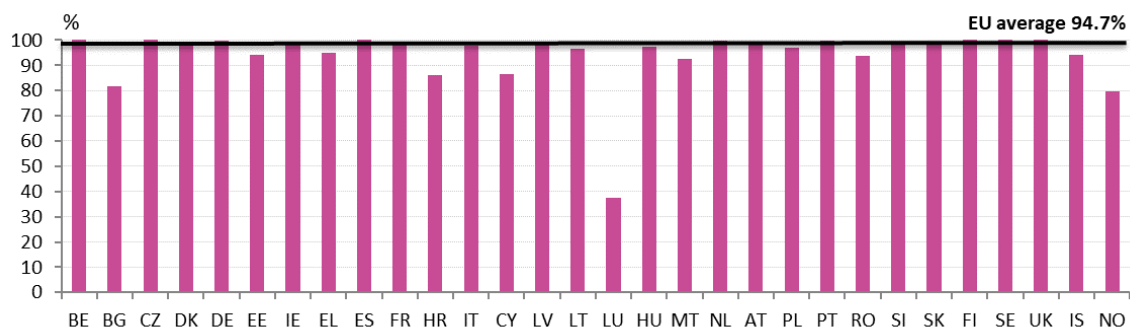
## Non-financial sector accounts

The overall completeness rate of **non-financial sector accounts** (Table 8) was relatively high — 94.7 % on average for EU Member States. This was, however, lower than in national accounts main aggregates and government finance statistics. 14 countries submitted all or nearly all mandatory data while four EU Member States (Bulgaria, Croatia, Cyprus, Luxembourg) and Norway submitted less than 90 % of data required by the ESA 2010 Transmission Programme. The lowest completeness rate was recorded in the case of Luxembourg for which a dialogue, in the context of Themis/EU pilot was initiated in 2016 to address the situation (see also the completeness rate of quarterly data).

Croatia and Bulgaria failed to submit a significant number of series, and certain submitted series were incomplete. In addition, there were quality issues with the submitted data. Both countries

are in communication with Eurostat in order to address the situation regarding data timeliness and relevance.

Figure 15: Annual non-financial sector accounts (T8); average data availability as reported in 2016



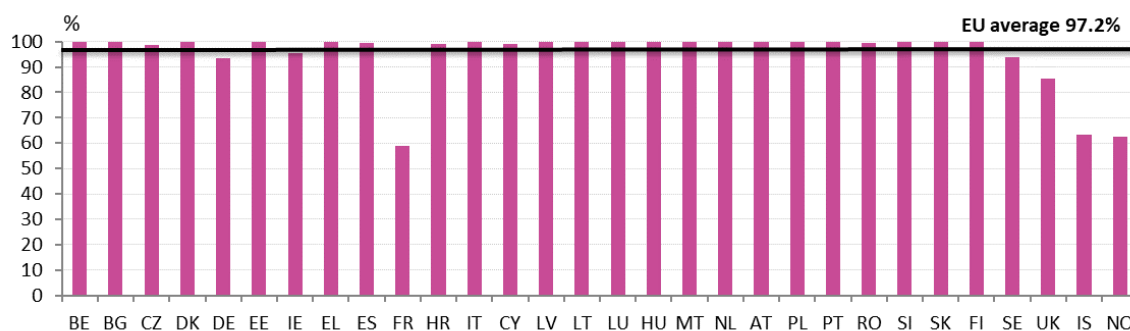
### Financial Accounts

For **annual financial accounts**, 22 EU Member States submitted all or nearly all (99 % or more) mandatory data. Relatively low completeness rates were observed for France and the two EFTA countries. For France,<sup>2</sup> the low completeness rate was mainly related to the limited availability of aggregated series and technical difficulties with submitting data according to the established data exchange standard.

On average, the completeness rate of annual financial accounts by sector (transactions) and balance sheets for financial assets and liabilities reached 97.2 % in 2016.

Three MIP headline indicators are derived from annual financial accounts: private sector debt, private sector credit flow and total financial sector liabilities. The 2016 data underlying MIP indicators were sufficiently complete for their validation for MIP purposes.

Figure 16: Annual financial accounts by sector; transactions (T6) and balance sheets for financial assets and liabilities (T7); average data availability as reported in 2016



### Supply, use and input-output tables

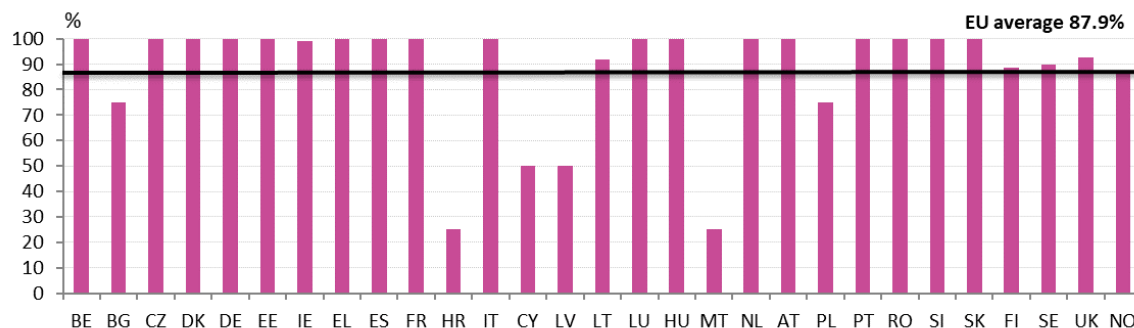
For **supply, use and input-output tables**, the average completeness rate was relatively low as compared to other national accounts tables. The completeness rate recorded for annual supply and use tables (15 and 16) for reference year 2013 was 87.9 % on average. Five EU Member States<sup>3</sup> (Malta, Cyprus, Latvia, Bulgaria, Poland) did not submit the mandatory data for 2013 (or

<sup>2</sup> France put in place improvement actions; it is anticipated that the 2017 quality report will show progress.

<sup>3</sup> Croatia has a derogation; Malta should have submitted year 2011 data by the end of 2016. Cyprus achieved progress which will be reflected in the next quality report.

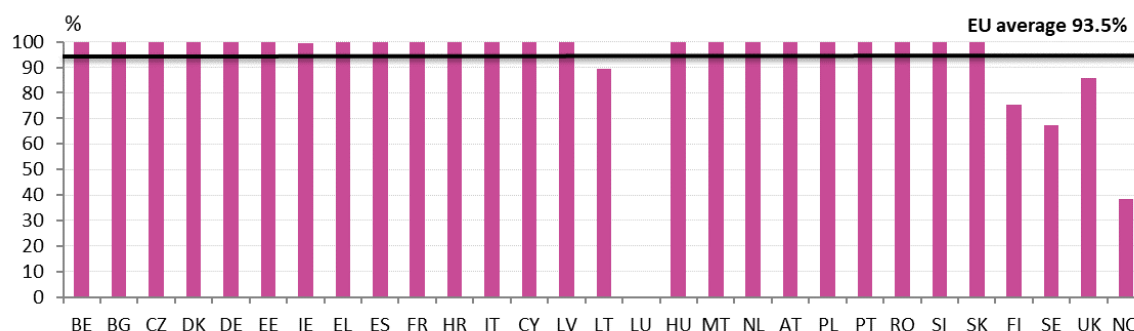
another mandatory year specified under the derogations act) in 2016. 18 countries submitted complete annual supply and use tables.

Figure 17: Supply and use annual tables (T15 and T16), average data availability for 2010-2013 as reported in 2016



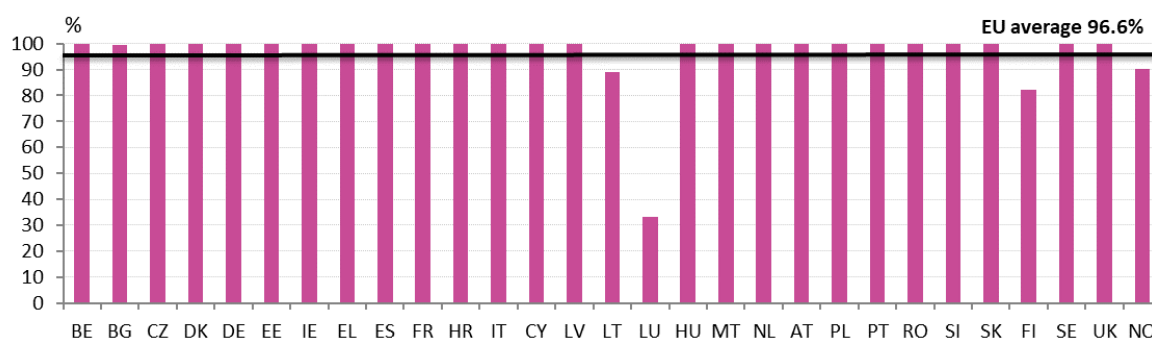
The overall completeness of supply and use tables for the reference year 2010 submitted with lower frequency (every 5 years) was higher than for annual tables. It reached 93.5% on average for EU Member States. Luxembourg did not submit these tables in 2016, even though it was not granted a derogation. 23 EU Member States submitted complete tables.

Figure 18: Five-yearly use tables (T16XX), average data availability as reported in 2016



The symmetric input-output tables for 2010 were submitted by all EU Member States and Norway. On average, the completeness rate reached 96.6% for EU countries. The lowest completeness rate was recorded for Luxembourg, who submitted only one mandatory table. Most countries (25 EU Member States) submitted complete input-output tables, either by product or by industry. Three Member States (the Czech Republic, Italy and Hungary) submitted both sets of tables.

Figure 19: Five-yearly input output tables (T17, 18 and 19), average data availability as reported in 2016



### Regional accounts

For **regional accounts**, the average completeness rate reached 93.9%.

In 2016, 18 EU Member States submitted all or nearly all mandatory regional accounts tables. The relatively low completeness rate recorded for Cyprus was related to technical issues (codes used in the transmission) which were corrected promptly. For Luxembourg, the low completeness rate of Table 13 (household accounts) was related to the low completeness rate in non-financial sector accounts. The results of the EU pilot project for non-financial sector accounts could have a positive impact also on the completeness of regional accounts data.

A below average completeness rate was also observed for Croatia, France and Hungary.

Figure 20: Annual regional accounts (T10, T12 and T13), average data availability as reported in 2016



## 4.5. Completeness rate of data underlying key indicators

### MIP indicators

The analysis in the Alert Mechanism Report builds on the economic reading of a scoreboard of 14 headline indicators covering the most relevant areas of macroeconomic imbalances,

competitiveness, and adjustment issues. These 14 indicators are complemented by 28 auxiliary indicators providing additional information.

The national accounts are one of the major sources of data underlining the MIP indicators. Five out of 14 headline MIP scoreboard indicators and ten out of 25 auxiliary ones are derived from national accounts. Moreover, many of the MIP indicators are compiled relative to GDP.

The economic rationale defining the medium- to long-term horizon for MIP analysis requires the availability of 10-years' worth of time series for all MIP indicators. The 10-year indicators scoreboard is published in November each year in the Statistical Annex to the Alert Mechanism Report. This package forms one of the major components launching the European Semester in the Autumn of each year.

The quality of MIP-underlying data has improved as a consequence of the entry into force of ESA 2010 in 2014. However, the process of implementing the new statistical standard led to revisions and, due to derogations, temporarily shortened the available series. Since 2014, the overall completeness of underlying data for MIP indicators has substantially improved and in 2016 was very high for all EU Member States. Data coverage for the ten year timespan needed for the 2017 Statistical Annex (2006-2015) was very high for all headline indicators. In terms of auxiliary indicators, the overall completeness rate was also nearly 100 %. However, for the nominal unit labour cost (as 10-year % change) and residential construction (as % of GDP), a few countries still did not submit all required statistics. The underlying Unit Labour Cost time series for the MIP auxiliary indicator of Croatia, Malta and Poland only begins in 2010. For residential construction, Croatia did not submit data and Romania submitted time series only up to 2014. The missing information will be gradually submitted in the coming years after the ESA 2010 derogations expire.

The key part of the MIP, however, covers in-depth reviews, which in line with Regulation (EU) No 1176/2011 of the European Parliament and of the Council on the prevention and correction of macroeconomic imbalances establish whether imbalances exist. For these in-depth reviews, the completeness and availability of detailed ESA 2010 data is essential. In particular cross-country benchmarking and analytical assessment tools used in the in-depth reviews depend on the timeliness, accuracy and completeness of national accounts, government finance statistics, and non-financial and financial sector accounts.

# 5.

## Accuracy

**Accuracy** of statistical outputs in the general statistical sense is the degree of closeness of computations or estimates to the exact or true values that the statistics were intended to measure.

In national accounts, a direct approach for measuring accuracy is difficult to apply, thus the main instrument used is the analysis of revisions.

Revisions are broadly defined as any change in a value of a statistic released to the public. Revisions are made when new data sources and better information become available and thus result in more accurate observations. Therefore, revisions are inevitable whenever produced statistics report promptly on economic developments despite the fact that some relevant information is still outstanding.

Revisions should be considered a normal phenomenon to progressively increase the quality and in particular the accuracy of data. Revision policy should be recognised as an important aspect of good governance in statistics. Good governance in statistics, in turn, is part of the broader areas of public sector transparency and accountability.

Revisions and their proper interpretation have two-sided effects on both users and producers of statistical data. From the users' perspective, revisions improve the information available and thus are welcome. However, they may also lead to an adjustment of measures used in economic analysis and as a consequence result in different assessment of the state of the economy. From the producers' perspective, the new information brought by the revisions describe economic developments more precisely, yet, frequent and/or major revisions can damage data credibility. Finally, an absence of revisions can also indicate that indicators for which more accurate source data are available are not being updated and that errors are not being corrected; i.e. that the statistics published are stable but potentially inaccurate.

It follows that a well-established and publicly communicated revision policy is a sign of the strength of the statistical system in question.

### 5.1. Revision policy

The importance of developing a revision policy and performing revision analysis is being increasingly recognised and considerable work has been done in this field over the past few years, both by national and international statistical organisations.



### 5.1.1. Harmonised European revision policy

The 2012 harmonised European revision policy (HERP) endorsed by the Committee on Monetary, Finance and Balance of Payments statistics (CMFB) was adopted shortly before the introduction of the new statistical manuals and revised transmission programmes in 2014. In principle, the scope of the 2012 HERP extended across the national accounts and balance of payments domains, in major as well as routine revisions, and in both quarterly and annual frequencies. It was envisaged that countries would start implementing the 2012 HERP with the introduction of the new standards under the ESA 2010 and the 6<sup>th</sup> edition of the Balance of payments and international investment position manual in 2014.

A recent stocktaking, reported to the CMFB in July 2015, conveyed implementation difficulties: 9 countries had implemented the policy by 2014, 8 did not, and 12 implemented it only partially. As a follow-up, the CMFB established the Task Force on Harmonised European Revision Policy (Task Force-HERP) in its July 2015 meeting to address issues related to routine revisions. The Directors of Macroeconomic Statistics of the European Statistical System (ESS) mandated a separate Task Force on Benchmark Revision Policy to investigate benchmark revisions. After two years of intensive work, adaptations were made where appropriate and the CMFB published a communication on Harmonised Revision Policy for Macroeconomic Statistics supported by Eurostat and the ECB. It was recommended that Member States disseminate the results of the next benchmark revisions in 2019 and 2024 and that they follow a specific sequence of routine revisions for annual and quarterly data.

### 5.1.2. Documentation on national data revision policy

Most EU Member States and the two EFTA countries provide information on national revision policies online. Only Ireland, Croatia and Luxembourg do not publish online information in this area. However, these three countries provided the requested information to Eurostat in the context of the quality reporting and envisaged plans for developing their online documentation on national revision policy and its communication to users. Belgium and Italy published information on their national revision policies in 2017. Switzerland did not provide any information.

The content of available information on national revisions varies substantially among the countries for which the information is publicly available. Only 11 EU Member States (see Table 1) provide users with information on data revisions by national accounts domain. Nearly all countries publish information on their national revision policy for quarterly national accounts, while the information on revisions for financial accounts, regional accounts and supply-use input and output tables is missing on most national websites.

## 5.2. Revisions of data submitted by Member States

There are two important types of revisions that represent the core of national accounts compilation, namely routine revisions and major revisions, due to changes in methods and sources.

Routine revisions are changes in published data which are related to the regular data production process (e.g. estimated values for missing responses are replaced by reported figures). Normally, these routine revisions follow a revision policy and are published according to a publicly available pre-announced release/revision calendar.

Table 1: Availability of information on national revision policy

| Country | Revision policy available online |                                      | Availability of detailed information by domain |                    |
|---------|----------------------------------|--------------------------------------|--|--------------------|
|         |                                  | provided to Eurostat (if not online) |  | financial accounts |
| BE      | Y*                               | Y                                    | P  | Y                  |
| BG      | Y                                |                                      | P  | Y                  |
| CZ      | Y                                |                                      | P  | N                  |
| DK      | Y                                |                                      | Y  | Y                  |
| DE      | Y                                |                                      | Y  | N                  |
| EE      | Y                                |                                      | P  | N                  |
| IE      | N                                | Y                                    | N  | N                  |
| EL      | Y                                |                                      | P  | N                  |
| ES      | Y                                |                                      | Y  | Y                  |
| FR      | Y                                |                                      | P  | N                  |
| HR      | N                                | Y                                    | N  | N                  |
| IT      | Y*                               | Y                                    | Y  | Y                  |
| CY      | Y                                |                                      | P  | N                  |
| LV      | Y                                |                                      | P  | N                  |
| LT      | Y                                |                                      | Y  | Y                  |
| LU      | N                                | Y                                    | N  | N                  |
| HU      | Y                                |                                      | P  | N                  |
| MT      | Y**                              |                                      | P  | N                  |
| NL      | Y                                |                                      | P  | N                  |
| AT      | Y                                |                                      | Y  | Y                  |
| PL      | Y                                |                                      | P  | N                  |
| PT      | Y                                |                                      | P  | N                  |
| RO      | Y                                |                                      | Y  | Y                  |
| SI      | Y                                |                                      | Y  | Y                  |
| SK      | Y                                |                                      | P  | N                  |
| FI      | Y                                |                                      | Y  | Y                  |
| SE      | Y                                |                                      | Y  | Y                  |
| UK      | Y                                |                                      | Y  | Y                  |
| IS      | Y                                |                                      | P  | N                  |
| NO      | Y                                |                                      | P  | N                  |
| CH      | N                                | N                                    | N  |                    |

\*developed in 2017

\*\* GNI Inventory available online

Y (Yes) — revisions policy is documented

N (No) — no information available

P (Partial) — only partial information available

There are two types of major revisions:

- major ad-hoc revisions which originate from methodological changes or special events, and
- benchmark revisions that take place on a regular basis (5 to 10 years) to incorporate results of changes in basic data sources and/ or new estimation methods.

In 2016, 10 EU Member States and Iceland carried out either major ad-hoc or benchmark revisions of their national accounts data. The reasons behind these regular revisions are listed in Table 2. They are mainly related to further implementation of statistical standards (Manual on Government Deficit and Debt), Gross National Income reservations or revisions of related statistics e.g. the balance of payments or structural business statistics.

In 2016, a substantial revision of national accounts was introduced by the Irish Central Statistics Office. GDP for 2015 was revised upwards by 26.3%. This was primarily due to the relocation of a number of big economic operators to Ireland and can be seen as an effect of increasing globalisation.

A detailed quantitative analysis of the revision rates for data submitted by Member States will be performed as from 2019 within the context of this quality reporting, as indicated in the implementing act.

Table 2: Major routine and benchmark revisions carried out in 2016

| Country   | Major ad-hoc revisions  | Benchmark revisions   |
|-----------|---|---|
| <b>BG</b> | <ul style="list-style-type: none"> <li>- perpetual inventory method for the calculation of the consumption of fixed capital in the non-market sector</li> <li>- resulting from revision in balance of payments statistics</li> </ul>  | <ul style="list-style-type: none"> <li>- supply and use tables for 2010</li> <li>- additional units reclassified in S13 institutional sector</li> </ul> |
| <b>DK</b> |   | <ul style="list-style-type: none"> <li>- resulting from revision in balance of payments statistics</li> </ul>   |
| <b>IE</b> | <ul style="list-style-type: none"> <li>- increase in the number of new aircraft imports for international leasing activities</li> <li>- corporate restructuring both through imports of individual assets and reclassification of entire balance sheets</li> </ul>  |   |
| <b>IT</b> | <ul style="list-style-type: none"> <li>- further work on GNI transversal reservation concerning the calculation of intermediate consumption for actual and imputed rentals</li> <li>- new statistical treatment of Euro banknotes in balance of payments / international investment position statistics</li> <li>- new estimation of property income flows due to the effects voluntary disclosure</li> <li>- implementation of the new 2016</li> </ul> |   |

|           |   |  |
|-----------|---|--|
|           | Eurostat Manual on Government Deficit and Debt  |  |
| <b>CY</b> |   | - recalculation of financial intermediation services indirectly measured   |
| <b>LV</b> |   | - open GNI reservations implementation   |
| <b>LU</b> | - reclassification of the national railway company  |  |
| <b>MT</b> | - Structural Business Statistics Survey results for 2014<br>- gambling and betting activities update  |  |
| <b>PL</b> |   | - further implementation of the 2016 edition of the Manual on Government Deficit and Debt<br>- reclassification of institutional units |
| <b>UK</b> |   | - improvements to current price GDP implemented in Blue Book 2016  |
| <b>IS</b> | - revised method and better source data in the deflation of actual and imputed rentals for housing in household final consumption expenditure |  |

### 5.3. Revisions of European aggregates

The revision rates for European aggregates (GDP and employment) presented in this sub-chapter are based on two commonly used statistical measures for interpreting the outputs of revision analysis for economic variables published on an intra-annual frequency: average revision rates and average absolute revision rates. Both measures gauge the size of revisions of subsequent EU and EA aggregates released between 2014Q3 and 2016Q4. The absolute average is a better measure as compared to the simple average because it avoids offsetting effects on the indicator from negative and positive revisions.

#### Revisions of GDP for the euro area (EA-19) and the EU-28

The **quarter-on-quarter GDP growth rates** for the euro area are given in the left part of Tables 3-6. The revisions of the growth rates appear on the right side of the tables. The last column contains many cells with missing data because Eurostat did not estimate GDP at t+100 in the first seven quarters after the transmissions under ESA 2010 started. These estimates were reintroduced in the second quarter of 2016 and are now regularly done.

In general, the four GDP estimates (at t+30, t+45, t+65 and t+100) were rather stable as both average revision and average absolute revision were relatively small.

Table 3: Revisions of quarterly GDP for the euro area aggregates (quarter-on-quarter growth rates); based on data published between 2014Q3 and 2016Q3

| Quarter-on-quarter, Eurostat growth estimates |      |      |                       |       | Quarter-on-quarter revisions |              |              |               |
|---|------|------|-----------------------|-------|------------------------------|--------------|--------------|---------------|
| EA 17/18/19                                   | t+30 | t+45 | t+65                  | t+100 | 45-30                        | 65-30        | 65-45        | 100-30        |
| 2014Q3  | 0.13 | 0.16 | 0.16                  |       | 0.03                         | 0.03         | 0.00         |               |
| 2014Q4  | 0.22 | 0.34 | 0.33                  |       | 0.12                         | 0.11         | -0.01        |               |
| 2015Q1  | 0.29 | 0.40 | 0.37                  |       | 0.11                         | 0.08         | -0.03        |               |
| 2015Q2  | 0.27 | 0.31 | 0.36                  |       | 0.04                         | 0.09         | 0.05         |               |
| 2015Q3  | 0.26 | 0.30 | 0.29                  |       | 0.04                         | 0.03         | -0.01        |               |
| 2015Q4  | 0.24 | 0.27 | 0.31                  |       | 0.03                         | 0.07         | 0.05         |               |
| 2016Q1  | 0.55 | 0.52 | 0.55                  |       | -0.03                        | 0.00         | 0.03         |               |
| 2016Q2  | 0.29 | 0.28 | 0.30                  | 0.29  | -0.01                        | 0.01         | 0.02         | 0.01          |
| 2016Q3  | 0.34 | 0.35 | 0.35                  | 0.44  | 0.01                         | 0.01         | 0.00         | 0.09          |
|   |      |      | <b>EA 17/18/19</b>    |       | <b>45-30</b>                 | <b>65-30</b> | <b>65-45</b> | <b>100-30</b> |
|   |      |      | Average revision      |       | 0.04                         | 0.05         | 0.01         | 0.05          |
|   |      |      | Average abs. revision |       | 0.05                         | 0.05         | 0.02         | 0.05          |

Table 4: Revisions of quarterly GDP for the euro area aggregates (year-on-year growth rates); based on data published between 2014Q3 and 2016Q3

| Year-on-year, Eurostat growth estimates |      |      |                       |       | Year-on-year revisions |              |              |               |
|---|------|------|-----------------------|-------|------------------------|--------------|--------------|---------------|
| EU 17/18/19                             | t+30 | t+45 | t+65                  | t+100 | 45-30                  | 65-30        | 65-45        | 100-30        |
| 2014Q3                                  | 0.75 | 0.78 | 0.79                  |       | 0.03                   | 0.04         | 0.00         |               |
| 2014Q4                                  | 0.76 | 0.88 | 0.86                  |       | 0.12                   | 0.10         | -0.02        |               |
| 2015Q1                                  | 0.88 | 0.99 | 1.01                  |       | 0.11                   | 0.14         | 0.03         |               |
| 2015Q2                                  | 1.18 | 1.22 | 1.53                  |       | 0.04                   | 0.35         | 0.31         |               |
| 2015Q3                                  | 1.53 | 1.57 | 1.59                  |       | 0.04                   | 0.06         | 0.02         |               |
| 2015Q4                                  | 1.47 | 1.49 | 1.58                  |       | 0.03                   | 0.11         | 0.09         |               |
| 2016Q1                                  | 1.56 | 1.53 | 1.67                  |       | -0.03                  | 0.11         | 0.14         |               |
| 2016Q2                                  | 1.58 | 1.57 | 1.62                  | 1.61  | -0.01                  | 0.04         | 0.05         | 0.03          |
| 2016Q3                                  | 1.61 | 1.62 | 1.67                  | 1.76  | 0.01                   | 0.06         | 0.06         | 0.15          |
|   |      |      | <b>EA 17/18/19</b>    |       | <b>45-30</b>           | <b>65-30</b> | <b>65-45</b> | <b>100-30</b> |
|   |      |      | Average revision      |       | 0.04                   | 0.11         | 0.08         | 0.09          |
|   |      |      | Average abs. revision |       | 0.05                   | 0.11         | 0.08         | 0.09          |

Table 5: Revisions of quarterly GDP for the EU aggregates (quarter-on-quarter growth rates); based on data published between 2014Q3 and 2016Q3

| Quarter-on-quarter, Eurostat growth estimates |      |      |                       |       | Quarter-on-quarter revisions |              |              |               |
|---|------|------|-----------------------|-------|------------------------------|--------------|--------------|---------------|
| EU 27/28                                      | t+30 | t+45 | t+65                  | t+100 | 45-30                        | 65-30        | 65-45        | 100-30        |
| 2014Q3  | 0.27 | 0.30 | 0.30                  |       | 0.03                         | 0.02         | 0.00         |               |
| 2014Q4  | 0.30 | 0.38 | 0.41                  |       | 0.08                         | 0.11         | 0.03         |               |
| 2015Q1  | 0.34 | 0.42 | 0.44                  |       | 0.08                         | 0.10         | 0.02         |               |
| 2015Q2  | 0.38 | 0.41 | 0.45                  |       | 0.03                         | 0.06         | 0.03         |               |
| 2015Q3  | 0.31 | 0.37 | 0.37                  |       | 0.06                         | 0.06         | 0.00         |               |
| 2015Q4  | 0.31 | 0.35 | 0.40                  |       | 0.03                         | 0.09         | 0.06         |               |
| 2016Q1  | 0.50 | 0.48 | 0.50                  |       | -0.02                        | 0.00         | 0.02         |               |
| 2016Q2  | 0.38 | 0.38 | 0.40                  | 0.41  | 0.00                         | 0.02         | 0.02         | 0.04          |
| 2016Q3  | 0.37 | 0.38 | 0.38                  | 0.45  | 0.01                         | 0.01         | 0.00         | 0.09          |
|   |      |      | <b>EA 17/18/19</b>    |       | <b>45-30</b>                 | <b>65-30</b> | <b>65-45</b> | <b>100-30</b> |
|   |      |      | Average revision      |       | 0.03                         | 0.05         | 0.02         | 0.06          |
|   |      |      | Average abs. revision |       | 0.04                         | 0.05         | 0.02         | 0.06          |

Table 6: Revisions of quarterly GDP for the EU aggregates (year-on-year growth rates); based on data published between 2014Q3 and 2016Q3

| Year-on-year, Eurostat growth estimates |      |      |                       |       | Year-on-year revisions |              |              |               |
|---|------|------|-----------------------|-------|------------------------|--------------|--------------|---------------|
| EU 27/28                                | t+30 | t+45 | t+65                  | t+100 | 45-30                  | 65-30        | 65-45        | 100-30        |
| 2014Q3                                  | 1.26 | 1.29 | 1.30                  |       | 0.03                   | 0.04         | 0.01         |               |
| 2014Q4                                  | 1.23 | 1.32 | 1.30                  |       | 0.08                   | 0.07         | -0.01        |               |
| 2015Q1                                  | 1.28 | 1.36 | 1.45                  |       | 0.08                   | 0.17         | 0.09         |               |
| 2015Q2                                  | 1.58 | 1.61 | 1.87                  |       | 0.03                   | 0.29         | 0.26         |               |
| 2015Q3                                  | 1.80 | 1.86 | 1.89                  |       | 0.06                   | 0.09         | 0.03         |               |
| 2015Q4                                  | 1.72 | 1.76 | 1.84                  |       | 0.03                   | 0.11         | 0.08         |               |
| 2016Q1                                  | 1.73 | 1.72 | 1.85                  |       | -0.02                  | 0.12         | 0.13         |               |
| 2016Q2                                  | 1.78 | 1.78 | 1.85                  | 1.83  | 0.00                   | 0.07         | 0.07         | 0.06          |
| 2016Q3                                  | 1.81 | 1.82 | 1.85                  | 1.92  | 0.01                   | 0.04         | 0.03         | 0.10          |
|   |      |      | <b>EA 17/18/19</b>    |       | <b>45-30</b>           | <b>65-30</b> | <b>65-45</b> | <b>100-30</b> |
|   |      |      | Average revision      |       | 0.04                   | 0.11         | 0.08         | 0.08          |
|   |      |      | Average abs. revision |       | 0.04                   | 0.11         | 0.08         | 0.08          |

## Revisions of employment growth rates for the euro area (EA-19) and the EU-28

Eurostat's **employment growth estimates** generally have low revisions between the first estimate at t+75 days and the following at t+165 days. In the time period presented in Tables 7 and 8 (2014Q3-2016Q3) the exception is 2015Q4 for the EU-28, which showed higher revisions than usual due to a transmission error by one of the larger Member States.

There is a tendency to revise quarter-on-quarter growth rates upwards, even if very slightly. Between 2013Q3 and 2017Q1, upward revisions took place for 13 out of 15 quarters (EU-28).

Table 7: Revisions of quarterly employment growth estimates for the EU-28 aggregate; based on data published between 2014Q3 and 2016Q3

| Year-on-year employment growth |      |       |               | Quarter-on-quarter employment growth |      |       |               |
|--------------------------------|------|-------|---------------|--------------------------------------|------|-------|---------------|
| EU 28                          | t+75 | t+165 | 165-75        | EU 28                                | t+75 | t+165 | 165-75        |
| 2014Q3                         | 0.92 | 0.90  | -0.02         | 2014Q3                               | 0.29 | 0.30  | 0.01          |
| 2014Q4                         | 0.98 | 1.12  | 0.14          | 2014Q4                               | 0.16 | 0.19  | 0.03          |
| 2015Q1                         | 1.11 | 1.01  | -0.10         | 2015Q1                               | 0.29 | 0.32  | 0.03          |
| 2015Q2                         | 0.88 | 1.04  | 0.16          | 2015Q2                               | 0.21 | 0.27  | 0.05          |
| 2015Q3                         | 1.12 | 1.04  | -0.09         | 2015Q3                               | 0.36 | 0.35  | -0.02         |
| 2015Q4                         | 0.97 | 1.29  | 0.32          | 2015Q4                               | 0.14 | 0.35  | 0.21          |
| 2016Q1                         | 1.36 | 1.40  | 0.05          | 2016Q1                               | 0.35 | 0.35  | 0.00          |
| 2016Q2                         | 1.47 | 1.37  | -0.09         | 2016Q2                               | 0.33 | 0.34  | 0.01          |
| 2016Q3                         | 1.12 | 1.07  | -0.05         | 2016Q3                               | 0.19 | 0.18  | -0.01         |
| <b>EU 28</b>                   |      |       | <b>165-75</b> | <b>EU 28</b>                         |      |       | <b>165-75</b> |
| Average revision               |      |       | 0.04          | Average revision                     |      |       | 0.04          |
| Average abs. revision          |      |       | 0.11          | Average abs. revision                |      |       | 0.04          |

Table 8: Revisions of quarterly employment growth estimates for the EA-19 aggregate; based on data published between 2014Q3 and 2016Q3

| Year-on-year employment growth |      |       |               | Quarter-on-quarter employment growth |      |       |               |
|--------------------------------|------|-------|---------------|--------------------------------------|------|-------|---------------|
| EA19                           | t+75 | t+165 | 165-75        | EA19                                 | t+75 | t+165 | 165-75        |
| 2014Q3                         | 0.64 | 0.74  | 0.10          | 2014Q3                               | 0.22 | 0.23  | 0.01          |
| 2014Q4                         | 0.88 | 0.85  | -0.03         | 2014Q4                               | 0.13 | 0.12  | -0.01         |
| 2015Q1                         | 0.81 | 0.82  | 0.00          | 2015Q1                               | 0.15 | 0.19  | 0.04          |
| 2015Q2                         | 0.85 | 0.98  | 0.14          | 2015Q2                               | 0.33 | 0.39  | 0.06          |
| 2015Q3                         | 1.09 | 1.06  | -0.03         | 2015Q3                               | 0.28 | 0.31  | 0.02          |
| 2015Q4                         | 1.18 | 1.24  | 0.06          | 2015Q4                               | 0.31 | 0.32  | 0.01          |
| 2016Q1                         | 1.41 | 1.45  | 0.04          | 2016Q1                               | 0.34 | 0.35  | 0.01          |
| 2016Q2                         | 1.41 | 1.34  | -0.07         | 2016Q2                               | 0.39 | 0.35  | -0.04         |
| 2016Q3                         | 1.18 | 1.22  | 0.04          | 2016Q3                               | 0.21 | 0.20  | -0.01         |
| <b>EA19</b>                    |      |       | <b>165-75</b> | <b>EA19</b>                          |      |       | <b>165-75</b> |
| Average revision               |      |       | 0.03          | Average revision                     |      |       | 0.01          |
| Average abs. revision          |      |       | 0.06          | Average abs. revision                |      |       | 0.02          |

# 6.

## Timeliness and punctuality

**Timeliness** is the period between the availability of the information and the event or phenomenon it describes.

**Punctuality** is the time lag between the actual delivery of data and the target date on which they were scheduled for release as announced in an official release calendar, set out by regulations or previously agreed among partners.

### 6.1. Timeliness

With the introduction of the ESA 2010 Transmission Programme in September 2014, new deadlines for countries' submission of data to Eurostat were introduced and allowed for timelier delivery of information to users. Most notably, data for regional accounts became available 12 months after the reference year.

In 2016, further major improvements were achieved in relation to:

- the release of preliminary GDP flash estimates, and
- the advanced publication of the euro area quarterly sector accounts.

#### QUARTERLY NATIONAL ACCOUNTS: PRELIMINARY GDP FLASH ESTIMATES

A major (15 days') improvement in timeliness was achieved with the first publication of a preliminary t+30 flash estimate of GDP growth in the EU and the euro area on 29 April 2016. This was the result of work carried out by a task force of Member States.

The first publication of the t+30 flash estimates was accompanied by two statistical working papers: one on the Eurostat estimation methodology and one on estimation techniques and methods for Member States' early GDP estimates.

The t+30 GDP flash estimates cover on average 94 % of EA-19 GDP (91 % of EU-28 GDP). Revisions by the subsequent t+45 flash estimates, which cover 97 % of EA-19 GDP and 93 % of EU-28 GDP, were very limited. The first comprehensive estimate of quarterly and annual main aggregates was released after about t+65 for main output and expenditure aggregates and t+75 for employment, income and additional expenditure breakdowns. The punctual delivery of country data enables the timely estimation of European aggregates.



## EURO AREA QUARTERLY SECTOR ACCOUNTS

The timeliness of euro area quarterly sector accounts substantially improved in 2016, from around T+120 days to around T+102, and it has further advanced in 2017 to around T+94. The new first aggregation release of non-financial sector accounts is based on the preliminary data transmitted by euro-area Member States by T+85 days after the reference period.

## 6.2. Punctuality of ESA 2010 tables

Punctuality is calculated as the actual date of data delivery minus the scheduled date of transmission to Eurostat. It shows how many calendar days the first data transmission was behind the legal deadline. Figures 21 to 35 present in detail the information on punctuality for each national accounts domain for EU Member States as well as for Iceland, Norway and Switzerland.

The ESA 2010 Transmission Programme specifies the deadlines for Member States' data deliveries. However, due to derogations, the transmission dates vary across countries. The analyses of punctuality in this section take into account country-specific legal deadlines. The information covers data deliveries made in 2016.

### 6.2.1. Quarterly data

As defined in the ESA 2010 Transmission Programme, Member States must submit to Eurostat the following quarterly tables:

- national accounts main aggregates (Table 1), at t+2 and months,
- non-financial sector accounts (Table 801), at t+85 days<sup>3</sup>,
- financial accounts of general government (Table 27), at t+85 days and at t+3 months<sup>4</sup>,
- government debt (Maastricht debt) for general government (Table 28), at t+3 months.

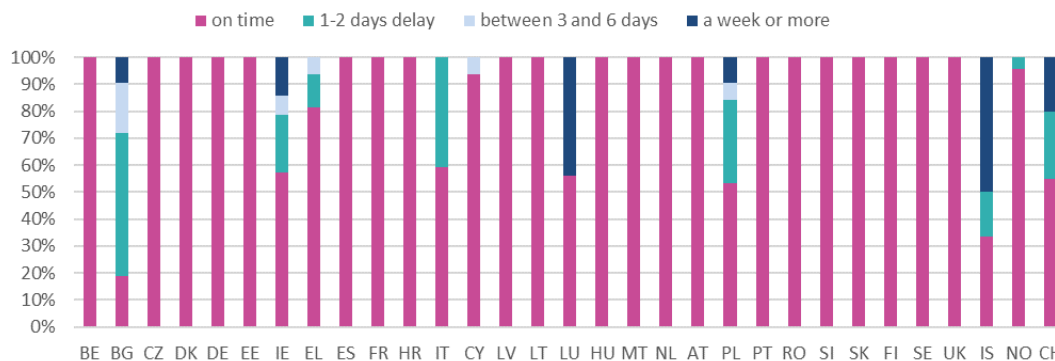
The overall punctuality of quarterly national accounts was relatively high in 2016 as more than half of the countries submitted all mandatory quarterly accounts on time. 16 EU Member States (Belgium, the Czech Republic, Germany, Estonia, Spain, France, Latvia, Lithuania, the Netherlands, Austria, Portugal, Slovenia, Slovakia, Finland, Sweden and the United Kingdom) submitted data at or before the legal deadline. Four EU Member States (Germany, France, the Netherlands and Finland) submitted 90 % or more of their quarterly tables before the legal deadline.

The **quarterly main aggregates** of national accounts must be submitted to Eurostat two months after the reference quarter. Figure 21 presents the average delay in four reference quarters of 2016 for eight sub-tables of the mandatory Table 1, on main aggregates. 21 countries submitted all mandatory main aggregates on time. The worse punctuality was observed for Bulgaria, which transmitted less than 20 % of the mandatory tables on time. Low punctuality (over 40 % of tables delayed) was also observed for Ireland, Italy, Luxembourg and Poland as well as for Iceland and Switzerland. The longest delays of more than 6 days for around half of the tables were noted for Luxembourg and Iceland.

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<sup>4</sup> The deadline of 85 days is applicable to Member States whose currency is the euro. For Member States whose currency is not the euro, the data transmission deadline is 3 months.

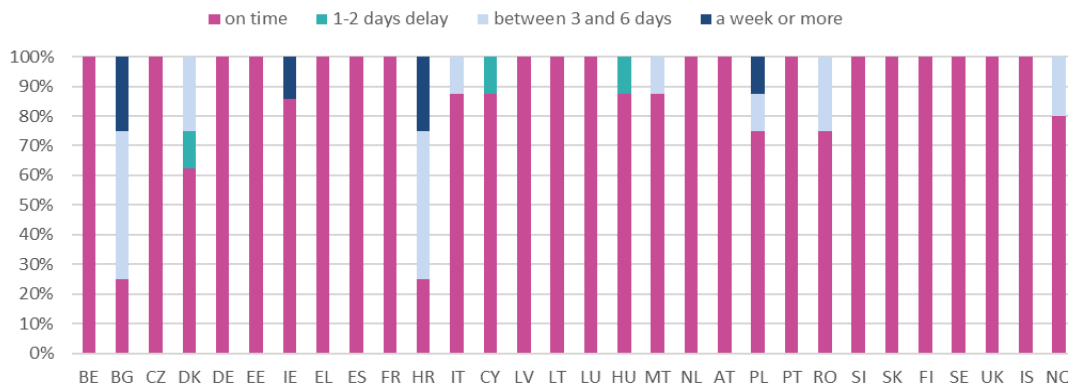
Figure 21: Punctuality of quarterly national accounts main aggregates data (T1Q) for 2015Q4-2016Q3 (as reported in 2016)



The punctuality of **quarterly government finance statistics** was very high in 2016 and much higher than the punctuality of quarterly main aggregates and non-financial sector accounts. Most countries submitted all data before the legal deadline. Short, isolated delays were observed only for Poland and Romania.

19 countries submitted **quarterly non-financial sector accounts** on time (see Figure 22). Substantial delays were observed for Bulgaria and Croatia. Both countries are in contact with Eurostat in order to address the situation regarding data timeliness.

Figure 22: Punctuality of quarterly non-financial sector accounts data (T801Q) for 2015Q4-2016Q3 (as reported in 2016)



## 6.2.2. Annual data

EU Member States must submit to Eurostat the annual national and regional accounts tables at the transmission deadlines as follows:

- national accounts main aggregates, at t+2 and t+9 months,
- main aggregates of general government, at t+3 and t+9 months,
- tables by industry, at t+9 and t+21 months,
- household final consumption expenditure by purpose, at t+9 months,

- financial accounts by sector (transactions), at t+9 months,
- balance sheets for financial assets and liabilities, at t+9 months,
- non-financial sector accounts, at t+9 months,
- detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification, at t+9 months,
- tables by industry and by region, NUTS level 2, at t+12 and t+24 months,
- general government expenditure by function, at t+12 months,
- tables by industry and by region, NUTS level 3, at t+24 months,
- household accounts by region, NUTS level 2, at t+24 months,
- supply table at basic prices incl. transformation into purchasers' prices, at t+36 months,
- use table at purchasers' prices, at t+36 months,
- symmetric input-output table at basic prices (five yearly), at t+36 months,
- cross classification of fixed assets by industry and by asset, at t+24 months,
- cross classification of gross fixed capital formation by industry and by asset, at t+24 months,
- balance sheets for non-financial assets at t+24 months.

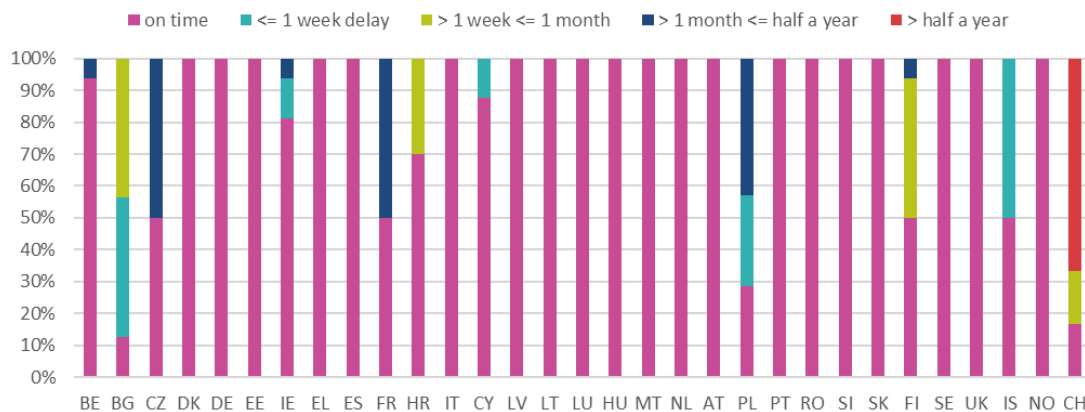
The overall punctuality of ESA 2010 annual tables was relatively low in 2016 as only eight countries (Estonia, Italy, Hungary, Austria, Slovenia, Slovakia, Sweden and the United Kingdom) submitted all required annual national and regional accounts tables on time. Six EU Member States (Belgium, Bulgaria, Spain, France, Cyprus and Poland) submitted ten or more tables after the legal deadline.

### National accounts main aggregates

20 countries submitted annual Table 1 of **national accounts main aggregates** on time. Bulgaria and Poland submitted most of their tables (sub-tables of Table 1) after the deadline, and Poland, France and the Czech Republic submitted their data with the longest delays, particularly for the T+2 submission.

The MIP headline indicator of unit labour costs is derived from Table 1 data. The cut-off date for data extraction for the MIP scoreboard and Alert Report Mechanism's statistical annex was on 24 October 2016. The late submission of Table 1, particularly more than one month past the deadline (in dark blue on Figure 23), made it impossible to fully validate the data underlying unit labour cost calculation. Poland in particular had significant delays in providing data on the compensation of employees, needed for the calculation of unit labour cost.

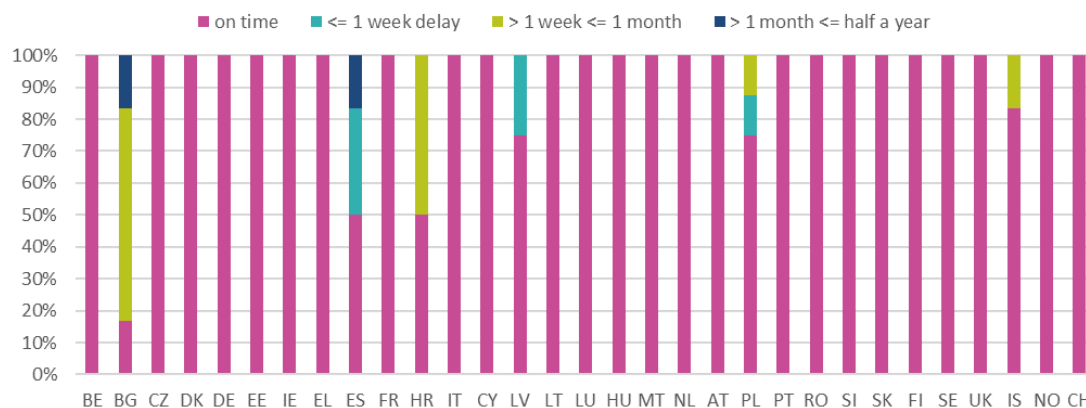
Figure 23: Punctuality of annual national accounts main aggregates (T1) data submitted in 2016



The overall punctuality of tables by industry (Table 3) and household final consumption expenditure by purpose (Table 5) was very high: 25 countries, including 23 EU Member States, submitted these tables on time. However, there were substantial delays for three countries: Bulgaria, Croatia and Spain (see Figure 24).

All reporting countries submitted their Cross-classification of fixed assets by industry and by asset, Cross-classification of gross fixed capital formation by industry and by asset and Balance sheets for non-financial assets tables, due at t+24 months, on time in 2016.

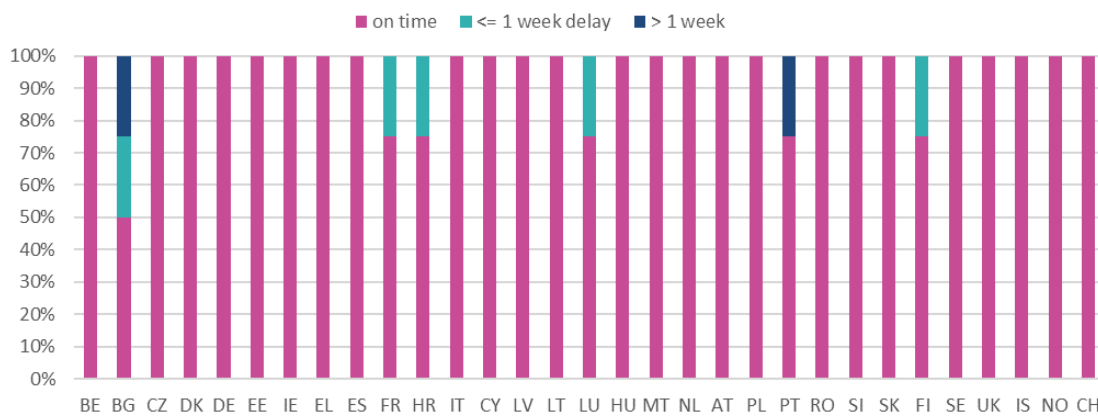
Figure 24: Punctuality of other annual national accounts main aggregates (T3, T5 and T2XX) data submitted in 2016



## Government finance statistics

The punctuality of **annual government finance statistics** tables (Main aggregates of general government — Table 2, Detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification — Table 9, General government expenditure by function Table 11) was very high. 22 EU Member States submitted all mandatory data on time. Bulgaria had the longest delay, submitting its main aggregates of general government table after the legal deadline at both t+3 and t+9. None of the countries having submitted data late in 2016 disrupted the Eurostat's publication schedule and issues encountered were isolated.

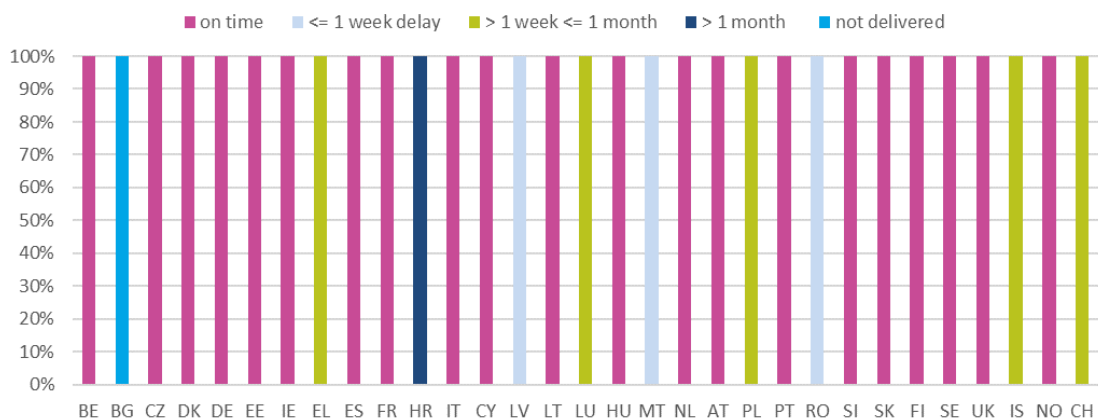
Figure 25: Punctuality of annual government finance statistics (T2, T9 and T11) data submitted in 2016



### Non-financial sector accounts

Annual **non-financial sector accounts** (Table 8), due in September 2016, were submitted on time by 21 countries (see Figure 26). Bulgaria did not submit its Table 8 in 2016, and Croatia showed the longest delay, of more than one month. Eurostat took specific actions vis-à-vis both EU Member States in order to improve their data quality. Three other EU Member States (Poland, Greece and Luxemburg) as well as Iceland and Switzerland had delays of less than one month.

Figure 26: Punctuality of annual non-financial sector accounts (T8) data submitted in 2016

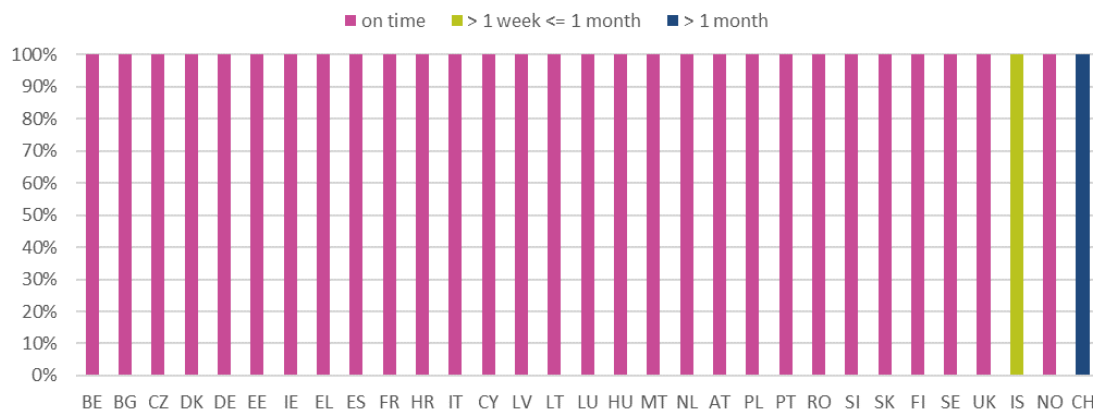


### Financial accounts

Overall, submission of the **financial accounts** by sector (Table 6) and balance sheets for financial assets and liabilities (Table 7) was the most punctual of all national accounts tables. All 28 EU Member States and Norway submitted these tables on time (see Figure 27). Particularly high punctuality was seen for the 17 countries that submitted their annual financial accounts between three and seven months before the legal deadline.

Three MIP headline indicators (private sector debt, private sector credit flow and total financial sector liabilities) are derived from financial accounts tables. Hence, punctuality in submitting these tables is of utmost importance for MIP purposes. In 2016, all EU Member States submitted the MIP-underlying data on time.

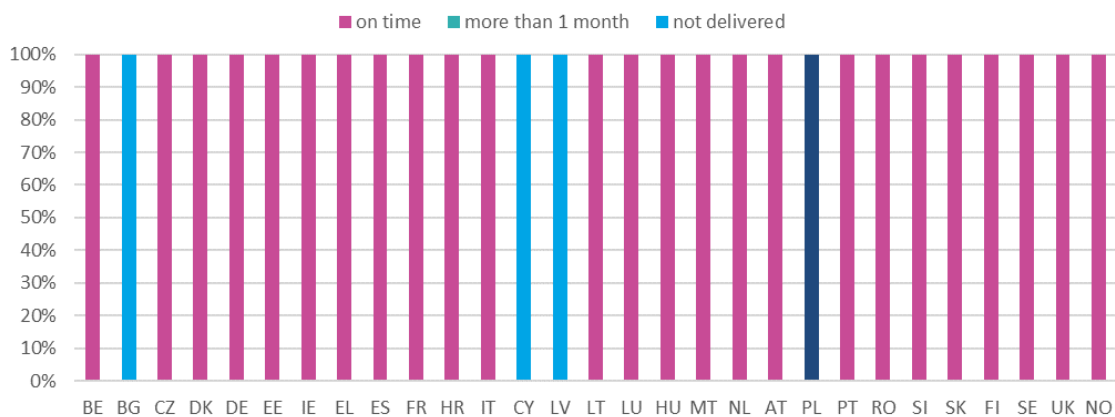
Figure 27: Punctuality of annual financial accounts (T6 and T7) data submitted in 2016



### Supply, use and input-output tables

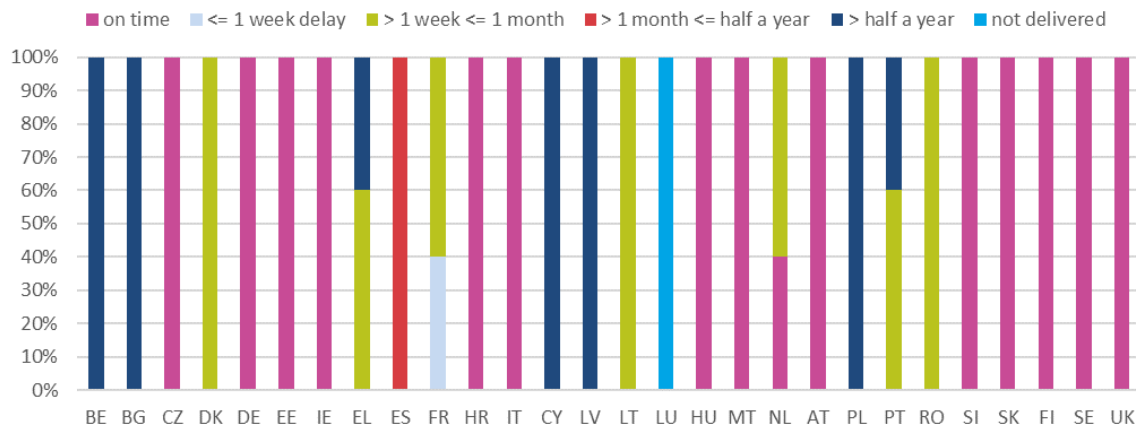
Most countries submitted their annual **supply and use tables** for 2013 (supply table at basic prices incl. transformation into purchasers' prices — Table 15 and use table at purchasers' prices — Table 16) on time in 2016 (see Figure 28). Poland delivered the annual supply and use tables for 2013 after the legal deadline. Bulgaria, Cyprus and Latvia did not submit data for 2013.

Figure 28: Punctuality of annual supply use tables (T15 and T16) submitted in 2016



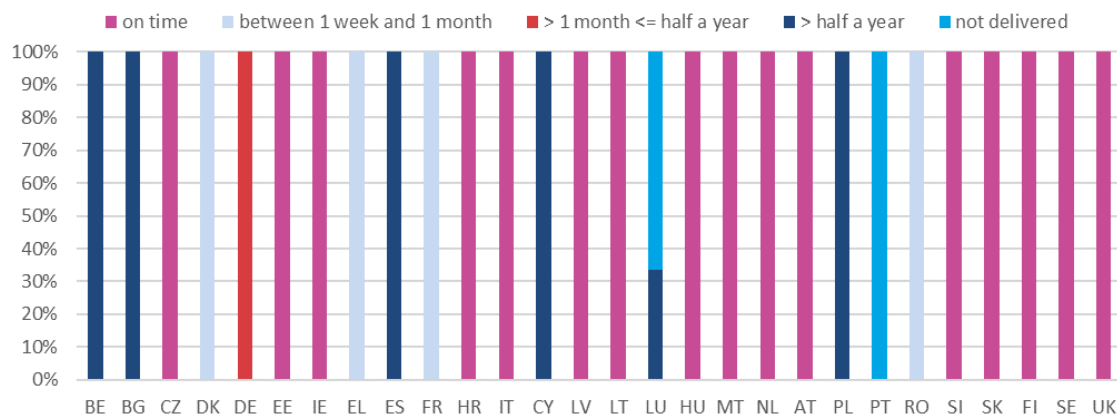
The five additional **use tables** are required every five years. They provide information of a higher granularity than annual tables. These tables are compulsory at basic prices for reference years ending in 0 or 5. This quality reporting exercise looked at the first delivery of these tables following ESA 2010 implementation. Figure 29 shows the average punctuality of Table 16XX for 2010, due by the end of 2014. Half of the EU Member States submitted their use tables for 2010 on time. Seven countries (Belgium, Bulgaria, Cyprus, Spain, Latvia, Poland and Norway) submitted their tables with several months' delay. Luxembourg did not deliver the five-yearly use tables by the end of 2016 (it did so later in 2017).

Figure 29: Punctuality of five-yearly use tables (T16XX) for the reference year 2010



The ESA 2010 Transmission Programme defines the obligation for EU Member States to deliver **five-yearly input-output tables**. These tables are compiled for the reference years ending with 0 and 5. This quality reporting exercise monitored the delivery of the symmetric input-output tables for the reference year 2010. All EU Member States except Portugal<sup>5</sup> submitted input-output tables for 2010 either by product or by industry, while Hungary and Italy submitted both types of table. Luxembourg only submitted Table 17, and with a two-year delay. A substantial delay, of more than half a year, was also observed for Belgium, Bulgaria, Cyprus, Spain and Poland.

Figure 30: Punctuality of five-yearly input-output tables (T17, 18 and 19) for the reference year 2010



## Regional accounts

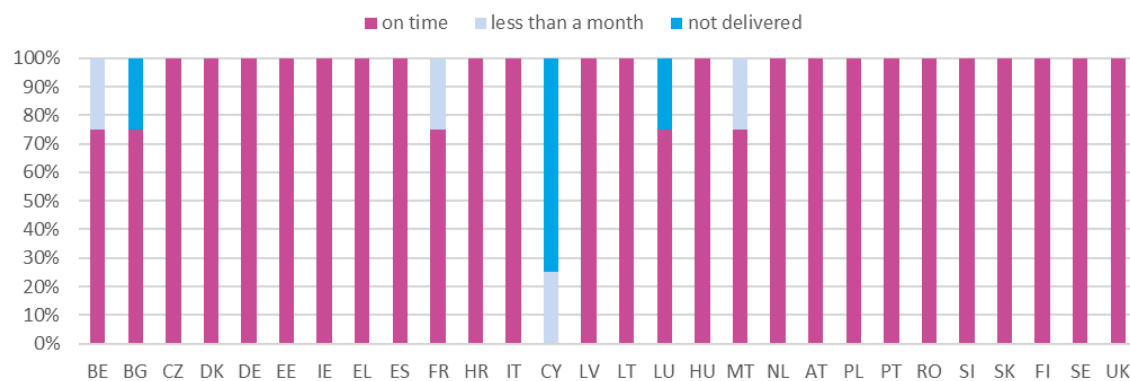
The overall punctuality of **regional accounts** in 2016 was very high. 22 countries submitted all regional accounts tables on time (by industry and by region at NUTS 2 level (Table 10) and NUTS 3 level (Table 12) and Household accounts by region (Table 13)), see Figure 31. Four countries (Belgium, France, Cyprus and Malta) submitted one of the mandatory tables within a month after the legal deadline.

Three countries did not deliver some of the mandatory regional tables. Luxembourg's Table 13

<sup>5</sup> Portugal submitted input-output tables for the year 2013.

for household accounts by region will only become available after the EU pilot project on non-financial sector accounts is complete. Due to incorrect coding used during the submission process, Cyprus did not submit some of its mandatory tables. Bulgaria only submitted its data after the quality reporting exercise had been launched.

Figure 31: Punctuality of annual regional accounts (T10, T12 and T13) data submitted in 2016



## 6.3. Punctuality of data underlying key indicators

### MIP indicators

In November of each year, at the beginning of the European Semester process, the Commission publishes the Alert Mechanism Report accompanied by a statistical annex on MIP indicators.

The cut-off date for extracting data from the Eurostat database to prepare the Alert Mechanism Report analysis and include in the statistical annex is fixed each year, usually at the end of October or beginning of November. This makes it possible to analyse the most recent national accounts data submitted by Member States and validated by Eurostat in the Autumn transmission cycle.

In 2016, the cut-off date for the preparation of the Statistical Annex 2017 was 24 October. The data used had been submitted by Member States at T+9 months and successfully passed Eurostat's validation process. The timely submission of all relevant national accounts data underlying the main aggregates, financial and non-financial sector accounts as well as government finance statistics (as discussed in chapter 6.2.2) made possible the smooth validation and timely use of this data for MIP purposes.

The punctuality of submitting data underlying the MIP was, however, coupled with the extensive use of flags indicating provisional or estimated data. In 2016, nine countries flagged at least one data cell used for an MIP headline indicator either as provisional ('p' flag) or as estimated ('e' flag). The Netherlands flagged as provisional ULC data and three financial accounts indicators. Eight other countries flagged their ULC data. The use of flags was even more pronounced for auxiliary indicators. Netherlands put a 'p' flag on all auxiliary indicators. Greece, Spain and France flagged eight auxiliary indicators as provisional, Cyprus and Romania — seven, Bulgaria and Poland — three. Portugal put an 'e' flag on eight indicators. This situation is not satisfactory and needs to be addressed by concerned Member States.



## Principal European Economic Indicators (PEEIs)

PEEIs are the reference point for all users of official statistics dealing with short-term data. They comprise a set of statistical indicators giving an accurate and as timely as possible overview of the economic evolution of the euro area, the EU, and individual EU Member States.

In order to supply business-cycle analysts, policymakers and other users with a comprehensive and high-quality set of information, Eurostat and the National Statistical Institutes publish quarterly national accounts news releases on:

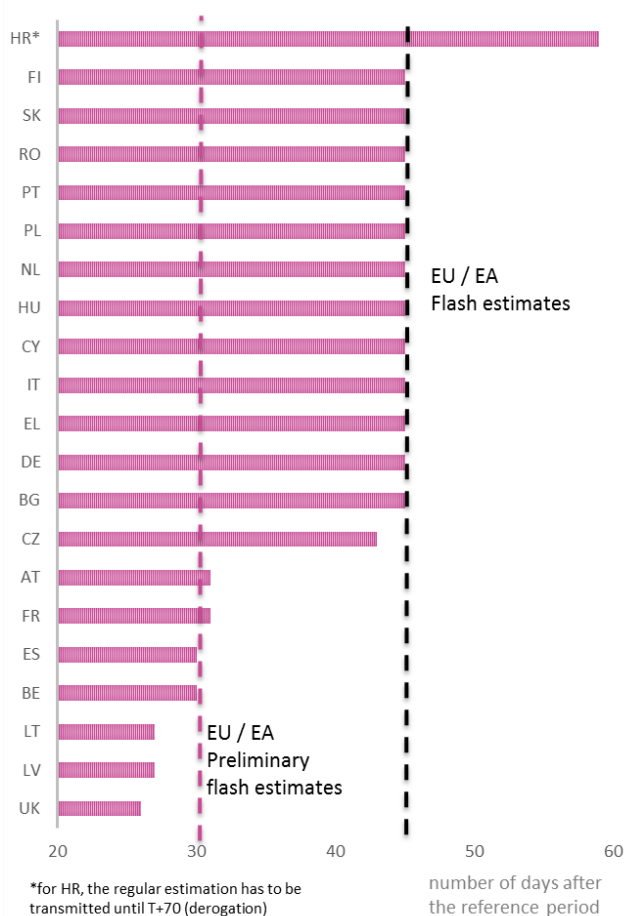
- GDP flash estimates,
- GDP estimates, including GDP components and contributions to growth,
- quarterly sector accounts,
- quarterly government finance statistics.

The transmission dates indicated in Figures 32-35 are for data submissions due in the first quarter of 2017, relating to reference fourth quarter of 2016.

### First GDP (flash) estimates

Eurostat currently publishes two GDP flash estimates for the EU/EA: t+30 preliminary flash estimates and updated t+45 GDP (flash) estimates. The second news release contains published country estimates. Countries submit estimates to Eurostat on a voluntary basis. The news releases on GDP flash estimates are among Eurostat's most downloaded news releases.

Figure 32: First GDP flash estimate as submitted in 2017Q1



### GDP estimates and breakdowns

GDP estimates with breakdowns for the EU/EA are released at around t+65 days each quarter. The exact release dates vary slightly each quarter depending on calendar constraints.

The numbers in Figure 33 refer to the submission of data for the fourth quarter of 2016 which are usually published the next day. Validation problems and/or embargos can, however, cause some additional delays.

Figure 33: GDP release containing components of GDP, transmission of 2016Q4

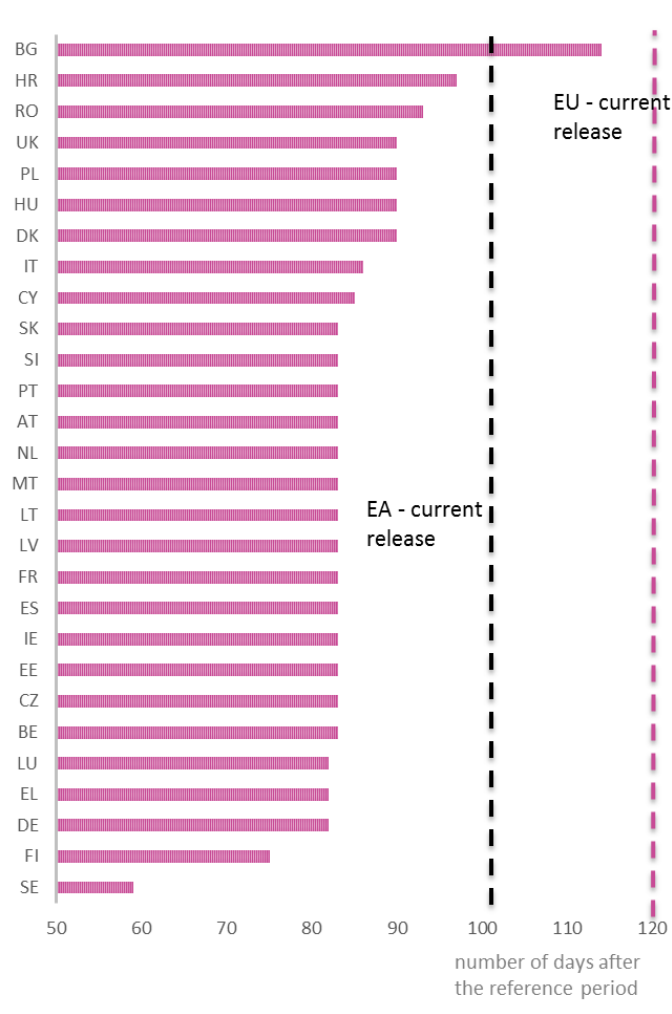


### Quarterly sector accounts (QSA)

Quarterly sector accounts for 2016Q4 were due by 26 March 2017 (t+85 days) for euro area Member States and by 31 March 2017 (t+3 months) for non-euro area Member States. For Member States whose GDP at current prices is less than 1% of the corresponding EU total GDP, only data for selected items is compulsory.

Key indicators and selected transactions for the euro area aggregates are published at around t+102, as of July 2017 in addition to at around t+94. Complete sector accounts data for the euro area are released at around t+120.

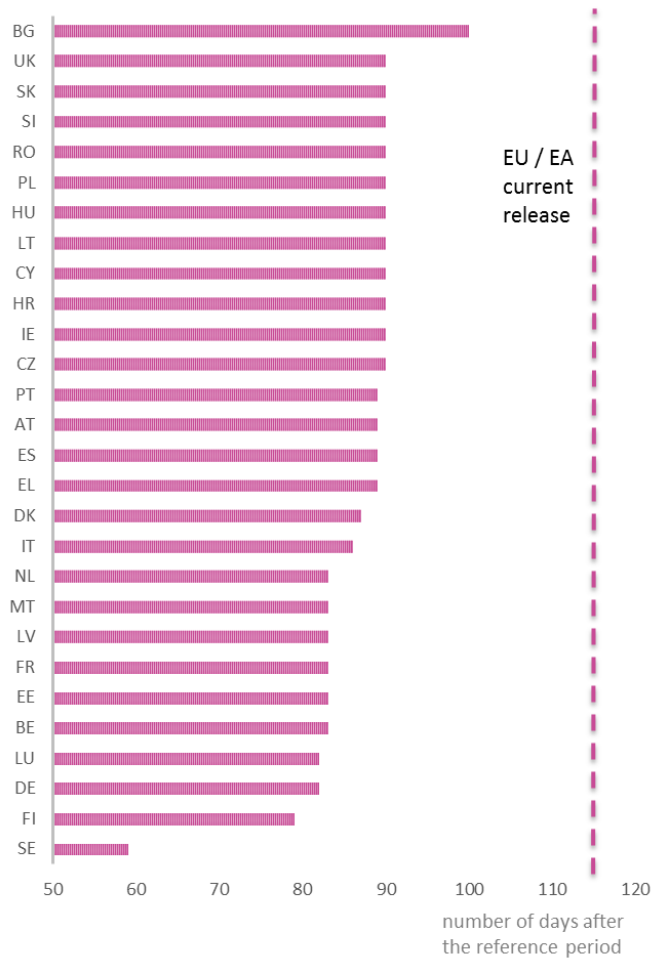
Figure 34: Household and company accounts, transmission of 2016Q4



### Quarterly government finance statistics

The transmission dates indicated in Figure 35 represent submissions due on 31 March 2017, relating to reference quarter Q42016. Submissions are due at t+3 months, except for quarterly financial accounts for general government, where provisional data is due at t+85 days for euro area countries. Actual timeliness depends on the reference quarter, with data due on 31 March usually coming in later than in other quarters due to the incorporation of annual data. Releases are coordinated for the set of tables comprising quarterly government finance statistics and with EDP data. For this reason, no further improvement in timeliness is feasible in the medium-term. A use of provisional financial accounts data for release is also not feasible due to the high level of revisions in the transmission period.

Figure 35: Government finance statistics, transmission of 2016Q4



# 7.

## Accessibility and clarity

**Accessibility** is the conditions by which users can obtain, use and interpret data.

**Clarity** is the ways in which users can obtain, use and interpret data. It examines the data's information environment to determine whether data are accompanied by appropriate metadata and illustrations such as graphs and maps, and whether information on their quality is also available.

### 7.1. Dissemination by Eurostat

Eurostat disseminates ESA 2010 data via electronic publications. The data are accessible via predefined tables, extractions from Eurostat's database and through Statistics Explained articles. Key variables are also communicated through the Eurostat news releases on GDP, employment, household saving rate, the business investment rate as well as seasonally adjusted government deficit, taxes and social contributions and general government expenditure by function (COFOG). Information from national and regional accounts as well as government finance statistics are also included in Eurostat's yearbook and regional yearbook. In 2016, all information was published on time.

Eurostat implements a policy of free dissemination thus allowing the widest possible user access.

### 7.2. ESA 2010 metadata

To make data easily interpretable, Eurostat maintains a rich depository of generic metadata called RAMON, as well as metadata by ESA 2010 domain:

- Main aggregates (annual and quarterly);
- Government finance statistics -
  - Government revenue, expenditure and main aggregates,
  - General government expenditure by function (COFOG) ,
  - Main national accounts tax aggregates,
  - Quarterly non-financial accounts for general government,
  - Annual and quarterly financial accounts for general government,
  - Quarterly government debt,

- Non-financial sector accounts,
- Annual financial sector accounts,
- Supply, use and input-output tables,
- Regional accounts.

## 7.3. Inventories

In addition to regular metadata, Member States also describe their compilation work in dedicated technical documentation. Some of it is produced for the needs of GNI for own resources or EDP verification processes. This documentation is fully or partially accessible through the Eurostat's website.

### 7.3.1. Mandatory inventories

#### GROSS NATIONAL INCOME (GNI)

Article 3 of the GNI Regulation requires Member States to provide Eurostat with an up-to-date inventory of the sources and methods used to calculate GNI and its components according to ESA (the GNI Inventories). These inventories are one of the main instruments enabling Eurostat to assess the comparability, reliability and exhaustiveness of Member States' GNI data. The inventories also include process tables showing all stages of the national accounts compilation process, from the statistical sources to the published national accounts data.

Eurostat checks the GNI inventories and process tables using a GNI Inventory Assessment Questionnaire approved by the GNI Committee. The purpose of the questionnaire is to ensure a systematic, consistent and fair approach to the assessment of the quality of GNI data.

All EU Member States submitted their GNI inventories to Eurostat. The GNI inventories of 10 countries are entirely available, while 18 countries allowed for the publication of only Chapter 1 of their inventories (see Table 9). These are available on the CIRCABC website "Monitoring GNI for own resource purposes".

#### QUARTERLY FINANCIAL ACCOUNTS FOR GENERAL GOVERNMENT (QFAGG) AND NATIONAL TAX LISTS

Under Annex B of Regulation (EU) No 549/2013, all European Economic Area countries (subject to derogations) must regularly submit to Eurostat metadata on major events and revisions for QFAGG. Data sources and compilation methods are described in the updated QFAGG manual. For taxes and social contributions, the transmission programme provides for the transmission of 'National Tax Lists'.

#### EXCESSIVE DEFICIT PROCEDURE (EDP)

EDP statistics are reported to and verified by Eurostat under the legal provisions of Article 126 of the Treaty on the Functioning of the European Union and Protocol 12 and Regulation (EC) No 479/2009, as amended by Regulation (EU) No 220/2014. In this legal context, Eurostat regularly and systematically reports to the Council (Economic and Financial Committee) and the European Parliament.

Table 9: Availability of mandatory and voluntary inventories on the Eurostat website and/or CIRCABC public website, as of 31 September 2017.

|    | Mandatory inventories        |           |     |       |                    | Voluntary inventories |         |
|----|------------------------------|-----------|-----|-------|--------------------|-----------------------|---------|
|    | GNI                          |           | EDP | QFAGG | National Tax Lists | QNA                   | ASA/QSA |
|    | Entire document <sup>6</sup> | chapter 1 |     |       |                    |                       |         |
| BE | ✓                            |           | ✓   | ✓     | ✓                  |                       | ✓       |
| BG |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| CZ |                              | ✓         | ✓   | ✓     | ✓                  | ✓                     |         |
| DK |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| DE | ✓                            |           | ✓   | ✓     | ✓                  | ✓                     |         |
| EE | ✓                            |           | ✓   | ✓     | ✓                  |                       |         |
| IE |                              | ✓         |     | ✓     | ✓                  |                       |         |
| EL |                              | ✓         |     | ✓     | ✓                  | ✓                     |         |
| ES |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| FR | ✓                            |           |     | ✓     | ✓                  |                       |         |
| HR |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| IT |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| CY |                              | ✓         |     | ✓     | ✓                  |                       |         |
| LV |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| LT |                              | ✓         | ✓   | ✓     | ✓                  |                       | ✓       |
| LU |                              | ✓         |     | ✓     | ✓                  |                       |         |
| HU |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| MT | ✓                            |           | ✓   | ✓     | ✓                  |                       |         |
| NL | ✓                            |           |     | ✓     | ✓                  | ✓                     | ✓       |
| AT | ✓                            |           |     | ✓     | ✓                  | ✓                     |         |
| PL |                              | ✓         | ✓   | ✓     | ✓                  | ✓                     |         |
| PT |                              | ✓         | ✓   | ✓     | ✓                  |                       | ✓       |
| RO | ✓                            |           | ✓   | ✓     | ✓                  |                       |         |
| SI |                              | ✓         | ✓   | ✓     | ✓                  |                       | ✓       |
| SK |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |
| FI | ✓                            |           | ✓   | ✓     | ✓                  | ✓                     | ✓       |
| SE | ✓                            |           | ✓   | ✓     | ✓                  |                       | ✓       |
| UK |                              | ✓         | ✓   | ✓     | ✓                  |                       |         |

<sup>6</sup> Only the publication of Chapter 1 of the GNI inventory is mandatory.

The availability of detailed and comprehensive EDP inventories is of vital importance for the quality assessment of EDP and government finance statistics data. Under Article 9 of Council Regulation No 479/2009, as amended, the new ESA 2010-based EDP inventory of the methods, procedures and sources used to compile actual deficit and debt data and the underlying government accounts was adopted in 2014. All EU Member States are required to complete this EDP inventory. The inventories are publicly available on the [Eurostat website](#).

### 7.3.2. Voluntary inventories

To provide comprehensive information on sources and methods used in the compilation of national accounts data, Eurostat helps countries compile quarterly national accounts inventories as well as annual and quarterly sector account inventories. The compilation and publication of these inventories is voluntary.

#### QUARTERLY NATIONAL ACCOUNTS (QNA)

Quarterly national accounts inventories are a useful source of information for assessing the quality of QNA data. The methodology descriptions provided by reporting countries include references to relevant manuals, handbooks or guidelines such as the updated Eurostat QNA handbook, the handbook on price and volume measures or the seasonal adjustment guidelines. National Statistical Institutes indicate if they are in line with these handbooks/guidelines and/or provide explanations for the use of different approaches. QNA inventories follow a predefined structure and provide the following information:

- overview of the system of quarterly national accounts, including methods used for estimating volumes and seasonally adjusted figures,
- publication timetable, revisions policy and dissemination of QNA,
- overall QNA compilation approach,
- GDP components: the production approach,
- GDP components: the expenditure approach,
- GDP components: the income approach,
- population and employment,
- flash estimates,
- main data sources used.

Seven EU Member States submitted QNA inventories to Eurostat (see Table 9); these are publicly available on the Eurostat website.

#### ANNUAL AND QUARTERLY SECTOR ACCOUNTS (ASA / QSA)

Annual sector account inventories aim to provide a comprehensive overview of national compilation procedures used for annual non-financial accounts by institutional sector, according to the ESA 2010. ASA inventories follow a standard structure and include the following information:

- organisation of annual sector account production,
- consistency with related data sets,
- data sources,
- compilation methods,
- detailed view by transaction and sector.

This information is also important for understanding quarterly sector accounts production since



most comprehensive data sources are collected annually, hence the compilation of quarterly accounts relies on annual benchmarks whenever quarterly data are not available.

Five EU Member States submitted their ASA inventories for publication on the Eurostat website and three submitted their QSA inventories. Only one EU Member State (Finland) submitted both inventories.

### **CLASSIFICATION OF THE FUNCTIONS OF GOVERNMENT (COFOG) AND QUARTERLY NON-FINANCIAL ACCOUNTS FOR GENERAL GOVERNMENT**

Eurostat is in the process of collecting updates on the methods and sources used for the compilation of COFOG and quarterly non-financial accounts for general government data. Once information for all countries is available, the current manuals based on the ESA95 will be replaced.

## **7.4. International data sharing**

Eurostat is an active member of the statistical inter-agency cooperation project on international data sharing. Since 2015, thanks to the G-20 Data Gaps Initiative, GDP and other related indicators are identical across the respective databases of several international organisations (Bank for International Settlements, the European Central Bank, Eurostat, the International Monetary Fund, the Organisation for Economic Cooperation and Development, the United Nations and the World Bank). Eurostat is both a data sender and a data receiver. It is responsible for the validation and subsequent sharing of the data of EU Member States, EU enlargement countries, EFTA countries and Switzerland. Eurostat receives data from the OECD for OECD members, key partners and accession countries not belonging to the country group above, and from the IMF for a selected range of non-OECD countries such as some of the EU's main trading partners. These data are disseminated via Eurostat tables, enabling users to find available key macro-economic data for all countries in one single place. For GFS, Eurostat has long-standing data sharing arrangements in place with the OECD, ECB and IMF (in line with the GFS Manual 2014).

# 8



## Comparability

**Comparability** is the measurement of the impact of differences in applied statistical concepts, measurement tools and procedures applied, when statistics are compared between geographical areas, sectoral domains or over time.

### 8.1. Methodological soundness

The ESA 2010 provides a harmonised methodological framework for the compilation of national and regional accounts throughout the EU, just as the SNA 2008 does across the world.

Eurostat ensures the methodological soundness of national accounts data submitted by EU Member States through its validation process. It monitors the application of accounting rules defined in the ESA 2010 Regulation 549/2013.

In addition, methodological soundness is monitored through two verification cycles:

- Gross National Income (GNI) for the EU own resources,
- Excessive Deficit Procedure (EDP).

These two verification procedures have their own legal basis (see GNI, EDP).

When methodological improvements resulting from the GNI and EDP processes are introduced, Eurostat assesses whether they are applied to all sets of concerned accounts; it does so during the ESA 2010 data validation process.

#### 8.1.1. Validation process for national accounts

The validation process for national accounts data follows the rules defined by the task force on data validation in its main deliverable — the ESA 2010 Validation Handbook. Some of the validation checks included in the handbook have already been added to the regular validation process for data submitted to Eurostat, while others are in the design and implementation phases. Chapter 4 of the handbook provides an overview of all the checks carried out by the validation task force across the ESA 2010 Transmission Programme areas and the status of these checks in terms of implementation progress.

The task force on data validation was created in 2014 in order to address frequent errors in the transmission process. It followed guidance issued by the ESS Vision Infrastructure Project on Validation when reviewing and developing data validation rules for a pre-validation tool. Its main deliverables and detailed structural and methodological discussions are described in the ESA

2010 Validation Handbook. The task force created the handbook as a living document that will be updated as each domain conducts regular reviews in their expert specific task forces and working groups.

The handbook provides a detailed description of the validation rules discussed and agreed in the task force for most domains, as a blueprint for the validation service. Based on the ESS Vision Infrastructure Project's suggested structure for an efficient validation process, checks were split into five main groups:

1. Structural checks focusing on compliance with the statistical data and metadata exchange standard (SDMX).
2. Basic logic checks, which cover consistency between the sender ID and reference area country, ensuring that a table ID was present, correct use of flags in the observation status to accompany missing values, embargo dates and correct coding of the confidentiality status, and a valid reference year price for the chain-linked volume series.
3. Basic content checks which identify missing or unexpected series in the transmission along with holes in the series. This group also includes checks for zero and negative values.
4. General plausibility and consistency checks focusing on content within the file. These include checking for additivity of breakdowns, outliers and consistency between prices.
5. Advanced plausibility and consistency checks focusing on content within the file with information stored outside the file. Examples of these checks include revisions compared to a previous transmission, the sum of quarterly series compared to the annual transmission, and consistency in the value of the series submitted across different tables in the ESA 2010 Transmission Programme.

## 8.1.2. Statistical cooperation and harmonisation

Cooperation and harmonisation of national and regional accounts in the ESS are coordinated through the National Accounts Working Group and the EDP Working Group under the guidance of Directors of Macroeconomic Statistics meetings. These groups prepared many manuals and guidance papers on a broad range of subjects before the ESA 2010 was introduced, including in cooperation with international partners. This work is ongoing.

In 2016, the EU Member States, EFTA countries, Switzerland and Eurostat finalised the preparatory work on quality reporting and assessment, which led to the production of this assessment report. Significant resources were dedicated to following up on the ESA 2010 data availability and derogations. Attention was also focused on the further availability and harmonisation of metadata. Together with the CMFB and the ECB, the revision policy was reviewed and adapted as concerns benchmark and routine revisions. To further address user needs, key institutional users expressed their data requests.

In terms of specific measurement subjects, recommendations were provided on the implementation of the principle of economic ownership and the recording of foreign direct investment under the ESA 2010. Challenges of measuring the digital economy were discussed as well. A task force concluded its work by proposing updates on goods for reprocessing, merchandising, gambling, telecommunications, trade margins and ships and aircraft in the Handbook on Price and Volume Measures and by researching the issue of quality adjustments for non-market services. Another task force, jointly run with the OECD, continued its work on studying the balance sheet item 'Inventories'. In cooperation with the Commission's Joint Research Centre, exploratory projects for compiling new data focused on productivity indicators and inter-country supply, use and input-output tables. A horizontal project was set up to address measurement challenges related to global production and integrated global accounts.

### 8.1.3. Gross national income (GNI)

GNI at market prices is the main indicator on the basis of which the EU determines Member States' financing of its expenditure. The GNI concept stems from the ESA definitions. As defined by the current GNI regulation (Council Regulation (EC, Euratom) No 1287/2003), GNI equals the gross domestic product (GDP) minus primary income payable by resident units to non-resident units plus primary income receivable by resident units from the rest of the world. The specific rules for GNI quality assurance put the focus on the comparability, reliability and exhaustiveness of GNI data, including on the use of harmonised definitions and accounting rules as well as appropriate sources and compilation methods. The Commission (Eurostat) verifies the sources and methods used by Member States to calculate GNI and takes measures aimed at improving their quality, with the assistance of a dedicated committee. The verification process for GNI is a stricter procedure compared to the one for national accounts.

Based on the GNI inventories presented by Member States at the beginning of 2016, Eurostat examines the implementation of the ESA 2010 methodology relevant to the GNI calculation individually by country. Core elements of the verification include the information visits to the countries, action points for improvements and, when needed, formal reservations on the quality of GNI data.

Under the GNI verification process, the following cross-country comparisons are ongoing:

- exhaustiveness (absence and misreporting, statistical deficiencies, VAT fraud, use of tax audit information, illegal activities),
- balancing of GDP,
- dwelling services,
- financial services, including financial intermediation services indirectly measured,
- global production, balance of payments (exports and imports of goods and services, cross-border flows of income of labour, cross-border flows of property income, taxes and subsidies to/from the EU, special purpose entities, global production and relocation of multinational enterprises),
- changes between the ESA 95 and ESA 2010,
- research and development,
- weapon systems.

The GNI Committee composed of representatives of Member States examines data supplied in reply to the GNI questionnaire, GNI quality reports and other reports and analyses. This examination takes into account the following:

- the results of work to improve GNI data (including GDP) carried out in previous years,
- the reliability of the sources and methods used to calculate GNI,
- the comparability of GNI data through the use of the same definitions and accounting rules, and
- the exhaustiveness of GNI estimates.

Based on this examination, at its most recent meeting in November 2017 the GNI Committee observed that considerable improvements have been made in the harmonisation and quality of the GNI estimates of the EU-27 Member States. It considered that, taking due account of the GNI reservations set for the EU-27 between January 2012 and October 2017, these data are appropriate for use for own resource purposes with respect to reliability, comparability and exhaustiveness in accordance with Article 5(2)b of the GNI Regulation. However, the GNI Committee also underlined that the improvement of GNI calculations and of national accounts, in general, is a continuous process. It stressed that research and studies should be taken

further and that work should be pursued with an appropriate level of resources. The GNI Committee's opinion on Croatia's GNI data is an integral part of this general opinion.

All compilers of ESA 2010 data closely follow methodological improvements aimed at GNI for own resources. Such improvements are then applied to relevant ESA 2010 tables.

#### **8.1.4. Excessive deficit procedure (EDP) and government finance statistics**

Government finance statistics play a key role in the EU's economic monitoring. They include in particular data on government debt and deficit, reported under the excessive deficit procedure (EDP). On behalf of the Commission, Eurostat is responsible for assessing the quality of the EDP statistics submitted by Member States and for providing the statistics to be used for the EDP (see also other legal basis). It is solely responsible for the interpretation of the methodology underlying these statistics. This methodology is based on the ESA 2010 and on Eurostat's Manual of Government Deficit and Debt, as well as Eurostat's decisions and guidance notes. It has been developed based on a broad consensus of the EU statistical community.

In the fields of EDP and government finance statistics (GFS), Eurostat's mission is to be the guardian of Member States' implementation of the ESA and to develop, when necessary, sound interpretations of the ESA rules based on advice from the EU statistical community. In carrying out this responsibility, Eurostat respects the principles of equal treatment of Member States and of the Code of Practice for European Statistics, in particular professional independence, objectivity and impartiality. It maintains a continuous dialogue with all relevant institutions in the Member States, and provides in particular bilateral advice for specific past and future transactions.

In its assessment of the quality of EDP statistics submitted by Member States, Eurostat is committed to verifying:

- national reporting authorities' compliance with ESA accounting rules;
- the exhaustiveness of the coverage of the general government sector, in particular by means of a register of government-controlled entities;
- the quality of Member States' 'EDP Inventories of Methods, Procedures and Sources';
- the reliability, timeliness and consistency of statistical data;
- the consistency, sustainability, transparency, documentation and control of the EDP compilation processes within national statistical authorities;
- the conformity of these processes with the European Statistics Code of Practice; and
- the degree of assurance provided by internal controls and external audits by supreme audit institutions or other external audit bodies of the quality of public accounts used as inputs to the EDP compilation processes.

Eurostat reports on EDP data in the context of its regular and exhaustive reports to the Council (Economic and Financial Committee) and European Parliament.

In the field of GFS data reported in the ESA 2010 Transmission Programme, Eurostat, in close cooperation with Member States, ensures the consistency of data within the dataset, consistency with other GFS data, and consistency with EDP data. In the context of regular transmission reports<sup>7</sup>, Member States and Eurostat ensure data coherence and accuracy.

<sup>7</sup> Covering completeness, coherence, basis and advance plausibility checks, revisions, growth rates, unexpected amounts, etc. and providing for Member States' explanations.

Results, including on data comparability (methodological interpretation), are reported in the GFS and COFOG task forces in the context of progress reports as well as ad-hoc studies and discussions. These task forces routinely report their findings to the working group on EDP statistics for validation.

## 8.2. Comparability over time

The availability of consistent historical data on national and regional accounts is essential for the needs of economic analysis. Depending on the ESA 2010 dataset, countries provide time series back to reference years 2000 and even 1995. Quality reporting on breaks in time series of submitted data will be introduced in 2021. This report comments only on the availability of data for the last 10 years in the context of the MIP.

# 9.

## Coherence

**Coherence** is the capacity of the data to be reliably combined in different ways and for various uses.

It focuses on the joint use of statistics that are produced for different primary purposes to show cases of incoherence rather than to prove coherence.

Coherence is a key quality criterion to assess the national and regional accounts data. This year's edition of quality reporting assesses it with the help of three quality indicators, as presented below. The full scope of nine coherence indicators will be employed in the assessments carried out in 2019 and 2021.

The evaluation of consistency within this quality report is based on the following coherence indicators:

- coherence between quarterly and annual data,
- coherence between totals and sum of components,
- coherence of identical variables across national accounts main aggregates tables.

### 9.1. Coherence between quarterly and annual data

When quarterly and annual data are submitted to Eurostat, it is important to ensure that these figures are consistent with annual data. Small differences may be tolerated, but not major ones.

Consistency between annual data and the sum of the data for the four individual quarters was analysed for certain key EU aggregates in the context of the 2017 quality reporting exercise. The analysis covered differences identified between annual data and the sum of the four-quarter data in 2011-2015 for GDP (current prices, non-seasonally adjusted), total employment (in thousands of persons, non-seasonally adjusted), gross operating surplus, gross mixed income and gross disposable income.

In the analysed period of 2011-2015, for **national accounts main aggregates**, only very few countries (Cyprus, Finland, Romania) showed inconsistencies between annual and quarterly data. These exceeded 0.5 % for some years and possibly reflected vintage effects.

For **non-financial sector accounts**, the exercise is valid only for countries which have complete reporting obligations at quarterly level, and for Croatia and Slovenia. Consistency between quarterly and annual data in 2011-2015 was very good for all 21 countries involved, with some discrepancies observed only for Romania (corrected in April 2017) and very minor discrepancies observed for Greece and Finland.

## 9.2. Coherence between totals and sum of components

When data submitted to Eurostat can be broken down by activity (i.e. NACE Rev. 2 divisions), it is important to ensure that the figures add up and are consistent in terms of expected additivity rules (except in cases where additivity does not apply like the case of chain-linked volumes).

The consistency checks performed in the context of the 2017 quality reporting exercise covered:

- gross domestic product in current prices, non-seasonally adjusted, total and sum of expenditure components (quarterly and annual data), Table 1,
- gross value added, current prices, total and NACE Rev. 2(2), level A\*10 breakdowns (quarterly and annual data), Table 1,
- total employment in thousands of persons, non-seasonally adjusted, total and sum of employees and self-employed (quarterly and annual data), Table 1,
- total employment, in thousands of persons, total and sum of NACE Rev. 2, level A\*10 breakdowns (annual data), Table 1.

In the analysed period of 2011-2015 and for the latest four quarters, the overall results of consistency checks between totals and sums of components were good. Small differences between the totals and sums of components for GVA, GDP and employment were only noted for a few countries (Denmark, Croatia and Slovakia) and remained below 0.5 %.

## 9.3. Coherence of identical variables across national accounts main aggregates tables

National accounts data for some key variables are sent in different tables of the ESA 2010 Transmission Programme. This is the case for example for: GVA, compensation of employees, and employment which are sent in Tables 1 and 3; GDP is sent in Tables 1 and 8; gross fixed capital formation data is included in Tables 1, 3 and 22.

Theoretically, these data should be the same across tables. However, for practical reasons, they may differ for some tables and countries. While differences due to different vintages are usually limited, there are also cases where significant revisions are introduced, notably in the context of the EDP or GNI verification process. Until these can be incorporated into the full set of national accounts more substantial differences can be observed across tables.

In the context of the 2017 quality reporting exercise, the average and absolute maximum difference for the following variables were analysed:

- GDP in current prices for quarterly and annual data within Table 1 (GDP according to production, expenditure and income approach),
- gross value added in current prices for annual data between Tables 1 and 3,
- compensation of employees in current prices for annual data between Tables 1 and 3,
- gross fixed capital formation in current prices for annual data between Tables 1 and 3 and Tables 1 and 22,
- exports of goods and services in current prices for quarterly and annual data within Table 1 (taken from expenditure components of gross domestic product and from the detailed exports breakdown),
- imports of goods and services in current prices for quarterly and annual data within



Table 1 (taken from expenditure components of gross domestic product and from the detailed imports breakdown),

- total employment, employees and self-employed for annual data in thousands of persons between Tables 1 and 3.

In the analysed period of 2011-2015, data were in general coherent for both annual and quarterly frequencies. A few more substantial differences were noticed between Tables T102A-T2200A, T102A-T302A for Germany, the Netherlands and the United Kingdom as well as Tables T102A-T120A and T102A-T121A for Poland for annual data and France for quarterly data.

# 10.

## Cost and burden

**Cost and burden** is the cost associated with the collection and production of a statistical product and burden on respondents.

Two cost exercises are currently carried out in the ESS, as decided by the ESS Resource Directors Group. These exercises assess the cost of the statistical processes at national level and in Eurostat as well as statistical products provided by Eurostat.

The first phase of the cost analysis of European statistics collected the cost and full time equivalent (FTE) information on a selected 26 statistical products. 23 Member States submitted 2015 cost estimates to Eurostat.

Six statistical products of the national accounts domains were covered:

1. Annual national accounts,
2. Quarterly national accounts,
3. Regional accounts,
4. Annual sector accounts — non-financial flows and stocks,
5. Annual sector accounts — financial flows and stocks,
6. Quarterly sector accounts.

While total costs of producing these six products in the respondent countries showed average costs of around 3.1 million euro/year/country, in terms of human resources on average 42.3 FTEs/year were involved in the production of the assessed national accounts domains. This is preliminary information compiled only based on the cost estimates of 23 National Statistical Institutes and does not cover other institutions compiling national accounts data.

There is no ongoing work to assess the administrative burden of the ESA 2010. National accounts use various existing data sources (administrative data, primary statistical data). Primary data originate from other statistical domains and are reused for the needs of the national and regional accounts.

# 11.

## Overall quality assessment results and recommendations

This chapter summarises the results of the quality assessment of data submitted by Member States to Eurostat in 2016. Such an assessment is carried out for the first time since the introduction of the ESA 2010 in September 2014. It has a limited scope adjusted to the ongoing process of adapting national statistical systems to the new requirements of the ESA 2010 by 2020.

The data sent in 2016 were broadly in line with quality standards of the ESS and the ESA 2010 Regulation. Many Member States have been able to comply with the new data requirements and methodology, while the process of adapting national data compilation systems will continue until 2020. Based on the quality criteria used in the assessment, the overall results are detailed below.

### Relevance

National and regional accounts data are highly relevant to users as demonstrated by the latest user satisfaction survey of Eurostat.

In 2016, both quarterly and annual national accounts mandatory data had high completeness.

The average completeness rate for national account main aggregates (NAMA), government finance statistics (GFS), non-financial sector accounts (NFSA) and financial accounts was between 95 % and 100 %; for supply, use and input-output tables (SUIOT) and regional accounts it was between 88 % and 97 %.

The average completeness rate of quarterly data ranged from 94.7 % for NFSA to 99.8 % for GFS. The completeness of annual data was also high, ranging from 87.9 % for annual supply use tables to 99.8 % for annual main aggregates of GFS.

For quarterly tables, 22 EU Member States submitted all or nearly all required data (above 95 %), while seven countries achieved a full completeness rate. In terms of annual data, 22 countries submitted all or nearly all mandatory data (completeness rate above 95 %). Eight countries, including six EU Member States, submitted 15 or more incomplete annual tables in 2016.

Eurostat finds it important to acknowledge the effort made by all countries to submit additional data on a voluntary basis for the benefit of users.

### Accuracy

The analysis of revision rates for GDP and employment flash estimates for European aggregates showed that the accuracy of estimates in the analysed period was high.

Under the Implementing Act, the detailed analysis of revision rates for data submitted by Member States will be incorporated into quality reporting as from 2019. In this first quality report, the assessment of accuracy is based on the qualitative information on revisions provided by the reporting countries.

In 2016, 10 EU Member States and Iceland performed either major ad-hoc or benchmark

revisions of their national accounts data. These revisions aimed to improve the quality of data and were mainly related to the further implementation of statistical standards, GNI reservations or resulting from revisions of related statistics e.g. balance of payments or structural business statistics.

Most EU Member States as well as the two EFTA countries make information on their national revision policies available online.

The content of available information on national revisions varies substantially among the countries for which the information is publicly available. Demonstrating good practice, 11 EU Member States provide users with information on specific data revisions by national accounts domain. Nearly all countries publish information on the national revision policy for quarterly national accounts. On the contrary, information on revisions for financial accounts, regional accounts and supply use input output tables is missing on most national websites.

### **Timeliness and punctuality**

Thanks to the data submitted by EU Member States, the timeliness of European aggregates significantly improved: the preliminary GDP flash estimates were published 15 days earlier and the euro area quarterly sector accounts 18 days earlier.

Overall, the punctuality of transmission of quarterly national accounts was relatively high in 2016, while the punctuality of transmission of annual data was rather low.

16 EU Member submitted all mandatory quarterly accounts at or before the legal deadline. For annual data, only eight countries submitted all required annual national and regional accounts tables on time. Six EU Member States submitted 10 or more tables after the legal deadline.

### **Accessibility and clarity**

All EU Member States and EFTA countries publish online documentation on national accounts methodology and compilation methods. However, the content of the available information varies substantially across countries and could be enriched where appropriate. A comprehensive set of documentation is accessible online for around half of EU Member States.

### **Coherence**

The analysis of coherence in the context of this quality report is limited as only the internal coherence of certain main aggregates tables was subject to detailed analysis in 2017. The full scope of nine coherence indicators will be employed in the assessments carried out in 2019 and 2021.

Overall internal coherence within (Table 1) and between Tables (1 and 3, 1 and 22) was very high for nearly all countries in 2016. Small discrepancies noted for a few countries were mainly caused by rounding practices.

Based on the quality assessment, Eurostat makes the following **general recommendations** to countries:

- Continue to adapt national statistical systems to achieve full implementation of ESA 2010.
- Ensure full data completeness of mandatory data in order to comply with the ESA 2010 Regulation.
- Respect the transmission deadlines set out in the ESA 2010 Regulation and address the overall delayed delivery of annual data.
- Make specific information on implemented major revisions by ESA 2010 table or domain available to users on national websites.
- Enrich the online documentation on methodology, including metadata, available on national websites to better inform users.

- When sending data, use the structural validation service established by Eurostat to ensure compliance with the SDMX standard.

In addition, based on national quality reports and analysis of submitted data, Eurostat provided country-specific recommendations bilaterally. These are summarised in Table 10.

Table 10: Country-specific recommendations

| Recommendation   | Country  |
|--|--|
| Improve compliance in terms of completeness of certain tables (countries in bold to address major gaps)  | <b>BG</b> , CY, CZ, EE, EL, ES, FI, FR, <b>HR</b> , HU, IE, LT, <b>LU</b> , LV, MT, <b>PL</b> , PT, <b>RO</b> , SE, UK<br><b>IS</b> , <b>NO</b>  |
| Develop and publish information on the national revision policy  | HR, IE, LU<br>CH   |
| Foster efforts towards alignment of the national revision policy to the harmonised European revision policy endorsed by the CMFB               | BE, DK, FI, FR, HR, HU, IE, LT, LU, MT, NL, SE, SI, UK   |
| Improve compliance in terms of punctuality of certain tables (countries in bold to address major gaps)   | <b>BG</b> , CZ, EL, ES, FR, <b>HR</b> , <b>IE</b> , LT, LU, LV, MT, <b>PL</b> , RO<br>CH   |
| Widen the scope of the methodological documentation available online   | BG, CY, EL, HR, LV, MT, PT, RO<br>CH, NO   |
| Implement the identified improvement actions on the ESA 2010 methodology   | All countries for which the actions have been identified in the GNI context (as of September 2017): BE, BG, AT, CY, CZ, DE, EE, EL, FR, HR, HU, IE, LT, LU, LV, MT, NL, PL, PT, RO, SE, UK |
| Ensure further the consistency of annual and quarterly financial accounts  | BG, CZ, DK, IE, LT, LV, SK   |
| Reduce vertical discrepancies between financial and non-financial sector accounts  | BG, CZ, EL, FI, HR, LT, LV, MT, PL, SE, SK<br>IS   |
| Address systematic difficulties in delivering NFSA data to Eurostat  | BG, HR, LU<br>IS   |
| For Table 27, achieve adherence with ESA 2010 methodology and comparability with related GFS tables  | EL   |
| Address outstanding data transmission issues, including when transmitting chain-linked volume and previous years' prices data in later periods | IE   |
| Estimate the black dividends for back periods in NFSA  | RO   |
| Provide employment figures in persons instead of jobs for RA   | AT   |
| Submit data on previous years' prices for Table 1  | NO   |

# 12.

## Annexes

### Tables included in the ESA 2010 Transmission Programme and deadlines for data transmission

Table 11: Overview of the ESA 2010 Transmission Programme tables

| Table No | Subject of the tables  | Frequency   | Deadline t + months (days where specified) | Period covered |
|----------|--|-------------|--|----------------|
| T1       | Main aggregates  | quarterly   | 2  | 1995Q1 onwards |
| T1       | Main aggregates  | annual      | 2/9  | 1995 onwards   |
| T2       | Main aggregates of general government  | annual      | 3/9  | 1995 onwards   |
| T3       | Tables by industry   | annual      | 9/21                                       | 1995 onwards   |
| T5       | Household final consumption expenditure by purpose   | annual      | 9  | 1995 onwards   |
| T6       | Financial accounts by sector (transactions)  | annual      | 9  | 1995 onwards   |
| T7       | Balance sheets for financial assets and liabilities  | annual      | 9  | 1995 onwards   |
| T8       | Non-financial accounts by sector   | annual      | 9  | 1995 onwards   |
| T801     | Non-financial accounts by sector   | quarterly   | 85 days                                    | 1999Q1 onwards |
| T9       | Detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification | annual      | 9  | 1995 onwards   |
| T10      | Tables by industry and by region, NUTS level 2   | annual      | 12/24                                      | 2000 onwards   |
| T11      | General government expenditure by function   | annual      | 12   | 1995 onwards   |
| T12      | Tables by industry and by region, NUTS level 3   | annual      | 24   | 2000 onwards   |
| T13      | Household accounts by region, NUTS level 2   | annual      | 24   | 2000 onwards   |
| T15      | Supply table at basic prices incl. transformation into purchasers' prices  | annual      | 36   | 2010 onwards   |
| T16      | Use table at purchasers' prices  | annual      | 36   | 2010 onwards   |
| T17      | Symmetric input-output table at basic prices   | five yearly | 36   | 2010 onwards   |
| T20      | Cross classification of fixed assets by industry and by asset  | annual      | 24   | 2000 onwards   |
| T22      | Cross classification of gross fixed capital formation by industry and by asset   | annual      | 24   | 1995 onwards   |
| T26      | Balance sheets for non-financial assets  | annual      | 24   | 1995 onwards   |

|            |  |              |         |                |
|------------|--|--------------|---------|----------------|
| <b>T27</b> | Financial accounts of general government                 | quarterly    | 85 days | 1999Q1 onwards |
| <b>T28</b> | Government debt (Maastricht debt) for general government | quarterly    | 3       | 2000Q1 onwards |
| <b>T29</b> | Accrued-to-date pension entitlements in social insurance | three yearly | 24      | 2012 onwards   |

## List of figures

|  |    |
|--|----|
| Figure 1: User satisfaction survey — overall quality of ‘National accounts’ — 2016 as compared to 2015 .....   | 18 |
| Figure 2: User satisfaction survey — overall quality of ‘Government finance statistics’ — 2016 as compared to 2015 .....   | 18 |
| Figure 3: Number of downloads from the database containing national and regional accounts data in 2016 .....   | 19 |
| Figure 4: Number of downloads of national accounts news releases in 2016. ....   | 20 |
| Figure 5: Completeness rate of national accounts quarterly tables reported in 2016 .....   | 21 |
| Figure 6: Quarterly national accounts main aggregates (T1), average data availability for 2015Q4-2016Q3 (as reported in 2016) .....  | 21 |
| Figure 7: Quarterly government finance statistics (T27 and T28), average data availability for 2015Q4-2016Q3 (as reported in 2016) .....   | 22 |
| Figure 8: Quarterly non-financial sector accounts (T801), average data availability for 2015Q4-2016Q3 (as reported in 2016).....   | 23 |
| Figure 9: Completeness rate of national accounts annual tables reported in 2016 .....  | 24 |
| Figure 10: Annual national accounts main aggregates (T1); average data availability as reported in 2016 .....  | 24 |
| Figure 11: Annual tables by industry (T3) and for household final consumption expenditure by purpose (T5); average data availability as reported in 2016 .....   | 25 |
| Figure 12: Annual tables on cross classification of fixed assets by industry and by asset (T20), cross classification of gross fixed capital formation by industry and by asset (T22) and balance sheets for non-financial assets (T26); average data availability as reported in 2016 .....   | 25 |
| Figure 13: Annual main aggregates of general government (T2); average data availability as reported in 2016 .....  | 26 |
| Figure 14: Annual detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification (T9) and general government expenditure by function (T11); average data availability as reported in 2016..... | 26 |
| Figure 15: Annual non-financial sector accounts (T8); average data availability as reported in 2016... 27  | 27 |
| Figure 16: Annual financial accounts by sector; transactions (T6) and balance sheets for financial assets and liabilities (T7); average data availability as reported in 2016 .....  | 27 |
| Figure 17: Supply and use annual tables (T15 and T16), average data availability for 2010-2013 as reported in 2016.....  | 28 |
| Figure 18: Five-yearly use tables (T16XX), average data availability as reported in 2016 .....   | 28 |
| Figure 19: Five-yearly input output tables (T17, 18 and 19), average data availability as reported in 2016 .....   | 28 |
| Figure 20: Annual regional accounts (T10, T12 and T13), average data availability as reported in 2016 .....  | 29 |
| Figure 21: Punctuality of quarterly national accounts main aggregates data (T1Q) for 2015Q4-2016Q3 (as reported in 2016).....  | 41 |
| Figure 22: Punctuality of quarterly non-financial sector accounts data (T801Q) for 2015Q4-2016Q3 (as reported in 2016).....  | 41 |
| Figure 23: Punctuality of annual national accounts main aggregates (T1) data submitted in 2016 .....   | 43 |



|  |    |
|--|----|
| Figure 24: Punctuality of other annual national accounts main aggregates (T3, T5 and T2XX) data submitted in 2016..... | 43 |
| Figure 25: Punctuality of annual government finance statistics (T2, T9 and T11) data submitted in 2016 .....           | 44 |
| Figure 26: Punctuality of annual non-financial sector accounts (T8) data submitted in 2016 .....                       | 44 |
| Figure 27: Punctuality of annual financial accounts (T6 and T7) data submitted in 2016 .....                           | 45 |
| Figure 28: Punctuality of annual supply use tables (T15 and T16) submitted in 2016.....                                | 45 |
| Figure 29: Punctuality of five-yearly use tables (T16XX) for the reference year 2010 .....                             | 46 |
| Figure 30: Punctuality of five-yearly input-output tables (T17, 18 and 19) for the reference year 2010 .....           | 46 |
| Figure 31: Punctuality of annual regional accounts (T10, T12 and T13) data submitted in 2016.....                      | 47 |
| Figure 32: First GDP flash estimate as submitted in 2017Q1 .....   | 48 |
| Figure 33: GDP release containing components of GDP, transmission of 2016Q4.....                                       | 49 |
| Figure 34: Household and company accounts, transmission of 2016Q4 .....  | 50 |
| Figure 35: Government finance statistics, transmission of 2016Q4 .....   | 51 |

## List of tables

|   |    |
|---|----|
| Table 1: Availability of information on national revision policy .....  | 33 |
| Table 2: Major routine and benchmark revisions carried out in 2016 .....  | 34 |
| Table 3: Revisions of quarterly GDP for the euro area aggregates (quarter-on-quarter growth rates); based on data published between 2014Q3 and 2016Q3 ..... | 36 |
| Table 4: Revisions of quarterly GDP for the euro area aggregates (year-on-year growth rates); based on data published between 2014Q3 and 2016Q3 .....       | 36 |
| Table 5: Revisions of quarterly GDP for the EU aggregates (quarter-on-quarter growth rates); based on data published between 2014Q3 and 2016Q3 .....        | 37 |
| Table 6: Revisions of quarterly GDP for the EU aggregates (year-on-year growth rates); based on data published between 2014Q3 and 2016Q3 .....              | 37 |
| Table 7: Revisions of quarterly employment growth estimates for the EU-28 aggregate; based on data published between 2014Q3 and 2016Q3 .....                | 38 |
| Table 8: Revisions of quarterly employment growth estimates for the EA-19 aggregate; based on data published between 2014Q3 and 2016Q3 .....                | 38 |
| Table 9: Availability of mandatory and voluntary inventories on the Eurostat website and/or CIRCABC public website, as of 31 September 2017 .....           | 54 |
| Table 10: Country-specific recommendations .....  | 68 |
| Table 11: Overview of the ESA 2010 Transmission Programme tables .....  | 69 |

## List of acronyms

- ASA: annual non-financial sector accounts
- CIRCABC: a collaborative platform of the European Commission, which offers an easy distribution and management of documents
- CMFB: Committee on Monetary, Financial and Balance of Payments Statistics
- EA: Euro area
- ECFIN: Economic and Financial Affairs Directorate General of the European Commission
- ECB: European Central Bank
- EDP: Excessive deficit procedure
- EFTA: European Free Trade Association
- ESA 2010: European System of National and Regional Accounts 2010
- ESS: European Statistical System
- EU: European Union
- Eurobase: statistical data base of Eurostat
- FIGARO: Full International and Global Accounts for Research in Input-Output Analysis project
- GDP: Gross domestic product
- GFS: Government finance statistics
- GNI: Gross national income
- GVA: Gross value added
- HERP: Harmonised European Revision Policy
- IMF: International Monetary Fund
- MIP: Macroeconomic Imbalance Procedure
- NACE: Statistical Classification of Economic Activities in the European Community  
(FR: Nomenclature statistique des activités économiques dans la Communauté européenne)
- NAMA: national accounts main aggregates
- NPISH: Non-profit institutions serving households
- NSI: National Statistical Institute
- NUTS: Nomenclature of territorial units for statistics  
(FR: Nomenclature des Unités territoriales statistiques)
- PEEIs: Principal European Economic Indicators
- OECD: Organisation for Economic Cooperation and Development
- QFAGG: quarterly financial accounts for general government
- QNA: quarterly national accounts
- QSA: quarterly non-financial sector accounts

- SDMX: Statistical metadata and data exchange standard
- SGP: Stability and Growth Pact
- SNA 2008: System of National Accounts 2008
- SUIOT: supply and use, input-output tables
- ULC: Unit labour cost