Quality report on National and Regional Accounts

2019 DATA

2020 edition

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Executive summary

This document presents Eurostat's assessment of the quality of the national and regional accounts data submitted by the EU Member States, Iceland, Norway and Switzerland in 2019. It also presents quality information on Eurostat's own publications of European aggregates. This publication refers to data transmissions during 2019 when the United Kingdom was a Member State of the European Union. Therefore, the United Kingdom is still included in the EU-28 evaluation.

The assessment in this quality report is based on national quality reports for data transmissions during 2019. It is the fourth such report since the European System of Accounts 2010 (ESA 2010) was introduced in September 2014.

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 (EU) 2016/2304 sets out the modalities, structure, periodicity and indicators of the assessment process.

The quality report covers a number of quality indicators (completeness, revision policy and practice, punctuality, coherence and documentation on methodology). In 2021, the quality reporting will be expanded to include all the quality indicators within the scope of Commission Implementing Regulation (EU) 2016/2304. The report in 2021 will also be the first to assess the full scope of data transmission under ESA 2010, as the temporary ESA 2010 derogations fully expire in 2020.

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 2019, as well as 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 delivered to compile EU policy indicators such as the principal European economic indicators (PEEIs) and indicators in support of the Macroeconomic Imbalance Procedure (MIP). The overall results of the assessment and Eurostat's recommendations to countries are summarised in Chapter 10 of the report.

As a general assessment, most Member States have continued to make progress in complying with the new data requirements and methodology and in adapting national data compilation systems. In 2019, 18 EU Member States and Norway carried out coordinated benchmark revisions of national accounts in line with recommendations of harmonised European revision policy (HERP). National statistical institutes (NSIs) took the opportunity to improve the quality of their national accounts estimates further by introducing methodological or statistical changes as well as using new data sources. The data sent in 2019 were broadly in line with the ESS quality standards and the ESA 2010 Regulation, and there have been improvements in both data completeness and punctuality since the first quality report on data submissions in 2016. The overall results for the different quality criteria are as follows:

Relevance

In 2019, both quarterly and annual national accounts mandatory data had high completeness. Since the last Eurostat report, for most countries both the completeness rates increased, and the number of incomplete tables decreased. The average completeness rates for tables for national accounts main aggregates (NAMA), government finance statistics (GFS), non-financial sector accounts (NFSA) and annual financial accounts (AFA) were between 96.9% and 100%. This was a significant improvement from last year's rate, which ranged from 93.4% to 100%. For supply, use and input-output tables (SUIOT) and regional accounts (RA) tables, the average completeness rates ranged between 94.5% and 100%.

Overall, data availability since the last quality report has increased for the EU-28 as a whole and for the majority of individual EU Member States and EFTA countries. This trend seems stable.

Accuracy

In 2019, 18 EU Member States and Norway performed coordinated benchmark revisions of national accounts in line with recommendations of the harmonised European revision policy (HERP). These revisions aimed to improve the quality of data. Most EU Member States as well as the two EFTA countries make information on their national revision policies available online.

Timeliness and punctuality

Overall, the punctuality of transmission of quarterly national accounts (QNA) was high in 2019, with most countries submitting all mandatory quarterly accounts at or shortly before the official transmission deadline. Longer delays occurred only for specific sub-tables for 3 EU Member States. For the 17 ESA 2010 tables transmitted annually, 9 Member States submitted all required annual national and regional accounts tables on time. The benchmark revision resulted in delays in sending data for several countries.

Accessibility and clarity

All EU Member States and EFTA countries publish online documentation on national accounts methodology and compilation methods. Progress was made in 2019 compared to 2018, with four more Member States publishing QNA inventories.

Coherence

Overall internal coherence within and between tables (within Table 1 and between Tables 1 and 3 and between Tables 1 and 22) was very high for nearly all countries in 2019. When comparing net lending / net borrowing (B.9) sourced from table 8 with net financial transactions (B.9F) sourced from table 6, the absolute differences range from around 3% in the non-financial corporation sector (S.11) and 2% in the household sector (S.14), both sectors where data sources tend to be less complete or reliable, to below 0.2% for the general government sector (S.13).

Regarding the specific national accounts domains, the overall results are as follows:

National accounts main aggregates (NAMA)

More than half of the EU Member States reached a completeness rate of 95% to 100% across all tables. Only a few countries had significant gaps for one or several tables. The benchmark revision helped some countries to improve their completeness rates. Regarding punctuality, data were generally sent either at or shortly before the official transmission deadline. Longer delays occurred only for specific sub-tables for three EU Member States. The internal coherence indicators cover the consistency checks between selected annual and quarterly data series sent in main aggregates tables, the consistency checks of GDP series sent in different sub-tables, and the consistency of the sums against the components.

Government finance statistics (GFS)

Data completeness rates of GFS are very high, with exception of lower completeness rates in Tables 2, 9 and 27 for some countries, but still the completeness rates of the countries are mostly above 97%. With very few exceptions, GFS data are transmitted on time or in advance of the transmission deadlines.

Annual financial accounts (AFA)

Annual financial accounts were sent mostly on time or in advance, with the exception of a few countries that had a delay of several days. When comparing the reporting of net lending/net borrowing in financial accounts with non-financial sector accounts, pronounced discrepancies could be detected for some countries, while several countries zeroed their discrepancies.

Non-financial sector accounts (NFSA)

The completeness rates for non-financial sector accounts data was high for most countries, with the exception of more substantive gaps in some countries. In non-financial sector accounts, quarterly data were generally sent on time or with very short delays, while in annual data, significant delays were observed in the transmission of four countries. The internal coherence indicators cover the consistency checks between selected annual and quarterly data series sent in sector accounts. Based on these checks, discrepancies were generally zero for most countries.

Regional accounts (RA)

Data completeness was generally very high in regional accounts, with significant data gaps in two EU Member States for historical NUTS 2016 data. Data were also generally sent in line with or shortly before the transmission deadline, except in a very small number of cases where there were notable delays for certain tables.

Supply, use and input-output tables (SUIOT)

Data completeness rates were generally high for SUIOT tables, with most of them reaching 100% completeness rates. For some countries, the lower than 100% completeness rate is due to some technical issues and missing flags that will be or have been addressed in the meantime. SUIOT tables were generally sent before the deadlines, with some countries providing the data very early on. However, two countries did not send the tables at all.

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

1. Improve compliance in terms of the **completeness** of certain tables
2. Improve compliance in terms of the **punctuality** of certain tables
3. Improve compliance in terms of the **methodological adherence to ESA 2010**
4. Improve quality aspects regarding the **accuracy** of statistics
5. Improve quality aspects regarding the **accessibility and clarity** of statistics
6. Improve quality aspects regarding the **coherence** of statistics.

In addition, based on national quality reports and analysis of submitted data, Eurostat provided country-specific recommendations. The specific recommendations given to Member States are then linked to and examined under each generic recommendation.

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 describing and analysing the economy of the EU, the euro area (EA), and individual Member States and EU regions. They are used for administrative purposes as well, e.g. to calculate Member State contributions to the EU budget. Therefore, it is extremely important that these European statistics are accurate, timely and complete and that users are regularly informed about their quality in a transparent way.

Eurostat began publishing national accounts data aggregated at European level 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 framework defining the European system of national and regional accounts is the European System of Accounts 2010 (ESA 2010) whose requirements were laid down by Regulation (EU) No 549/2013 (the ESA 2010 Regulation). ESA 2010 corresponds to the 2008 edition of the SNA and has been used in the EU since September 2014.

The ESA 2010 Regulation prescribes that the quality of national and regional accounts data sent to Eurostat are to be assessed according to the quality criteria set out by Regulation (EC) No 223/2009 on European statistics. The modalities, structure and assessment indicators of the quality assessment process are defined in Commission Implementing Regulation (EU) 2016/2304 (the Implementing Act). Each year, in accordance with Article 4(2) of the ESA 2010 Regulation, Member States report on the quality of national and regional accounts data sent to Eurostat. Based on their national quality reports, Eurostat prepares an overall assessment in accordance with Article 4(4). Additionally, under Article 12, every fifth year, starting from 2018, the Commission reports to the European Parliament and the Council about the quality of data on national and regional accounts. Both the national reports and the Eurostat assessment follow the recommendations of the European Statistical System (ESS) Handbook for Quality Reports. The information provided in these quality 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.

The assessment in this quality report shows results for transmissions of national and regional accounts data during 2019. It is the fourth such report since the introduction of the European System of Accounts 2010 (ESA 2010) in September 2014. It also includes information on the quality of key European aggregates published by Eurostat. The intended audience of the report are data users. Therefore, it is structured to provide information which helps to understand the published data and, where applicable, the factors that improve or limit their quality. The report focuses solely on data quality, so while it contains specific information and indicators for individual Member States, the Commission (Eurostat) assesses Member States' adherence to the requirements of 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 data from its own publications of EU and euro-area aggregates.

The quality reporting and assessment exercise starts every year 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, no later than 31 May. Eurostat assesses the results, and then prepares and publishes an overall assessment based on the national quality reports and other available information. This is an annual procedure which was carried out for the first time in 2017 based on data submissions in 2016.

Data transmissions based on the ESA 2010 methodology started from 1 September 2014. In 2020, the derogations granted by the Commission to the Member States expire. At that time, all data transmissions must be in line with all the provisions set out in the ESA 2010 transmission programme. Quality reporting is being introduced gradually in three steps. The first two quality exercises in 2017 and 2018 required countries to 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). In the third quality exercise in 2019, quality reporting was extended to include additional indicators on revision rates of quarterly and annual data for selected variables, and the coherence between non-financial and financial accounts. The current, fourth quality exercise has been carried out in the same scope as last year. In 2021, when the existing ESA 2010 derogations fully expire, quality reporting will be conducted fully within the scope of the transmission programme and will include the most recently 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 2019. Due to derogations from the data transmission requirements, not all countries submitted the same data. Only Czechia was due to submit all data since the start of the ESA 2010 data submission. By the end of 2016, Greece and the Netherlands closed their derogations and were due to submit a full set of data in 2018. Estonia, Italy, Lithuania and the United Kingdom closed their derogations in 2018 and Slovakia in 2019. The other 20 EU Member States together with Iceland and Norway continued to be exempt from certain data requirements in 2019. The derogations for Switzerland were established on 2 December 2019 with a decision of the EU/Switzerland Statistical Committee. Furthermore, for the NFSA domain, data requirements differ depending on whether the country has a small or big economy and whether or not it is a member of the euro area. It is important to note that Eurostat's assessment reflects these differences in mandatory data requirements.

As in past quality reports, national data submitted on a voluntary basis are not part of this quality assessment. The references to voluntary data made in this report acknowledge the efforts of countries to make additional data available to users, but do not comprise measured assessments.

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 gross national income (GNI) and from country visits. More specifically, for data used to compile the Macroeconomic Imbalance Procedure (MIP) indicators, available country self-assessment reports and European Central Bank (ECB) metadata for data compiled by national central banks were taken into account.

When national data or aggregates for the EU or euro area (EA) are used to compile policy indicators such as the MIP indicators 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, employment volume growth rates, investment rates and profit share of non-financial institutions, and investment rates and saving rates for household and non-profit institutions serving households. A revision analysis of annual government deficit and debt is published alongside the EDP press releases.

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, 26.6.2013, p. 1-727
- Commission Implementing Decision 2014/403/EU 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 175, 2.7.2014, p. 1-131
- Commission Implementing Decision (EU) 2018/1891 of 30 November 2018 amending Implementing Decision 2014/403/EU 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, OJ L 309, 5.12.2018, p. 5-39
- 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 192, 1.7.2014, p. 38
- Commission Delegated Regulation (EU) No 2015/1365 of 30 April 2015 on the transmission format for research and development expenditure data, OJ L 211, 8.8.2015, p. 1
- Commission Delegated Regulation (EU) No 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 207, 4.8.2015, p. 35-36
- Commission Implementing Regulation (EU) No 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 345, 20.12.2016, p. 27-36

The ESA 2010 Regulation 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 EU Member States must submit data to the European Commission (Eurostat).

The complete list of tables is presented in the overview in Annex 1, Table 15. For this report, these tables are organised into the following seven groups, covering the six ESA 2010 domains, plus pension entitlements:

ESA 2010 domain	Tables of the ESA 2010 transmission programme
National accounts main aggregates (NAMA)	1A, 1Q, 3, 5, 20, 22, 26
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
Supplementary table on pensions in national accounts[1]	29

The Commission granted 888 derogations([2]) from mandatory data transmission requirements on the request of EU Member States. These temporary derogations expire progressively by 2020, with two thirds of them (607 derogations) having already been closed by end-2018. In 2018, the Commission prepared a report, which included a review of the justification of derogations performed by Eurostat in close collaboration with the statistical offices in all EU Member States. Based on that review, on 30 November 2018, the Commission reduced the number of valid derogations from 365 to 267, and changed the description of 23 of those derogations([3]).

Derogations vary in substance and in the number of variables included, e.g. different years (quarters), different prices, seasonally or non-seasonally adjusted data, and breakdowns of the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2).

On 1 January 2020, all derogations for EU Member States, Iceland and Norway expired. Member States should ensure complete data transmissions according to ESA 2010 by the end of 2020 in line with the legal deadlines.

The derogations for Switzerland were established with Decision No 2/2019 of the EU/Switzerland Statistical Committee of 2 December 2019. They are mostly temporary and expire progressively by 2025; however, some derogations are subject to review in 2024.

([1]) No submissions for the supplementary table on pensions in national accounts were mandatory in 2019, therefore Table 29 is not considered in this report.

([2]) The Commission adopted Commission Implementing Decision 2014/403/EU granting 888 temporary derogations to 27 Member States. In addition, the EFTA Surveillance Authority granted 145 derogations to Norway and Iceland.

([3]) The Commission adopted the Implementing Decision (EU) 2018/1891 of 30 November 2018 amending Implementing Decision 2014/403/EU.

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*
- Regulation (EU) 2017/1951 of the European Parliament and of the Council of 25 October 2017 amending Regulation (EU) No 99/2013 on the European statistical programme 2013-17, by extending it to 2020, *OJ L 284, 31.10.2017, p. 1–11*
- European Statistics Annual Work Programme 2019
- Regulation (EU) 2019/516 of the European Parliament and of the Council of 19 March 2019 on the harmonisation of gross national income at market prices, *OJ L 91, 29.3.2019, p. 19–24*

Regulation (EC) No 223/2009 (the European Statistics Regulation) sets out the legal framework for developing, producing and disseminating European statistics, and defines the European Statistical System (ESS), which is the partnership between the Commission (Eurostat) and national statistical institutes (NSIs) and other national authorities responsible in each EU Member State for developing, producing and disseminating 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 2019 and covered by this report are produced under the 2013-2017 European statistical programme, which has been extended to 2020, and the European statistics annual work programme for 2019.

Furthermore, the European Statistics Regulation (Article 12) sets out the requirements on the statistical quality of European statistics according to the following quality criteria: relevance, accuracy, timeliness, punctuality, accessibility and clarity, comparability and coherence. EU Member States 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 the data submitted 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), where appropriate, makes public its assessment of the quality of national contributions to European statistics. Specific quality requirements, such as target values and minimum standards for the production of statistics, may also be set out in sectoral legislation.

In 2019, the European Council and the European Parliament adopted Regulation (EU) 2019/516 on the harmonisation of gross national income (GNI) at market prices. GNI aggregates are compiled in line with ESA 2010 and are the basis for calculating the largest share of own resources in the general budget of the Union. They are subject to closer verification of comparability, reliability and exhaustiveness. This process contributes positively to the overall quality of national accounts.

3.2 Classifications used in 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
- Nomenclature of territorial units for statistics (NUTS), 2016 version

3.3 Manuals and guidelines

- System of National Accounts 2008 (SNA 2008)
- ESS manuals and guidelines on national and regional accounts
- Practical guidelines for revising ESA 2010 data

ESA 2010 is broadly aligned with 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 EU Member States; however, their application is not mandatory.

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 and regional accounts)
- Government finance statistics
- European sector accounts
- Supply, use and input-output tables

Data submitted under the ESA 2010 transmission programme is assessed in the context of what is needed at policy level for the PEEIs, the MIP indicators, the calculation of GNI for the purposes of EU budget own resources and the EDP indicators. Additional information is available in the following sections of Eurostat's website:

- Principal European economic indicators (PEEIs)
- Macroeconomic Imbalance Procedure (MIP)
- GNI for own resource purposes
- Excessive Deficit Procedure (EDP)

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 impacts of globalisation on macroeconomic statistics.

- Economic globalisation

3.5 ESA 2010 application

Article 12 of the ESA 2010 Regulation states that, by 1 July 2018 and every 5 years after that, the Commission must submit a report to the European Parliament and the Council on the application of this Regulation. The report has to evaluate the quality of data on national and regional accounts, the effectiveness of the Regulation and the monitoring process applied, and the progress on contingent liabilities data and on the availability of ESA 2010 data.

Technical work was carried out in 2017 to prepare the first evaluation, which was conducted in 2018. On 29 June 2018, the Commission adopted and provided to the European Parliament and the Council the first such report on the application of the ESA 2010 Regulation and on the application of the granted derogations accompanied by a staff-working document on ESA 2010 data availability and derogations and on ESA 2010 data quality.

- 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 (COM(2018)506).

4 Relevance

Relevance is an attribute of statistics measuring the degree to which statistics meet current and potential needs of the users.

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.

This chapter gives an overview of work carried out on national and regional accounts to meet user needs. It presents assessment results on data completeness, namely the situation of data transmitted in 2019 and how data availability evolved over time.

The results of the Eurostat user satisfaction surveys since 2015 are also presented to show the trends in end user appreciation of the overall quality of national accounts data and government finance statistics.

4.1 User satisfaction

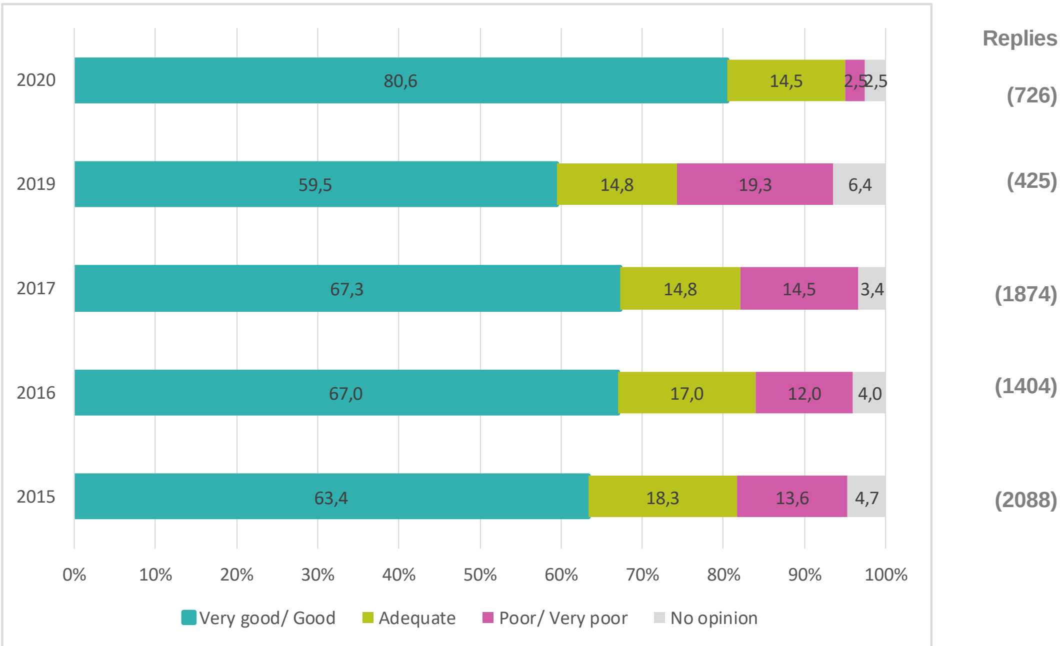
Statistical offices and national central banks conduct regular surveys to better understand the needs of national accounts data users, and the results are usually published at national level. The surveys are typically addressed to a wide range of users, including government authorities, academics, research institutes and professional associations, as well as the larger public. The surveys cover both user satisfaction and data needs. In addition to surveys, user data requests and inquiries are also scrutinised to identify data needs.

Similarly, Eurostat conducts an EU-level user satisfaction survey, normally each year. 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 ‘national accounts’ data (including GDP, main aggregates, sector accounts, input-output tables and regional accounts), ‘financial accounts and monetary indicators’ and ‘government finance statistics’.

The most recent user satisfaction survey was conducted in early 2020. Eurostat did not conduct the survey in 2018. The 2020 survey resulted in 726 replies from users of the ‘National accounts’ data, 182 replies from the users of ‘Financial accounts and monetary indicators’ and 296 replies from the users of ‘Government finance statistics’. The new personal data protection rules that came into force in 2019 resulted in a considerable decrease in the registered user population; therefore, a significant reduction in responses to the ESA 2010 domains was noted for 2019. Nevertheless, with 1 842 replies in 2020, the overall number of respondents for the entire user satisfaction survey almost doubled.

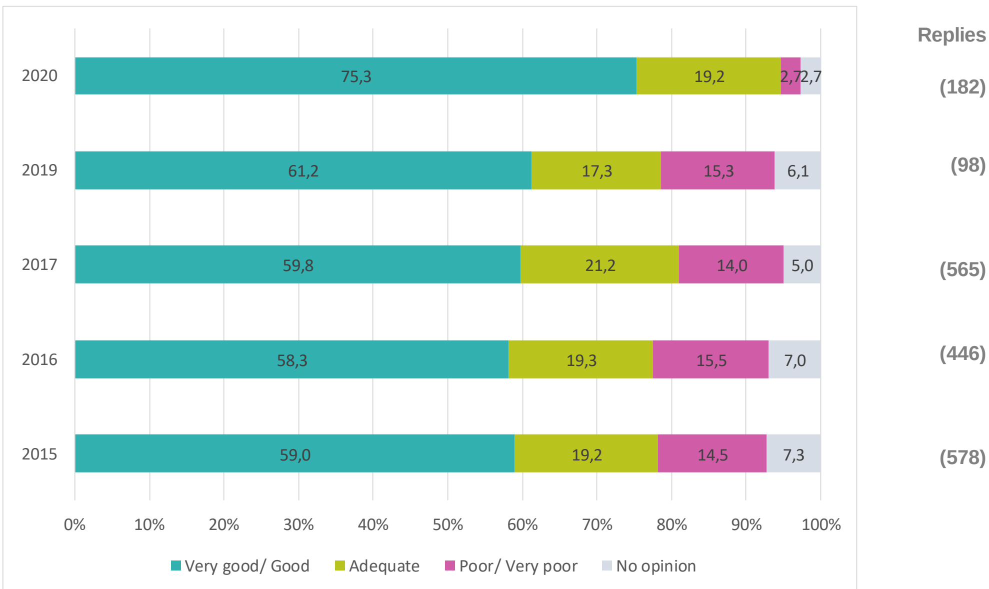
‘Economy and finance’ is one of the statistical areas most often utilised and typically receives one of the highest positive evaluations ('very good' or 'good') for the overall quality of statistics, including for timeliness, completeness and comparability. The results for data quality in 2020 marked a significant increase, making it the year with the highest scores in the user satisfaction survey, while national accounts is the top domain for almost all quality dimensions.

Figure 1: User satisfaction survey - overall quality of 'national accounts', surveys since 2015



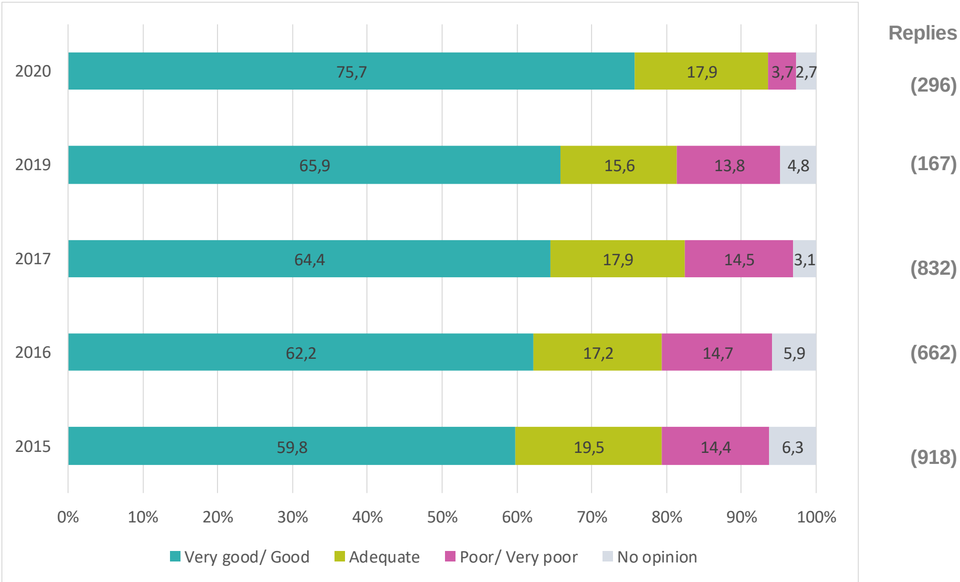
As shown in Figure 1, the overall quality of 'National accounts' was perceived as 'very good' or 'good' by 80.6% of users in 2020, an increased share compared to previous years. The share of users replying with the category 'poor' or 'very poor' decreased. In the 2019 survey, the share of 'very good' or 'good' ratings was lower than in previous years.

Figure 2: User satisfaction survey - overall quality of 'financial accounts and monetary indicators', surveys since 2015



The assessments for the overall quality of 'Financial accounts and monetary indicators' shown in Figure 2 **are similar**, with the share of 'very good' or 'good' assessments rising to 75.3% in 2020 from 61.2% in 2019 and the share of 'poor' or 'very poor' assessments of overall quality diminishing as a consequence.

Figure 3: User satisfaction survey - overall quality of 'government finance statistics', surveys since 2015



Similarly, in the assessments for the overall quality of 'government finance statistics' shown in Figure 3, the share of 'very good' or 'good' assessments rose to 75.7% in 2020 from 65.9% in 2019. The share of 'poor' or 'very poor' assessments decreased to less than 4% compared to 13.8% in the previous year's survey.

The data completeness of 'national accounts' was assessed as 'very good' or 'good' by 71.8% of users in 2020, up from 56.2% in 2019. For 'financial accounts and monetary indicators' 67.6% of users assessed data completeness as 'very good' or 'good' (55.1% in 2019) and for 'government finance statistics', 64.5% of users assessed data completeness as 'very good' or 'good' (58.7% in 2019). The data timeliness of national accounts data and the data comparability were assessed to be 'very good' or 'good' by 73.3% and 67.8% of users, respectively (56.9% and 56.2% in 2019). The timeliness and comparability of 'Financial accounts and monetary indicators' was assessed as 'very good' or 'good' by 71.4% and 62.6% of users, respectively (62.2% and 56.1% in 2019). For 'government finance statistics' data, these percentages were 67.6% for data timeliness (57.5% in 2019) for data comparability (59.9% in 2019).

Generally, the results in the various response categories for 'National accounts', for 'Financial accounts and monetary indicators' and 'government finance statistics' improved significantly compared to the previous survey in 2019. Eurostat looked in detail at the results of the survey and at the comments provided by individual users in order to understand better these changes. Generally, users suggested improvements to the quality of statistical data by, in particular, improving timeliness and reducing data gaps due to confidentiality and late sending of data for some countries. Most comments mentioned difficulties in navigating and not being able to easily access the vast information that is available on the Eurostat site. Other suggestions included: providing data at a more disaggregated level and at a more detailed regional level; providing cross-country and cross-sector comparisons; improving availability of financial statistics (i.e. foreign direct investments stocks and flows, financial assets, intra/ extra-EU trade, etc.); and improving metadata. For the latter, individual users pointed to improvements such as: giving clear, easy-to-understand and less technical explanations, and trying to avoid specialist language; providing metadata at a more detailed level, always giving definitions for all codes and explanations of methodology; and regularly updating metadata.

4.2 Actions to meet user needs

In response to user requests, Eurostat and Member States have been working since 2018 to review and improve existing practices for ensuring cross-domain consistency of data under ESA 2010. Several actions have been initiated with the help of the dedicated task force on ESA cross-domain consistency. They include analysis of practices, developing recommendations and addressing the need for possible improvements in the ESA 2010 transmission programme.

As a result, in March 2019, Eurostat published a handbook on Consistency of ESA 2010 based national accounts, which was prepared with contributions from the task force members. The handbook focuses on the numerical consistency of the accounts. It contains definitions, explanations, recommendations and examples of good practice under the current ESA 2010. All recommendations aim to ensure that the output of national accounts compilation is numerically consistent across the related accounts and their data sets.

In addition, a mid-term review of the ESA 2010 transmission programme started in 2019 to identify desired changes in data transmission requirements that facilitate the cross-domain consistency. The analysis showed that there was room for aligning the deadlines for reporting some accounts, and that there were some gaps in data requirements and an opportunity to simplify certain data requirements and improve the clarity of the text. Therefore, Regulation (EU) No 549/2013 should be amended to bring its Annex B defining the ESA 2010 transmission programme up to date.

The work on preparing a proposal for amendment of Regulation (EU) No 549/2013 is currently ongoing. The aim is for the Commission to adopt such a proposal at the end of 2021 and to implement the revised requirements with the next coordinated benchmark revision in 2024

4.3 Completeness rate

The ESA 2010 transmission programme specifies the data requirements for EU Member States. However, due to the temporary derogations from the data transmission requirements until 2020, the scope of data to be submitted to Eurostat is not the same for all Member States. Iceland and Norway have also been granted derogations. Switzerland's derogation from the ESA 2010 transmission programme was formally agreed between the Commission (Eurostat) and the Swiss authorities in December 2019. These derogations are in force until 2025, and some of them may be further extended.

This section provides an overview, by ESA 2010 domain, of the data that countries were expected to submit in 2019 and which were actually received and validated by Eurostat from 1 January to 31 December 2019. Given that coordinated benchmark revisions of national accounts were carried out by most countries in 2019, retransmissions of 2019 data until early February were still taken into account for calculating the indicators. To allow for comparable assessment, the percentages are based on a completeness indicator calculated from the number of data cells included in the tables, covering all reference periods specified as mandatory in the ESA 2010 transmission programme.

4.3.1 Quarterly data

The ESA 2010 transmission programme requires EU Member States to submit quarterly tables for:

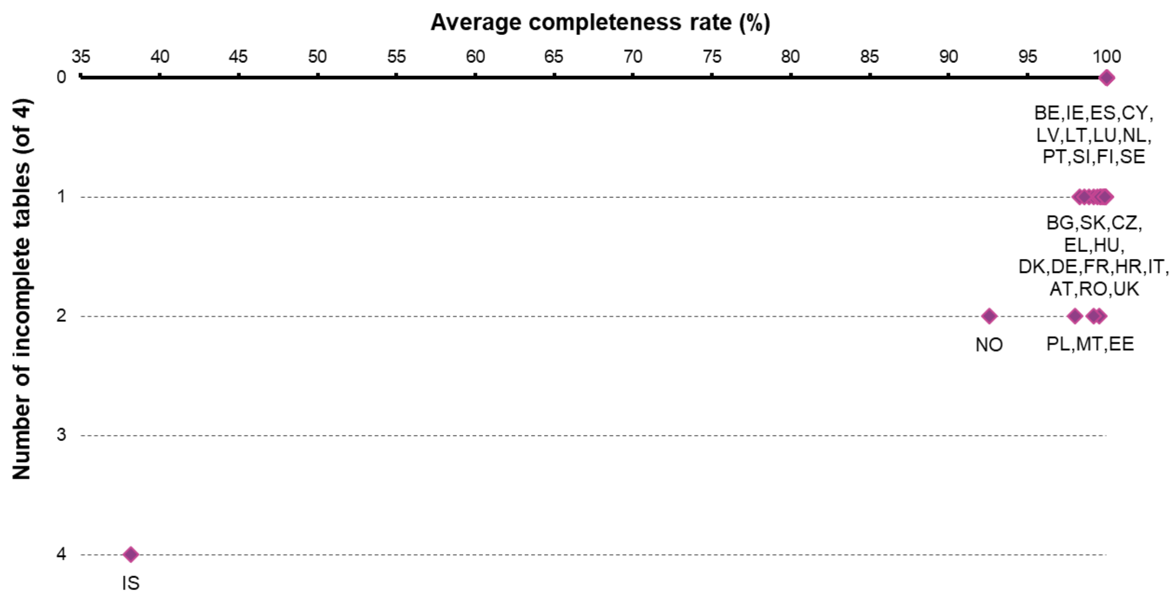
- national accounts main aggregates (Table 1);
- non-financial sector accounts (Table 801);

- government finance statistics (Tables 27 and 28).

The overall average completeness rate of quarterly data continued to be very high in 2019, with the EU-28 average across all four tables reaching 99.6% (arithmetic average measured at the data cell level). Almost all of the EU Member States submitted all, or nearly all, of the required data (rates above 98% for average overall completeness, see Figure 4). Twelve Member States achieved a full completeness rate for all quarterly tables across all domains: Belgium, Ireland, Spain, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Slovenia, Finland and Sweden, while 9 Member States achieved almost full completeness (above 99.5%) with data gaps in one table: Denmark, Germany, Estonia, France, Croatia, Italy, Austria, Romania and the United Kingdom.

The coordinated benchmark revision in 2019 gave the countries an opportunity to work on their data gaps and thus provide more complete data. On average, across all four tables of quarterly data submissions, the lowest completeness rate among EU Member States in 2019 was observed for Poland (98%). Data submitted by the two EFTA countries had completeness rates among the lowest of EU Member States: 38.2% for Iceland and 92.6% for Norway.

Figure 4: Completeness rate of national accounts quarterly tables reported in 2019



The completeness rate for quarterly national accounts data provided by individual EU Member States and by Iceland and Norway can be found in Annex 2. The completeness rate for each country is calculated on the basis of mandatory data submissions in 2019, which covered data submitted for reference quarters up to and including 2019Q3.

For **quarterly national accounts main aggregates**, data completeness was very high, with the EU-28 average at 99.5% and the EA-19 average at 99.7%. Twenty EU Member States achieved 100%, and all Member States had a completeness rate above 93%, marking an improvement from last year's 92% average completeness rate of the Member States. The lowest rate among Member States was for Poland (93.1%) due to data gaps in the expenditure side. Iceland had the lowest completeness of EFTA countries (59.2%).

For **quarterly non-financial sector accounts**, the EU-28 average completeness rate was 99.5%, following the improvement trend (98.6% in 2018). Nineteen Member States submitted all required data. The lowest completeness rate was observed for Bulgaria (93.2%), but it was nonetheless an improvement from the 2019 completeness rate (92.7%), while Croatia did not make any transmission in 2019Q3.

The EFTA countries submitted data with a lower completeness rate than 2018. Norway's completeness rate for the quarterly non-financial sector accounts is 79.6% (78.3% in 2018) and Iceland's completeness rate is 59.6%.

The completeness rate of **quarterly government finance statistics** was on average a bit higher than that observed for tables submitted for the other quarterly national accounts domains. The EU-28 average reached 99.8% in 2019 for Table 27 (quarterly financial accounts of general government), with a 100% completeness rate for all but three of the 28 EU Member States (Czechia, Germany and Slovakia) and for Iceland (0%). There was 100% completeness for Table 28 (quarterly government debt (Maastricht debt) for general government) for all 28 EU Member States and for Norway, but not for Iceland (34%). Most of the mandatory series submitted were validated and published in the Eurostat database for all EU Member States.

4.3.2 Annual data

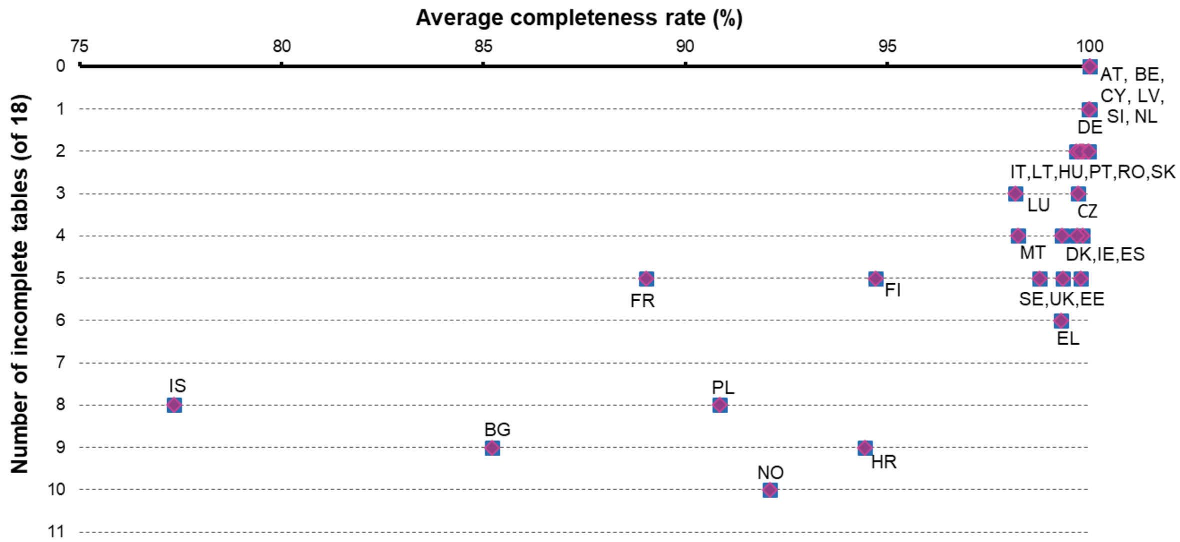
In 2019, the 28 EU Member States, as well as Norway and Iceland, reported a total of 18 mandatory annual national accounts tables across six domains:

- National accounts main aggregates (Tables 1, 3, 5, 20, 22 and 26);
- 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).

In 2019, the average completeness rate of annual data was high for all domains, and overall, the EU-28 average across all tables reached 97.7% (arithmetic average), an improvement from the 97.3% of 2018. For individual tables, the EU-28 average completeness rates ranged from a low of 94.5% for regional accounts (Table 1002) to a high of 100% for national accounts main aggregates (Table 1).

For annual tables, 23 Member States submitted all, or nearly all, mandatory data (completeness rate above 98% for average overall completeness, see Figure 5). Seven Member States achieved a full completeness rate for all annual tables across all domains - Belgium, Germany, Cyprus, Latvia, the Netherlands, Austria and Slovakia - while 10 Member States achieved almost full completeness (above 99.5%) with minor data gaps in one table: Czechia, Denmark, Estonia, Spain, Italy, Lithuania, Hungary, Portugal, Romania and Slovenia.

Figure 5: Completeness rate of national accounts annual tables reported in 2019



The completeness rates for annual national accounts data provided by individual EU Member States, as well as Iceland and Norway, can be found in Annex 2. The completeness rate for each country is calculated on the basis of mandatory data submissions in 2019, which for most of the annual tables covers data submitted for reference years up to and including 2019.

For **annual national accounts main aggregates,** the overall completeness rate continued to be very high in 2019. The EU-28 average rate exceeded 98% for all tables. Fifteen EU Member States submitted all, or nearly all, mandatory data, achieving completeness rates above 99% for all annual tables.

Annual government finance statistics continued to have the highest average completeness rate among all the annual tables in the ESA 2010 domains. The EU-28 average completeness rate of main aggregates of general government (Table 2) was 99.9%, while for detailed tax and social contribution receipts (Table 9) it was 99.5% and for general government expenditure by function (Table 11) it was 99.8%.

The overall completeness rate of **annual non-financial sector accounts** (Table 8) was high with an EU-28 average of 99%, an improvement compared to 2018 (98.2%), 2017 (97.1%) and 2016 (94.7%). Twenty countries submitted all, or nearly all, mandatory data (above 99% completeness). Two EU Member States submitted less than 95% of mandatory data, Estonia (91.1%) and Croatia (92.7%), while nonetheless increasing completeness compared to 2018.

For **annual financial accounts**, the EU-28 average completeness rate of both the annual financial accounts by sector (Table 6) and the balance sheets for financial assets and liabilities (Table 7) reached 99.9%, with almost all EU Member States submitting almost all mandatory data.

Three MIP headline indicators are derived from annual financial accounts: private sector debt, private sector credit flow and total financial sector liabilities. In 2019, the data underlying the MIP indicators were sufficiently complete for their validation for MIP purposes.

For **regional accounts** in 2019, the EU-28 average completeness rate for tables by industry (Tables 10 and 12), by household accounts (Table 13), by NUTS level 2 region (Tables 10 and 13) and by NUTS level 3 region (Table 12) rose further to 100% for all Member States except France (25.7%) and Poland (40.8%), which had data gaps for historical NUTS 2016 data.

Relative to the other national accounts tables, the average completeness rates for **supply, use and input-output tables** were slightly lower. The EU-28 average completeness rates for annual supply and use tables (Tables 15 and 16) for reference year 2016 were 95.8% and 95.2%, respectively.

4.4 Completeness rate of data underlying key indicators

MACROECONOMIC IMBALANCE PROCEDURE INDICATORS

The analysis in the Alert Mechanism Report (AMR) builds on the economic reading of a scoreboard of 14 headline indicators covering the most relevant areas of macroeconomic imbalances: external and internal imbalances, competitiveness positions, labour market and social aspects. These 14 indicators are complemented by 28 auxiliary indicators providing additional information.

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 usually in November each year in the Statistical Annex to the AMR. This package forms one of the major components launching the European Semester in the autumn of each year. The latest report was the Alert Mechanism Report 2021 (COM(2020) 745), published on 18 November 2020.

The national accounts are one of the major sources of data underlying the MIP indicators. Five out of 14 headline MIP scoreboard indicators are derived from national accounts data. In recent years, revisions to the set of auxiliary indicators were introduced in order to benefit from improvements in available statistics and to ensure the pertinence of the indicators. Following these changes, nine out of twenty-eight auxiliary indicators are now derived from national accounts data. Moreover, many of the MIP indicators are compiled relative to GDP.

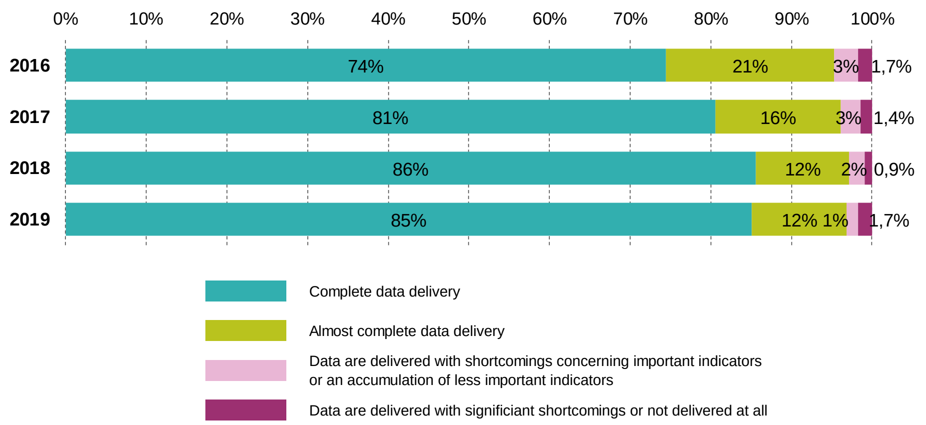
The quality of data underlying the MIP has improved as a consequence of the entry into force of ESA 2010 in 2014. However, the process of implementing the new statistical standard led to revisions and, due to derogations, temporarily shortened the available series. Since 2014, the overall completeness of underlying data for MIP indicators has substantially improved, and in 2019 it was very high for all EU Member States. Data coverage for the 10-year timespan needed for the 2021 Statistical Annex (2010-2019) was 100% for all headline indicators. The overall completeness rate of auxiliary indicators was also nearly 100 %.

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 of detailed ESA 2010 data is essential. In particular cross-country bench-marking 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.

4.5 Evolution of data availability

Since the start of transmission of ESA 2010 data in September 2014, data availability has significantly improved for the EU-28 as a whole, as well as for the majority of individual EU Member States and EFTA countries. The assessment in this section is based on a more aggregate method than the completeness rate charts for individual tables found in Annex 2. The charts in Figure 6 and Figure 7 provide the trend in data availability from the end of 2016 (extraction done February 2017) through to the situation at the end of 2017 (extraction done January 2018), the situation at the end of 2018 (extraction done January 2019) and up until the situation at the end of 2019 (extraction done January 2020). They illustrate progress in data submissions from one year to the next, as the percentages of tables in each of the four completeness categories.

Figure 6: Evolution of overall data availability from 2016 to 2019

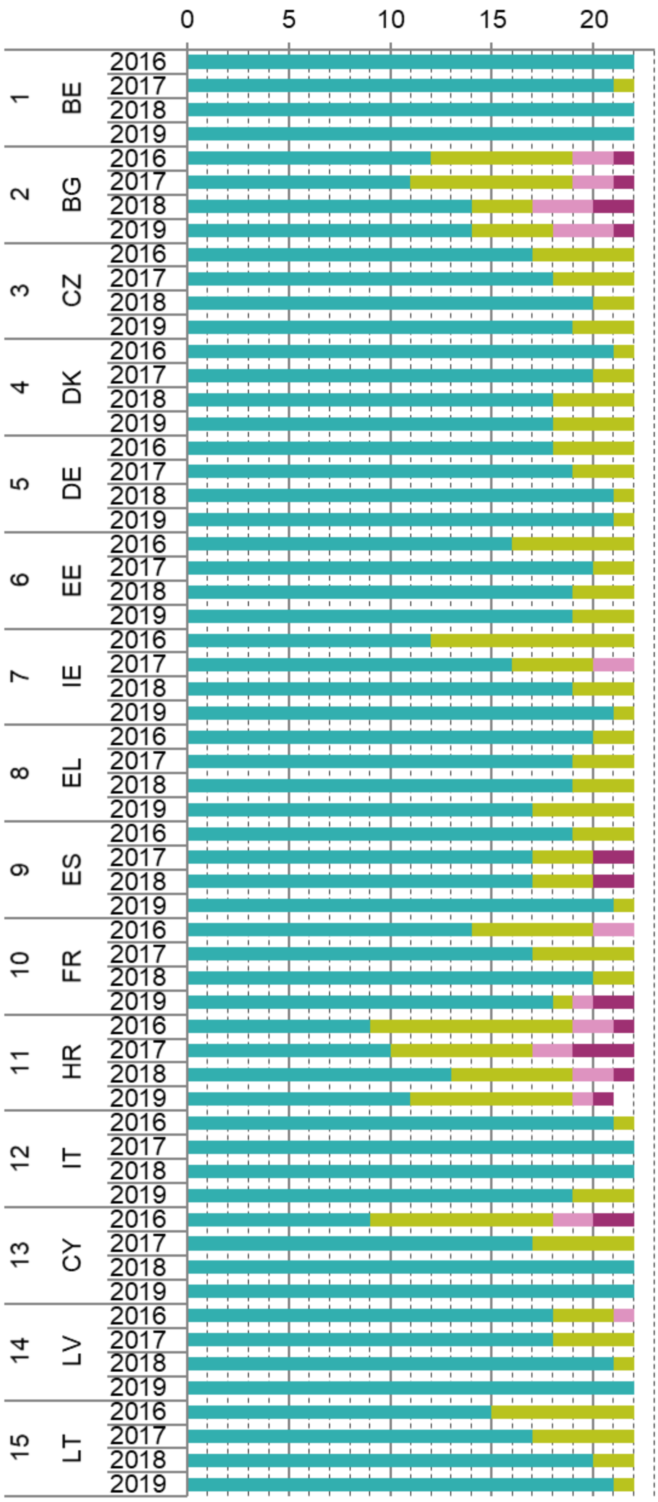


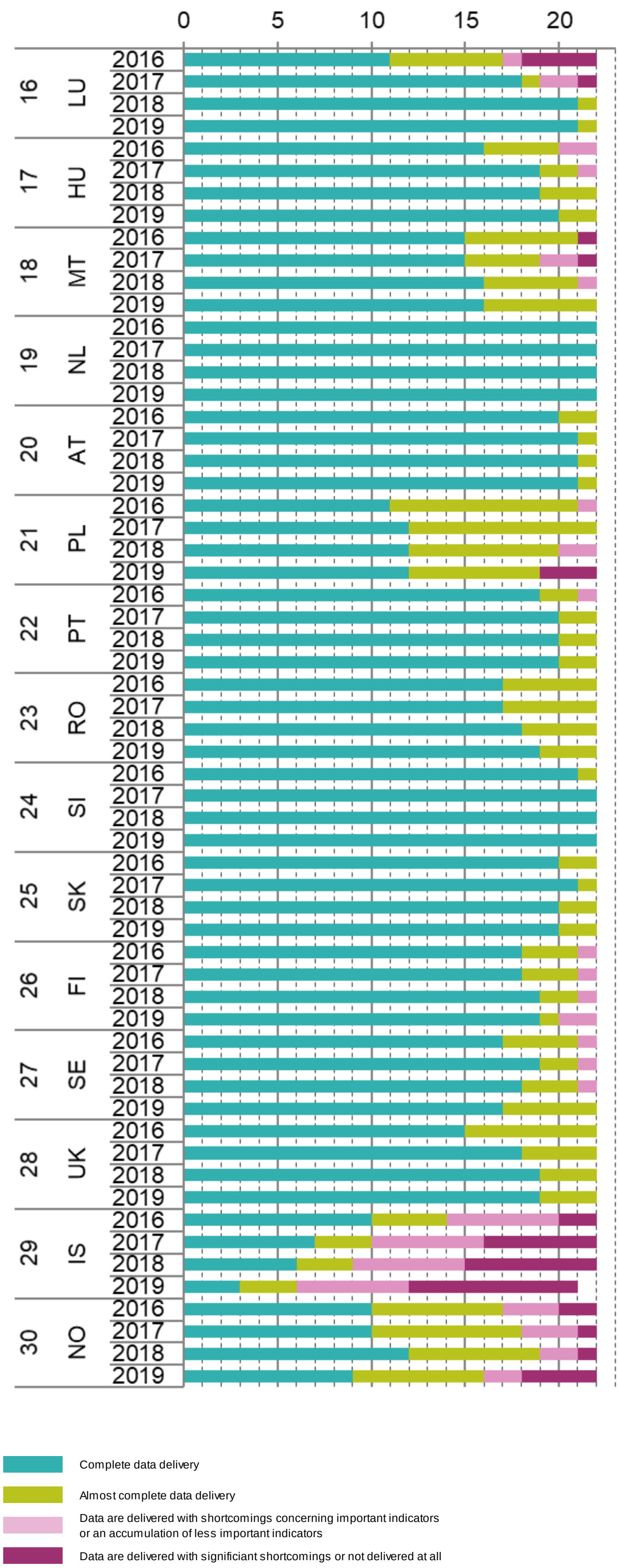
The chart in Figure 6 shows data availability calculated as the average of all EU Member States, Iceland and Norway. It clearly shows a trend of improvement since the first Eurostat quality report, with the percentage of complete tables increasing from 74% to 81% and then to 86% in 2018, while a slight decrease of almost 1% was noted in 2019. The percentage of almost complete data has fallen from 21% in 2016 to 12% in 2019. There was also a reduction in the share of data delivered with significant shortcomings, or not delivered at all, down from 1.7% in 2016 to 1.4% in 2017 to 0.9% in 2018 and increasing to 1.7% in 2019 at the time of the extraction of the data.

In Figure 7, the data availability charts per country show in four assessment categories: how many of the 22 tables([4]) under the ESA 2010 transmission programme were delivered complete; almost complete; with some shortcomings; and, with significant shortcomings. There has been notable progress for Spain, Ireland, Cyprus, Lithuania and Latvia. By contrast, five countries (Bulgaria, Croatia, Poland and Norway and Iceland) show mixed progress, with a persistent share of tables being delivered with significant shortcomings or not being delivered at all.

([4]) Table 29, accrued-to-date pension entitlements in social insurance, only became mandatory by end-2017. Therefore, this table is not considered in the comparative assessment.

Figure 7: Data availability per country as it evolved from 2016 to 2019, expressed as the number of the 22 tables under the ESA 2010 transmission programme delivered each year, in each of the four availability categories

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5
10
15
20
16 LU
17 HU
18 MT
19 NL
20 AT
21 PL
22 PT
23 RO
24 SI
25 SK
26 FI
27 SE
28 UK
29 IS
30 NO
2016
2017
2018
2019
Complete data delivery
Almost complete data delivery
Data are delivered with shortcomings concerning important indicators or an accumulation of less important indicators
Data are delivered with significiant shortcomings or not delivered at all

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, even if some relevant information is still not available, revisions are inevitable whenever released statistics report promptly on economic developments.

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 a broader policy of transparency and accountability of the public sector.

Revisions and their correct 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 a different assessment of the state of the economy. From the producers' perspective, the new information brought by the revisions describes economic developments more accurately; yet, frequent and/or major revisions can damage the credibility of data. Finally, a lack 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 strength of the statistical system in question.

This quality report will present an assessment of national data revisions for EU Member States based on an analysis of new quality indicators that was introduced in 2019 - revision rates of quarterly and annual data for selected variables.

5.1 Revision policy

The importance of developing a revision policy and performing revision analysis is 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 sixth edition of the IMF's Balance of Payments and International Investment Position Manual in 2014.

Reported to the CMFB in July 2015, the results of stocktaking showed implementation difficulties: 9 EU Member States had implemented the policy by 2014, 8 had not, and 12 had implemented it only partially. As a follow-up, the CMFB created the Task Force on Harmonised European Revision Policy (Task Force-HERP) at 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 2 years of intensive work, adaptations were made where appropriate and the CMFB published a communication on Harmonised European Revision Policy for Macroeconomic Statistics supported by Eurostat and the ECB. It was recommended that EU Member States disseminate the results of the benchmark revisions in 2019 and 2024 and that they follow a specific sequence of routine revisions for annual and quarterly data.

5.1.2 National revision policies

Most EU Member States and both EFTA countries provide information on national revision policies online. Croatia, Ireland, Luxembourg and Malta have not made their revision policies public. Switzerland only provides information on the revision policy of quarterly national accounts data. However, many publicly available national revision policies often only cover the domain of non-financial accounts or parts of it, and lack information on revisions in the domain of financial accounts. Generally, aligning national policies to the HERP still remains a challenge. To address these issues, Eurostat has made it possible for countries to obtain financial support through grants for work on the national revision policy and practice.

A majority of EU Member States performed benchmark revisions in 2019 while a few countries will do so in 2020. A fully coordinated benchmark revision for all Member States is planned in 2024. Eurostat collected information on the benchmark revisions in 2019 and designed a communication strategy for users. Information on the 2019 coordinated benchmark revision was published on the Eurostat website in autumn 2019, including details on the published benchmark revisions

Overall, the benchmark revisions followed guidance given in the handbook on Practical guidelines for revising ESA 2010 data — 2019 edition, published as a practical tool for compilers of ESA 2010-based national and regional accounts. Its objective is to translate the voluntary EU recommendations on data revisions into specific practices, ensuring accurate, reliable, consistent and comparable data. The handbook provides good practices for routine and benchmark revisions as well as for non-scheduled revisions.

5.2 Revision practice

According to the HERP, there are two important groups of revisions that represent the core of national accounts compilation: routine revisions and major revisions due to changes in methods, data sources and classifications.

Routine revisions are typically revisions which apply to an annual or infra-annual window, combined with a specified depth to backward revisions. For national and regional accounts, the depth is 4 years (including t-1). In other words, 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.

Major revisions, which are the second group of revisions, can be further broken down into two types:

1. revisions originating from ad hoc methodological changes or special events; and
2. benchmark revisions occurring on a regular basis (5 to 10 years) in order to incorporate the results of changes in basic data sources and/ or new estimation methods.

5.2.1 In-depth analysis of 2019 benchmark revisions

Benchmark revisions are a coordinated major European revision carried out at least once every 5 years to incorporate new data sources and major changes in international statistical methodology. They ensure a maximum degree of consistency within national accounts, i.e. the longest possible time series as well as consistency across Member States and between domains. As data sources and statistical methods evolve, improvements must be introduced in national accounts in a coherent and systematic way. It also helps to ensure the stability of key macroeconomic indicators for policy and business analysis.

The introduction of the European System of Accounts 2010 (ESA 2010)[5] in the EU in 2014 represented a coordinated benchmark revision due to changes in concepts, definitions and compilation methods.

In 2019, 18 Member States, namely Belgium, Bulgaria, Germany, Estonia, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom, as well as Norway carried out coordinated benchmark revisions of national accounts.

Some Member States opted out of this coordinated initiative and instead carried out their benchmark revisions earlier or later than 2019 due to national needs and in line with the voluntary nature of recommendations. France and the Netherlands implemented their benchmark revisions in 2018, while Austria did so in 2017. Czechia, Greece, Malta, Poland, Switzerland implemented benchmark revisions in 2020, while Iceland will publish results of its benchmark revision shortly. Luxembourg communicated delays in the benchmark revision that they initially planned for 2020. Latvia carried out a further benchmark revision also in 2020 to incorporate the results of the work on specific gross national income (GNI) reservations.

[5] Regulation (EU) No 549/2013, *OJ L 174, 26.6.2013, p. 1–727.*

Lithuania concluded the benchmark revision in 2020 with the revision of back series (1995-2009). Some other countries, e.g. the United Kingdom[6], carry out yearly major revisions, which are considered benchmark revisions.

In Table 2, the benchmark revisions by country are presented, while an in-depth analysis of 2019 benchmark revisions is available in Annex 4.

Table 1: Benchmark revisions carried out in 2019

Country	Revisions carried out
Belgium	In line with the Eurostat recommendations, Belgium conducted a benchmark revision of its national accounts in 2019. Revisions were implemented from 1995 onwards. In cases where it proved impossible to go right back to 1995 owing to the lack of relevant data, the year 2009 was chosen as the base year from which the revisions were made. A methodological note on the 2019 benchmark revision in the Belgian national accounts is available in English: https://www.nbb.be/doc/dq/e_method/m_rev19_e.pdf Link to the annual national publication (in French) : https://www.nbb.be/doc/dq/f/dq3/histo/nfdc18.pdf
Bulgaria	During 2019, a benchmark revision connected to the implementation of the GNI recommendations for changes in the calculation methods of GNI components was conducted. The impact on the GDP variated from -0.5 (in 2010) to +1.3 (in 2017).
Germany	The benchmark revision carried out in 2019 was mostly related to the GNI recommendations. A link to an information note on the 2019 benchmark revision 2019 is only available in German: https://www.destatis.de/DE/Methoden/WISTA-Wirtschaft-und-Statistik/2019/05/revision-volkswirtschaftliche-gesamtrechnungen-1991-bis-2018-052019.html
Estonia	In 2019, Estonia made a benchmark revision that covered the entire time series starting from 1995. The benchmark revision was part of the European revision policy. A summary of the revision can be found here: https://www.stat.ee/revision-of-time-series-in-2019. More detailed information on methodological changes and other adjustments can be found here: https://www.stat.ee/dokumendid/1803619.
Spain	The 2019 benchmark revision covered the entire time series starting from 1995. The 2019 benchmark revision was made in parallel with the Central Bank (Banco de España) (financial accounts of the institutional sectors and balance of payments and international investment position statistics) and the Audit Office (General Government Accounts) to ensure), so that full consistency in ensured in the different domains. More specifically, this benchmark revision achieved: a) an update of sources and methods; b) following the recommendations made by Eurostat with the aim of having a harmonised European-level policy of extraordinary reviews of national accounts under ESA 2010 following the recommendations made by Eurostat and c) incorporation of the methodological improvements arising from the 2016-2019 verification cycle of gross national income. The average impact on GDP at current prices was of 0.4%. Links to related publications are available by domain.

[6] During the implementation of the 2019 benchmark revisions, the United Kingdom was an EU Member State. Therefore, their results are included in this analysis.

Croatia	CBS did a 2019 benchmark revision in line with the balance of payments (BoP) benchmark revision. The new reference year is 2015. In the 2019 benchmark revision, all revised BoP data were included in the whole series from 1995 to - 2018. The revision included the following changes: a) all changes resulting from the work on the GNI recommendations and action points, b) changes in the sector classification, c) changes within the NACE activities. Annual and quarterly GDP consistency was achieved, as well as annual and quarterly consistency with the GFS data. Regional GDP and sector accounts are prepared in such a way that they can to be adjusted and consistent for the whole data series. Related information can be found in Croatian in the following link: https://www.dzs.hr/Hrv_Eng/publication/2019/12-01-04_01_2019.htm
Italy	In September 2019, Istat published national accounts data corresponding to the benchmark revision of methods and sources, 5 years after the introduction of ESA 2010, as recommended at the European level. The operation was carried out for the reference year 2016, for which all the relevant structural information was available. The revision of GDP and the whole set of national accounts data published in September 2019 also included also the routine revision for the 2two most recent years (2017 and 2018). Time series consistent with benchmark estimates were compiled back to 1995. The level of nominal GDP was revised upward by about 5.,8 billion euros (0.,3%) for the reference year 2016. With respect to the April 2019 release, the rate of change of GDP in volume terms remained unchanged for 2018 and was slightly revised upward for 2017 (from +2.2% to +2.4%). A benchmark revision was announced in July 2019 with a press release https://www.istat.it/it/archivio/232520 (only in Italian) For more details, see also the press release of 23 September 2019 https://www.istat.it/it/files//2019/09/Annual-National-Accounts-eng-sept-2019.pdf
Cyprus	In 2019 Cyprus implemented a benchmark revision. The main reasons for the benchmark revisions are the following: a) Work on action points, including incorporation of the HBS results b) Revised data from: 1. Annual economic surveys (2010-2016) 2. Government finance statistics (2013-2017) 3. The balance of payments (2010-2017) The impact on GDP for years 2010-2017 was between -0.,6% and 1.,7%. For detailed information, see the explanation note published on the CYSTAT website: Explanatory Note for the Revision of National Accounts 2010-2017
Latvia	The 2019 benchmark revision was based on: 1) the results of work on country- specific GNI action points, which were integrated in the time series of national accounts data; 2) other changes in applied methodology or data sources; 3) annual routine revisions. The entire time series from 1995 was covered by revisions. The impact on annual GDP at current prices was from -0.9 % to +0.4 %. More information can be found here: https://www.csb.gov.lv/sites/default/files/data/EN/GDP_benchmark_revision_in_2019.pdf

Lithuania	In 2019, Statistics Lithuania carried out the benchmark revision of the time series of the national accounts (NA) aggregates harmonised within the European Union (EU). During the revision, the recalculation of aggregates for 2010–2017 was carried out. The revision was performed after introducing new data sources and improving estimation methods and after taking into account the European Commission (EC) recommendations on improving the estimation of certain components of Lithuanian gross national income (GNI) provided during the GNI verification cycle. For more information and the impact on GDP, see the press release of 1 October 2019 on '*Gross domestic product'* .
Hungary	In 2019 a benchmark revision of the Hungarian national accounts was conducted. The description and the numerical impact of the changes implemented in the benchmark revision can be found here: http://www.ksh.hu/docs/hun/xftp/idoszaki/gdpev/egdpevelo18m.pdf
Portugal	In accordance with the release calendar, new national accounts data series from 1995 to 2017 (and provisional for 2018) were published on 23 September 2019, based on the new 2016 benchmark year, thus replacing the previous 2011 base. The revisions introduced in the Portuguese national accounts, in 2019, derived from small methodological changes and new / updated structural data sources used in the transition from the benchmark year 2011 to the new 2016 benchmark year. The methodological changes were small and occurred mainly in the sequence of the ESA 2010 control cycle, during which Portugal received two GNI information visits. GDP slightly changed for the years covered by the benchmark revision. The biggest revision was observed for 2017, in which the data went from a provisional to a final version, with GDP being revised upwards by 0.7pp. The average annual revision for the period 1995-2016 was -0.02%. More detailed information on revisions can be found in the national accounts press release in English (concise version), or in Portuguese (full version). See links below. Annual National Accounts Press Release - Benchmark year 2016 Destaque - Contas Nacionais Anuais – Base 2016
Romania	In 2019 Romania conducted a benchmark revision, based on: a) revised balance of payments data, b) integration of GNI action points and c) changes due to reconciliation with the GFS for the years 2010-2017. Data were published in September 2020.
Slovenia	Due to the availability and use of regularly updated data sources, Slovenia does not carry out comprehensive benchmark revisions. Nevertheless, in the 2019 revision, Slovenia took the opportunity to make changes that went beyond routine practice, in line with European efforts to have a common NA revision policy. A benchmark revision was made to financial accounts data. The reasons were mainly to address action points from the verification of GNI for Own Resources and to address other needs related to improving sources and methods. More information and the impact on GDP is available at the following link: https://www.stat.si/StatWeb/en/News/Index/8322. In the benchmark revision of financial accounts data, a full-time series was revised in order to achieve better alignment with methodological standards and ESCB methodological advice and to reduce vertical discrepancies for household sectors.

Slovakia	The Statistical Office of the Slovak Republic carried out the benchmark revision in September 2019. The aim of the benchmark revision was to incorporate updated data sources and methodological precisions for various national accounts indicators. The impact of this revision on GDP figures in individual years ranges from -1.0% to + 0.7% at constant prices by chain-linked volume and from -1.0% to + 0.,6% at current prices. The information on main changes in data and methods is also presented within the 2019 GNI Quality Report of the Slovak Republic on the SOSR website and can be found here, please see link: https://slovak.statistics.sk/wps/wcm/connect/02ac00c9-a670-42be-805f-e940be92d98d/GNI_Quality_Report_2019.pdf?MOD=AJPERES&CVID=mTv1UdU&CVID=mTv1UdU&CVID=mTv1UdU&CVID=mTv1UdU
Finland	Statistics Finland conducted a benchmark revision and the revised series were published in September 2019. The reason for the benchmark revision was the common EU policy. Updated sources were utilised and some changes originating from GNI reservations were implemented. All years from 1975 onwards were revised. GDP rose by EUR 1-2 billion between 2010 and -2018;, growth rates in GDP was very close to the previous ones. https://www.stat.fi/tietotrendit/blogit/2019/kansantalouden-tilinpidon-aikasarja-paivittyi-ja-bktn-taso-nousi-muuttuiko-talouden-kuva/ (in Finnish only) Publication http://stat.fi/til/vtp/2018/vtp_2018_2019-09-20_tie_001_en.html
Sweden	In 2019 Sweden conducted a benchmark revision. All information on the 2019 benchmark revision can be found here: https://scb.se/contentassets/bc78067783554e0c879a05f13cc596f1/nr0103_2017a01_sm_nr10sm1901.pdf https://scb.se/contentassets/f5732d12d4fb4982a964e8468b93305f/revised-swedish-gdp-september-2019.pdf
United Kingdom	Long-run revisions to data were enacted this year. The UK does not apply benchmark revisions on a five-year cycle. The link to the 2019 blue book can be found here: https://www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccountsthebluebook/2019
Norway	Norway carried out a benchmark revision in 2019; it participated in the coordinated effort of other Member States and Eurostat. Overall, Norway ensured the necessary data transmission and communication as recommended by the HERP. However, revised NFSA data were not provided at the end of September and had still not been updated when the quality indicators were compiled in mid-February 2020.

5.2.2 Revisions of European aggregates

The revision rates for European aggregates presented are based on two commonly used statistical measures to gauge the size of revisions of economic variables published on an intra-annual frequency: average revision rates and average absolute revision rates. The latter avoids the offsetting effects of combined negative and positive revisions on the average rate.

For the European aggregates of national accounts data for the euro area and the EU, Eurostat publishes:

- quarterly estimates of GDP and employment from the quarterly **main aggregates** data;

- the saving rate and investment rate for households and non-profit institutions serving households (NPISH) and the investment rate and profit share for non-financial corporations from the quarterly **non-financial sector accounts** data; and
- data on the government debt and deficit from quarterly **government finance statistics**.

Eurostat also publishes data on government debt and deficits for the euro area and EU from the data provided for the **excessive deficit procedure** in the first and second notifications. While information on revisions in the latter government finance statistics is not provided here, it can be found in the news releases on the Eurostat website.

REVISIONS OF GDP AND EMPLOYMENT GROWTH ESTIMATES FOR THE EU AND THE EA

Tables 2 to 5 present the subsequent revisions of EU and euro-area (EA) aggregates released between 2016Q3 and 2019Q3. The **quarter-on-quarter GDP growth rates** and the **year-on-year GDP growth rates** are given on the left-hand side of the tables and the revisions of the growth rates appear on the right-hand side.

In general, the four GDP estimates (at t+30, t+45, t+65 and t+100) were stable as both average revisions, and average absolute revisions were small. For the EA GDP estimates, the average absolute revision between the t+100 estimates and the t+30 estimate was 0.06 percentage points for the quarter-on-quarter growth rates, and 0.09 percentage points for the year-on-year growth rates. Upward revisions were most common, and there were upward revisions for all estimates in six of the 13 quarters. For the EU GDP estimates, the average absolute revision between the t+100 estimates and the t+30 estimate was slightly smaller at 0.05 percentage points for the quarter-on-quarter growth rates, and 0.08 percentage points for the year-on-year growth rates. Once again, upward revisions were most common, and there were upward revisions across all estimates in 6 of the 13 quarters. The largest revisions in GDP growth estimate for both the EA and EU aggregates occurred between 2017Q1 and 2017Q3.

Tables 6 and 7 present the subsequent revisions of Eurostat's **employment growth estimates** for the EU and EA aggregates released between 2016Q3 and 2019Q3. From 2018Q3, the revision schedule changed, and the employment is released at t+45, t+65 and t+100 days after the quarter (from only t+75 days).

Generally, there were low revision rates between the first estimate and the following estimations. The EA quarter-on-quarter estimates showed an average revision of 0.01 percentage points (2018Q3-2019Q3) between the flash estimate at t+45 days and the estimation at t+100 days. The EU quarter-on-quarter estimates had an average revision of 0.00 percentage points for the same period. The absolute average revision was 0.01 for the EA and 0.02 for the EU.

There is a tendency to revise quarter-on-quarter growth rates upwards, even if very slightly. For the period from 2016Q3 to 2019Q3: for the EA-19 estimates, upward revisions took place in 9 out of 13 quarters (comparing t+65/75 with t+155/165 estimates). The EU-28 estimates were revised upwards in 7 out of 13 quarters.

Table 2 : Revisions of quarterly GDP for the EA-19 aggregates (quarter-on-quarter growth rates) based on data for reference quarters from 2016Q3 to 2019Q3

Quarter-on-quarter, Eurostat growth estimates					Quarter-on-quarter revisions			
EA-19	**t+30**	**t+45**	**t+65**	**t+100**	**45-30**	**65-30**	**65-45**	**100-30**
2016Q3	0.34	0.35	0.35	0.44	0.01	0.01	0.00	0.09
2016Q4	0.50	0.40	0.41	0.48	-0.10	-0.09	0.01	-0.02
2017Q1	0.46	0.49	0.58	0.51	0.03	0.13	0.09	0.05
2017Q2	0.56	0.63	0.63	0.65	0.07	0.07	0.00	0.09
2017Q3	0.58	0.61	0.61	0.71	0.03	0.02	-0.01	0.13
2017Q4	0.56	0.59	0.60	0.67	0.03	0.04	0.01	0.11
2018Q1	0.42	0.40	0.38	0.37	-0.02	-0.03	-0.02	-0.05
2018Q2	0.35	0.37	0.38	0.45	0.03	0.04	0.01	0.10
2018Q3	0.16	0.18	0.16	0.16	0.03	0.00	-0.03	0.00
2018Q4	0.22	0.19	0.22	0.22	-0.03	-0.01	0.02	0.00
2019Q1	0.38	0.40	0.39	0.45	0.02	0.01	-0.01	0.07
2019Q2	0.20	0.19	0.20	0.19	-0.01	0.00	0.01	-0.01
2019Q3	0.19	0.22	0.23	0.27	0.03	0.05	0.02	0.09
				Average revision	0.00	0.01	0.01	0.01
				Average absolute revision	0.05	0.05	0.02	0.06

Table 3: Revisions of quarterly GDP for the EA-19 aggregates (year-on-year growth rates) based on data for reference quarters from 2016Q3 to 2019Q3

Year-on-year, Eurostat growth estimates					Year-on-year revisions			
EA-19	**t+30**	**t+45**	**t+65**	**t+100**	**45-30**	**65-30**	**65-45**	**100-30**
2016Q3	1.61	1.62	1.67	1.76	0.01	0.06	0.06	0.15
2016Q4	1.76	1.66	1.69	1.80	-0.11	-0.08	0.03	0.04
2017Q1	1.70	1.74	1.90	1.86	0.04	0.20	0.16	0.16
2017Q2	2.08	2.15	2.30	2.31	0.07	0.22	0.15	0.22
2017Q3	2.45	2.48	2.59	2.76	0.03	0.14	0.11	0.31
2017Q4	2.65	2.68	2.67	2.76	0.03	0.02	-0.01	0.11
2018Q1	2.52	2.51	2.54	2.51	-0.02	0.02	0.03	-0.01
2018Q2	2.14	2.17	2.11	2.17	0.03	-0.02	-0.05	0.03
2018Q3	1.66	1.69	1.64	1.62	0.03	-0.03	-0.05	-0.04
2018Q4	1.18	1.15	1.13	1.15	-0.03	-0.05	-0.02	-0.03
2019Q1	1.16	1.18	1.17	1.24	0.02	0.01	-0.01	0.09
2019Q2	1.06	1.06	1.15	1.15	-0.01	0.09	0.10	0.09
2019Q3	1.15	1.18	1.22	1.23	0.03	0.07	0.04	0.08
				Average revision	0.00	0.04	0.04	0.03
				Average absolute revision	0.05	0.09	0.07	0.09

Table 4: Revisions of quarterly GDP for the EU-28 aggregates (quarter-on-quarter growth rates) based on data for reference quarters from 2016Q3 to 2019Q3

Quarter-on-quarter, Eurostat growth estimates					Quarter-on-quarter revisions			
EU-28	**t+30**	**t+45**	**t+65**	**t+100**	**45-30**	**65-30**	**65-45**	**100-30**
2016Q3	0.37	0.38	0.38	0.45	0.01	0.01	0.00	0.09
2016Q4	0.56	0.49	0.53	0.57	-0.07	-0.04	0.03	0.01
2017Q1	0.45	0.50	0.56	0.51	0.05	0.11	0.06	0.06
2017Q2	0.59	0.65	0.66	0.66	0.06	0.07	0.01	0.07
2017Q3	0.59	0.60	0.60	0.68	0.01	0.01	0.00	0.09
2017Q4	0.58	0.59	0.60	0.65	0.01	0.02	0.01	0.07
2018Q1	0.42	0.39	0.40	0.41	-0.03	-0.02	0.01	-0.01
2018Q2	0.43	0.43	0.44	0.49	0.00	0.01	0.01	0.06
2018Q3	0.33	0.34	0.31	0.31	0.01	-0.03	-0.04	-0.02
2018Q4	0.28	0.24	0.28	0.29	-0.04	0.00	0.04	0.02
2019Q1	0.47	0.47	0.46	0.50	0.01	-0.01	-0.02	0.03
2019Q2	0.20	0.18	0.17	0.16	-0.02	-0.03	-0.01	-0.04
2019Q3	0.30	0.28	0.30	0.35	-0.02	0.00	0.02	0.05
				Average revision	0.00	0.01	0.01	0.01
				Average absolute revision	0.04	0.04	0.02	0.05

Table 5: Revisions of quarterly GDP for the EU-28 aggregates (year-on-year growth rates) based on data for reference quarters from 2016Q3 to 2019Q3

Year-on-year, Eurostat growth estimates					Year-on-year revisions			
EU-28	**t+30**	**t+45**	**t+65**	**t+100**	**45-30**	**65-30**	**65-45**	**100-30**
2016Q3	1.81	1.82	1.85	1.92	0.01	0.04	0.03	0.10
2016Q4	1.91	1.83	1.85	1.93	-0.07	-0.06	0.02	0.02
2017Q1	1.91	1.96	2.06	2.06	0.05	0.15	0.10	0.15
2017Q2	2.20	2.26	2.40	2.35	0.06	0.20	0.14	0.15
2017Q3	2.50	2.50	2.59	2.76	0.01	0.10	0.09	0.26
2017Q4	2.61	2.62	2.60	2.67	0.01	-0.01	-0.02	0.07
2018Q1	2.43	2.40	2.43	2.39	-0.03	0.00	0.03	-0.03
2018Q2	2.17	2.17	2.14	2.15	0.00	-0.03	-0.04	-0.02
2018Q3	1.86	1.87	1.82	1.82	0.01	-0.04	-0.05	-0.04
2018Q4	1.46	1.42	1.44	1.46	-0.04	-0.02	0.02	0.00
2019Q1	1.53	1.54	1.52	1.57	0.01	-0.01	-0.02	0.04
2019Q2	1.34	1.32	1.37	1.38	-0.02	0.04	0.06	0.05
2019Q3	1.36	1.35	1.39	1.42	-0.02	0.03	0.04	0.05
				Average revision	0.00	0.04	0.04	0.03
				Average absolute revision	0.04	0.08	0.06	0.08

Table 6: Revisions of quarterly employment growth estimates for the EA-19 aggregates based on data for reference quarters from 2016Q3 to 2019Q3

Year-on-year growth estimates					Quarter-on-quarter growth estimates				
EA 19	**t+45**	**t+65/75**	**t+100**	**t+155/165**	**EA 19**	**t+45**	**t+65/75**	**t+100**	**t+150/165**
2016Q3		1.18		1.22	2016Q3		0.21		0.20
2016Q4		1.15		1.36	2016Q4		0.25		0.36
2017Q1		1.45		1.56	2017Q1		0.43		0.50
2017Q2		1.59		1.61	2017Q2		0.42		0.44
2017Q3		1.72		1.70	2017Q3		0.39		0.38
2017Q4		1.62		1.59	2017Q4		0.27		0.26
2018Q1		1.44		1.52	2018Q1		0.38		0.41
2018Q2		1.49		1.55	2018Q2		0.36		0.39
2018Q3	1.28	1.30	1.32	1.43	2018Q3	0.20	0.20	0.20	0.24
2018Q4	1.19	1.28	1.34	1.35	2018Q4	0.28	0.26	0.29	0.30
2019Q1	1.25	1.28	1.32	1.37	2019Q1	0.34	0.35	0.37	0.37
2019Q2	1.10	1.15	1.15	1.17	2019Q2	0.24	0.25	0.24	0.23
2019Q3	0.96	0.93	0.97	1.11	2019Q3	0.13	0.12	0.13	0.15
EA 19		65-45	100-45	55/165-65/7	EA 19		65-45	100-45	155/165-65/75
Average revision		0.03	0.06	0.07	Average revision		0.00	0.01	0.03
Average abs. revision		0.04	0.06	0.08	Average abs. revision		0.01	0.01	0.03

Table 7: Revisions of quarterly employment growth estimates for the EU-28 aggregates based on data for reference quarters from 2016Q3 to 2019Q3

Year-on-year growth estimates					Quarter-on-quarter growth estimates				
EU 28	**t+45**	**t+65/75**	**t+100**	**t+155/165**	**EU 28**	**t+45**	**t+65/75**	**t+100**	**t+155/165**
2016Q3		1.12		1.07	2016Q3		0.19		0.18
2016Q4		0.99		1.14	2016Q4		0.23		0.39
2017Q1		1.41		1.52	2017Q1		0.41		0.47
2017Q2		1.48		1.67	2017Q2		0.42		0.51
2017Q3		1.76		1.64	2017Q3		0.28		0.23
2017Q4		1.51		1.49	2017Q4		0.24		0.24
2018Q1		1.42		1.47	2018Q1		0.43		0.46
2018Q2		1.37		1.32	2018Q2		0.36		0.37
2018Q3	1.21	1.23	1.23	1.27	2018Q3	0.15	0.16	0.16	0.18
2018Q4	1.20	1.21	1.23	1.22	2018Q4	0.22	0.19	0.20	0.22
2019Q1	1.12	1.18	1.17	1.20	2019Q1	0.34	0.35	0.37	0.35
2019Q2	0.99	1.05	1.00	1.02	2019Q2	0.25	0.28	0.26	0.27
2019Q3	0.86	0.84	0.80	0.87	2019Q3	0.06	0.06	0.03	0.04
EU 28		65-45	100-45	55/165-65/7	EU 28		65-45	100-45	155/165-65/75
Average revision		0.02	0.01	0.03	Average revision		0.00	0.00	0.02
Average abs. revision		0.03	0.03	0.07	Average abs. revision		0.02	0.02	0.04

REVISIONS OF AGGREGATES FOR HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS FOR THE EU AND THE EA

The revisions for releases of the EA-19 quarterly **saving rate and investment rate for households and NPISH**, and the **investment rate and profit share for non-financial corporations** are presented in Tables 8 and 9 on data for reference quarters from 2016Q3 to 2019Q3. The early release of data from seasonally adjusted quarterly European sector accounts occurs at t+94 days, with the final release at t+120 days. The average revision and average absolute revisions are small for all four indicators.

Similarly, Tables 10 and 11 present the revisions for releases of the EU-28([7]) quarterly saving rate and investment rate for households and NPISH, and the investment rate and profit share for non-financial corporations. There are no early releases for these aggregate series, therefore the comparison is between the first transmission data (when the news release is produced) and the second transmission of data in the subsequent quarter. The largest revisions are for the saving rate of households and NPISH.

Table 8: Revisions of quarterly saving and investment rates of households and NPISH, for the EA-19 aggregates (seasonally adjusted) based on data for reference quarters from 2016Q3 to 2019Q3

EA-19 Households and NPISH							
Saving rate (seasonally adjusted data)				Investment rate (seasonally adjusted data)			
Quarter	Early release (t+94)	Final release (t+120)	Revision Final - Early	Quarter	Early release (t+94)	Final release (t+120)	Revision Final - Early
2016Q3	12.62	12.49	-0.13	2016Q3	8.50	8.53	0.03
2016Q4	11.98	11.93	-0.05	2016Q4	8.53	8.53	0.00
2017Q1	12.31	12.31	0.00	2017Q1	8.93	8.93	0.00
2017Q2	12.06	12.10	0.04	2017Q2	8.73	8.73	0.00
2017Q3	12.02	12.01	-0.01	2017Q3	8.79	8.79	0.00
2017Q4	12.21	12.26	0.05	2017Q4	8.80	8.79	-0.01
2018Q1	11.98	11.98	0.00	2018Q1	9.01	9.01	0.00
2018Q2	12.08	12.10	0.02	2018Q2	9.01	9.04	0.03
2018Q3	12.30	12.28	-0.02	2018Q3	9.08	9.12	0.04
2018Q4	12.33	12.42	0.09	2018Q4	9.02	9.07	0.05
2019Q1	12.60	12.64	0.04	2019Q1	9.29	9.33	0.04
2019Q2	13.30	13.18	-0.12	2019Q2	9.02	9.02	0.00
2019Q3	13.04	13.03	-0.01	2019Q3	9.14	9.15	0.01
		Average revision	-0.008			Average revision	0.015
		Average absolute revision	0.045			Average absolute revision	0.016

([7]) Due to the conversion to euro, movements in exchange rates may affect the European Union key indicators. may be affected by movements in exchange rates

Table 9: Revisions of quarterly investment rates and profit shares of non-financial corporations, for the EA-19 aggregates (seasonally adjusted) based on data for reference quarters from 2016Q3 to 2019Q3

EA-19 Non-financial corporations							
Investment rate (seasonally adjusted data)				Profit share (seasonally adjusted data)			
Quarter	Early release (t+94)	Final release (t+120)	Revision Final - Early	Quarter	Early release (t+94)	Final release (t+120)	Revision Final - Early
2016Q3	21.91	21.88	-0.03	2016Q3	40.63	40.59	-0.04
2016Q4	23.51	23.53	0.02	2016Q4	40.95	40.86	-0.09
2017Q1	22.15	22.15	0.00	2017Q1	40.26	40.25	-0.01
2017Q2	23.24	23.27	0.03	2017Q2	40.81	40.83	0.02
2017Q3	22.44	22.44	0.00	2017Q3	41.36	41.35	-0.01
2017Q4	22.80	22.89	0.09	2017Q4	41.09	41.11	0.02
2018Q1	23.10	23.10	0.00	2018Q1	40.62	40.60	-0.02
2018Q2	23.00	22.94	-0.06	2018Q2	40.56	40.82	0.26
2018Q3	23.34	23.44	0.10	2018Q3	40.34	40.41	0.07
2018Q4	23.72	23.66	-0.06	2018Q4	39.92	40.07	0.15
2019Q1	23.60	23.59	-0.01	2019Q1	39.75	39.96	0.21
2019Q2	25.67	25.53	-0.14	2019Q2	39.17	39.21	0.04
2019Q3	23.67	23.66	-0.01	2019Q3	39.19	39.22	0.03
		Average revision	-0.005			Average revision	0.048
		Average absolute revision	0.042			Average absolute revision	0.075

Table 10: **Revisions of quarterly saving and investment rates of households and NPISH, for the EU-28 aggregates (seasonally adjusted) based on data for reference quarters from 2016Q3 to 2019Q3**

EU-28 Households and NPISH (1)							
Saving rate (seasonally adjusted data)				Investment rate (seasonally adjusted data)			
Quarter	1st trans-mission	2nd trans-mission	Revision 2nd - 1st	Quarter	1st trans-mission	2nd trans-mission	Revision 2nd - 1st
2016Q3	10.15	9.99	-0.16	2016Q3	8.10	8.11	0.01
2016Q4	10.06	9.80	-0.26	2016Q4	8.05	8.15	0.10
2017Q1	10.20	9.94	-0.26	2017Q1	8.43	8.33	-0.10
2017Q2	10.63	10.23	-0.40	2017Q2	7.98	8.12	0.14
2017Q3	10.09	9.86	-0.23	2017Q3	8.19	8.18	-0.01
2017Q4	10.34	10.23	-0.11	2017Q4	8.14	8.25	0.11
2018Q1	10.01	9.84	-0.17	2018Q1	8.36	8.34	-0.02
2018Q2	10.00	9.87	-0.13	2018Q2	8.35	8.38	0.03
2018Q3	10.20	10.11	-0.09	2018Q3	8.41	8.34	-0.07
2018Q4	10.16	10.10	-0.06	2018Q4	8.26	8.39	0.13
2019Q1	10.35	11.16	0.81	2019Q1	8.58	8.29	-0.29
2019Q2	11.04	10.78	-0.26	2019Q2	8.30	8.35	0.05
2019Q3	10.46	:	:	2019Q3	8.43	:	:
		Average revision	-0.110			Average revision	0.007
		Average absolute revision	0.245			Average absolute revision	0.088

(1) Due to the conversion to euro, movements in exchange rates may affect the European Union key indicators.

Table 11: Revisions of quarterly investment rates and profit shares of non-financial corporations, for the EU-28 aggregates (seasonally adjusted) based on data for reference quarters from 2016Q3 to 2019Q3

EU-28 Non-financial corporations (1)							
Investment rate (seasonally adjusted data)				Profit share (seasonally adjusted data)			
Quarter	1st trans-mission	2nd trans-mission	Revision 2nd - 1st	Quarter	1st trans-mission	2nd trans-mission	Revision 2nd - 1st
2016Q3	21.91	21.92	0.01	2016Q3	39.34	39.60	0.26
2016Q4	23.14	23.18	0.04	2016Q4	39.97	40.00	0.03
2017Q1	22.26	22.80	0.54	2017Q1	39.32	39.54	0.22
2017Q2	23.16	23.05	-0.11	2017Q2	39.95	40.05	0.10
2017Q3	22.60	22.65	0.05	2017Q3	40.11	40.17	0.06
2017Q4	22.78	22.90	0.12	2017Q4	40.15	40.00	-0.15
2018Q1	23.15	23.27	0.12	2018Q1	39.58	40.27	0.69
2018Q2	23.19	23.26	0.07	2018Q2	39.90	39.89	-0.01
2018Q3	23.52	23.26	-0.26	2018Q3	39.60	39.26	-0.34
2018Q4	23.42	23.33	-0.09	2018Q4	39.27	39.23	-0.04
2019Q1	23.40	23.59	0.19	2019Q1	39.14	38.44	-0.70
2019Q2	24.75	24.47	-0.28	2019Q2	38.42	38.51	0.09
2019Q3	23.53	:	:	2019Q3	38.36	:	:
		Average revision	0.033			Average revision	0.018
		Average absolute revision	0.157			Average absolute revision	0.224

(1) Due to the conversion to euro, movements in exchange rates may affect the European Union key indicators.

6 Timeliness and punctuality

Timeliness refers to the length of time between data availability and the event or phenomenon they describe.

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 more timely delivery of information to users. Most notably, data for regional accounts became available 12 months after the reference year.

In 2019, the preliminary flash estimates of GDP growth in the EU and the EA continue to be published at 30 days after the end of the quarter. The updated flash estimates of GDP growth for the EU/EA are subsequently published at t+45. Regular estimates of quarterly and annual main aggregates including employment are published after about 65 and 110 days.

The early release of EA quarterly sector accounts continue to be published at around t+94 days after the reference quarter. The early aggregation release of non-financial sector accounts is based on the preliminary data transmitted by EA Member States by t+85 days after the reference period. Complete sector accounts data for the both the EA and the EU are released at around t+120 days.

From 14 November 2018 onwards, Eurostat started to publish EU/EA flash estimates of quarterly employment at around 45 days after the end of the reference quarter (t+45). This followed the successful project of Eurostat and the EU Member States to compile EU and EA early estimates for employment at t+30 and t+45 after the reference quarter. The t+45 publication was a milestone not only for Eurostat but also an achievement of the European Statistical System, as Member States contributed by providing their national estimates to Eurostat 2 weeks ahead of the legal deadline. Furthermore, Eurostat advanced the regular publication of employment from t+75 to around t+65 days.

Eurostat has streamlined its news releases of GDP and employment at t+45 and t+65 days. The first flash estimate of European aggregates after 45 days combining GDP and employment data was published in February 2020. The regular estimates of European main GDP aggregates published after about 65 days were extended to include European employment and labour productivity estimates in December 2019. The employment flash estimates at t+30 days continue to be collected and tested each quarter. Eurostat will assess the progress against the quality criteria in 2021 in view of a possible publication. This would bring forward the EU and the EA combined GDP and employment publication to a t+30-65-100 days schedule.

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 after the legal deadline. Figure 38-Figure 40 in Annex 3 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 2019. The assessment of data transmissions according to this indicator showed high punctuality for most domains and tables (Annex 3).

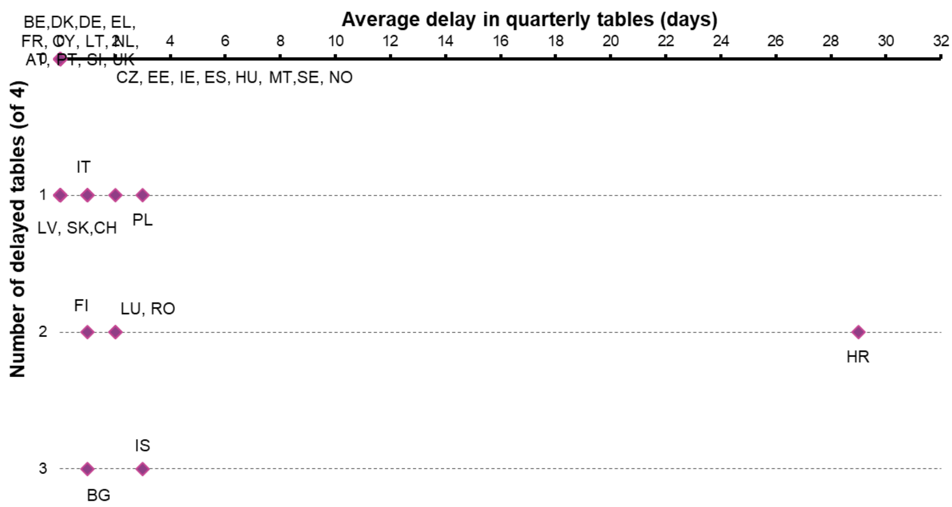
6.2.1 Quarterly data

As defined in the ESA 2010 transmission programme, Member States must submit quarterly tables to Eurostat within the legal deadlines shown in Annex 1, Table 16.

The punctuality indicators for quarterly national accounts data provided by individual EU Member States, as well as Iceland, Norway and Switzerland, can be found in Annex 3. The punctuality for each country is calculated for each of the four reference quarters 2018Q4–2019Q3 which covered the quarterly submissions of all mandatory quarterly tables for each domain – quarterly main aggregates, sector accounts and government finance statistics – in 2019.

Twelve Member States (Belgium, Denmark, Germany, Greece, France, Cyprus, Lithuania, the Netherlands, Austria, Portugal, Slovenia and the United Kingdom) sent all data on time, 7 Member States (Czechia, Estonia, Ireland, Spain, Hungary, Malta and Sweden) provided data with minor delays, while 9 Member States (Bulgaria, Croatia, Latvia, Slovakia, Italy, Poland, Luxembourg, Romania and Finland) had major delays with one data set or transmission; in some cases subsequent delays resulted from retransmission of data in order to pass validation checks.

Figure 8: Punctuality of national accounts quarterly tables reported in 2019



The **quarterly main aggregates** of national accounts must be submitted to Eurostat no later than 2 months after the reference quarter. For the eight sub-tables per quarter of the mandatory Table 1 on main aggregates, 20 EU Member States, as well as Norway submitted their quarterly data at or shortly before the official transmission deadline. Longer delays occurred only for specific sub-tables for 3 EU Member States (Croatia, Luxembourg and Finland).

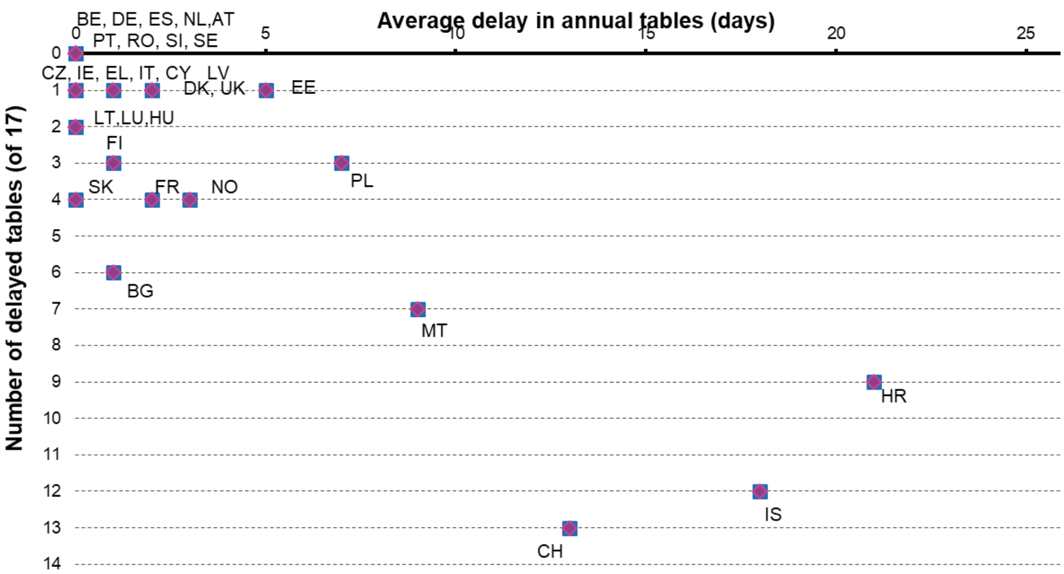
Of those who submitted **quarterly non-financial sector accounts,** 16 countries did so on time for all quarters. Quarterly data were generally transmitted on time or with very short delays. Regular delays were observed for 1 Member State (Bulgaria), while longer delays were observed for 5 EU Member States (Croatia, Latvia, Luxembourg, Romania and Slovakia).

The punctuality of **quarterly government finance statistics** was very high in 2019 and higher than the punctuality of quarterly main aggregates and non-financial sector accounts. Countries transmitted data on time or in advance of the transmission deadlines, with the exception of Czechia, Poland and Iceland.

6.2.2 Annual data

EU Member States must submit the annual national and regional accounts tables to Eurostat on the transmission deadlines shown in Annex 1, Table 16.

Figure 9: Punctuality of national accounts annual tables reported in 2019 (excluding three-yearly pension tables and five-yearly use and input-output tables)



The overall punctuality of ESA 2010 annual tables improved in 2019: 9 EU Member States (Belgium, Germany, Spain, the Netherlands, Austria, Portugal, Romania, Slovenia and Sweden) submitted all required annual national and regional accounts tables([8]) on time; 9 EU Member States (Czechia, Ireland, Greece, Italy, Cyprus, Lithuania, Luxembourg, Hungary and Slovakia) submitted one or more tables shortly after the legal deadline; Bulgaria, Croatia, Finland, Luxembourg and Romania, however, allowed for substantial days of delay for one or more

([8]) Not including the five-yearly use and input-output tables, or the three-yearly pension tables which are not assessed this year. For Bulgaria, Croatia, Latvia and Malta as well as for Switzerland and Iceland, the chart does not include Tables 15 and 16 in the calculation of average delay in annual tables.

tables.

Fifteen countries submitted annual Table 1([9]) of **national accounts main aggregates** on time. For main aggregates data (Table 1A), delays in the first transmission of annual data for 2019 occurred for 3 EU Member States (Croatia, Poland and Finland), but in two of the cases, the delay affected one transmission table.

The MIP headline indicator of unit labour cost is derived from Table 1 data. Late submissions of Table 1, in particular submissions more than 1 month past the deadline, would prevent full validation of the data for calculating unit labour cost.

The punctuality of **annual government finance statistics** tables was very high: for main aggregates of general government (Table 2); for 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([10])); and for general government expenditure by function (Table 11). Twenty-seven countries transmitted all data on time. Denmark's revision schedule was not adjusted to the transmission deadlines, so that versions of Table 2 were provided in June and in November rather than at end-September. Croatia and Bulgaria each provided one submission of ESA Table 2 slightly late.

Eighteen countries transmitted all data on time in 2019 for tables of annual financial and non-financial sector accounts (Table 6, 7 and 8), due in September 2019 (see Annex 3).

The transmission of the **annual financial accounts** by sector (Table 6) and balance sheets for financial assets and liabilities (Table 7) was mostly transmitted on time or in advance, while a few countries (France, Luxembourg, Malta, Slovakia and Iceland) had short delays of several days.

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 2020, all EU Member States submitted the MIP-underlying data on time.

The data on **annual non-financial sector accounts** (Table 8) were submitted on time for most of the countries. Bulgaria, Estonia, Latvia, Malta and Poland transmitted data with delays.

In 2019, 25 countries were on time in submitting their annual **supply and use tables** for reference year 2016: the supply table at basic prices, including transformation into purchasers' prices (Table 15) and the use table at purchasers' prices (Table 16). All the countries met the deadlines except one country, which had technical issues in the transmission.

The ESA 2010 transmission programme lays down the obligation for EU Member States to deliver five-yearly submissions for use tables (Tables 16XX) and for input-output tables (Table 17). These tables are compulsory, to be compiled at basic prices for the reference years ending with 0 and 5. The quality reporting exercise for 2016 was the first to look at the initial delivery of these tables following the ESA 2010 implementation, and this year's quality reporting exercise monitored the subsequent delivery of the data up to and including 2019 of both use tables and the symmetric input-output tables, for reference year 2015.

The five additional **use tables** (Tables 16XX) are required every 5 years. They provide data with a higher granularity than annual tables.

The overall punctuality of **regional accounts** in 2019 was very high. Regional accounts data were generally transmitted in line or shortly before the transmission deadline with the exception of two Member States (France and Malta) whose transmission marked notable delays for certain tables.

([9]) Including both the t+2 and t+9 submissions of tables T0101A, T0102A, T0103A, T0110A, T0111A, T0117A, T0120A, T0121A, and the submissions of T0301A, T0302A, T0303A, T0501A, T0502A, T2000A, T2200A, T2600A.

([10])The transmission of national tax lists is not separately reported. National tax lists were generally sent (as required) at the same time as the ESA 2010 Table 9. Switzerland did not provide a national tax list.

6.3 Punctuality of data underlying key indicators

6.3.1 MIP indicators

Each year in autumn, at the beginning of the European Semester process, the Commission publishes the Alert Mechanism Report (AMR) accompanied by a Statistical Annex on MIP indicators.

The cut-off date for extracting data from the Eurostat database to include it in the Statistical Annex and prepare the Alert Mechanism Report analysis is fixed each year, usually at the end of October or the beginning of November. Data used in the preparation of the Statistical Annex to the AMR 2021 were those as available on the cut-off date of 23 October 2020. The timing of the cut-off date allows the analysis to include the most recent national accounts data submitted by EU Member States and validated by Eurostat in the autumn transmission cycle. MIP-underlying data are submitted by Member States according to the usual deadlines set in the financial accounts transmission guidelines.

The Statistical Annex of the AMR 2021 covered the reference years from 2010 to 2019. Data for 2019 have been submitted by EU 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 Section 6.2.2) made possible the smooth validation and timely use of this data for MIP purposes.

One consequence of a fixed cut-off date is that, for the timely submission of the latest year's data, some Member States resort to the provision of preliminary estimates, coupled with the extensive use of flags indicating their provisional or estimated nature.

6.3.2 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 economic trends in the EU, the EA, 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.

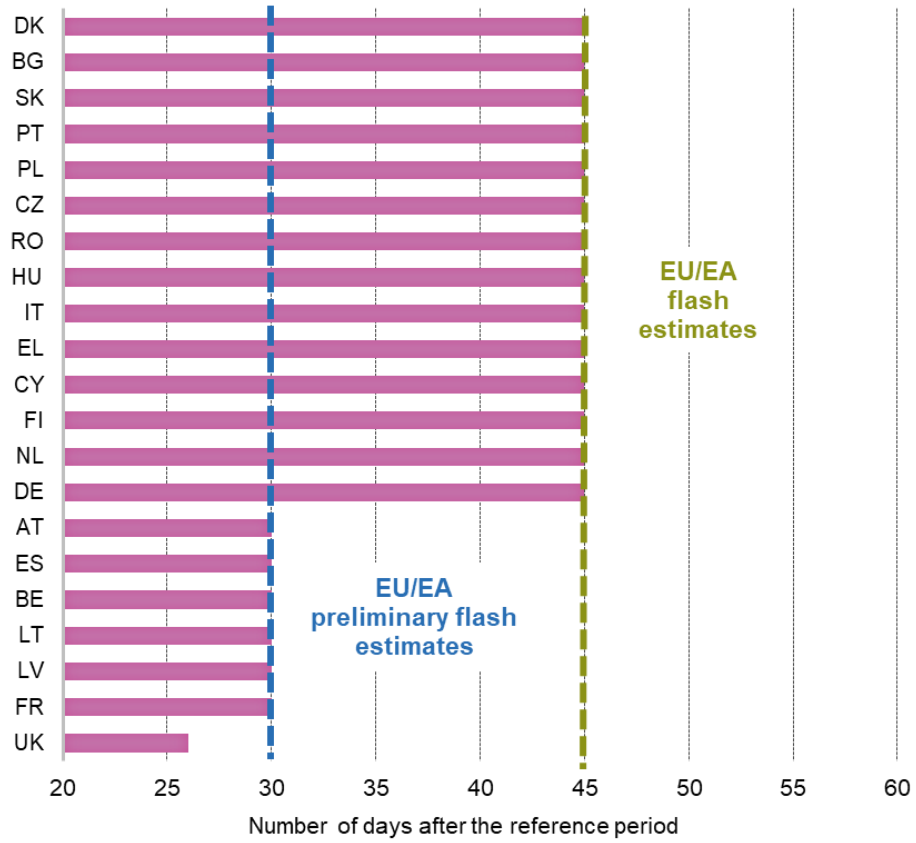
The transmission dates indicated in Figures 18 and 19 are for data submissions due in the first quarter of 2020 and relating to the reference fourth quarter of 2019. The transmission dates in Figure 20 are for submissions due in the last quarter of 2019 and relating to the reference third quarter of 2019.

FIRST GDP (FLASH) ESTIMATES

Eurostat currently publishes two news releases containing GDP flash estimates for the EU/EA:

t+30 preliminary flash estimates and updated t+45 GDP flash estimates. The latter 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 10: Punctuality of first GDP flash estimate data transmissions for 2019Q4

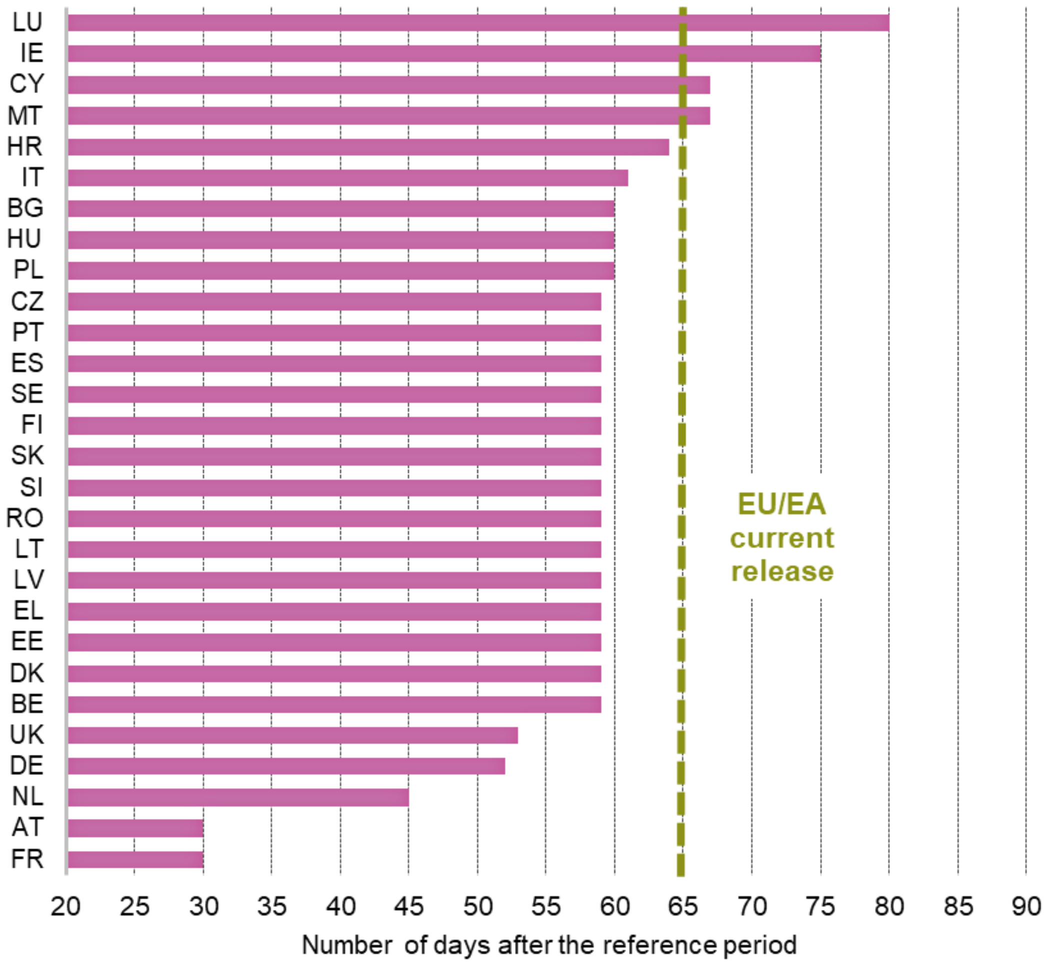


GDP ESTIMATES AND BREAKDOWNS

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 11 refer to the submission of data for the reference fourth quarter of 2019, which are usually published the next day. Validation problems and/or embargoes can, however, cause some additional delays.

Figure 11: Release containing components of GDP, transmission of data for 2019Q4

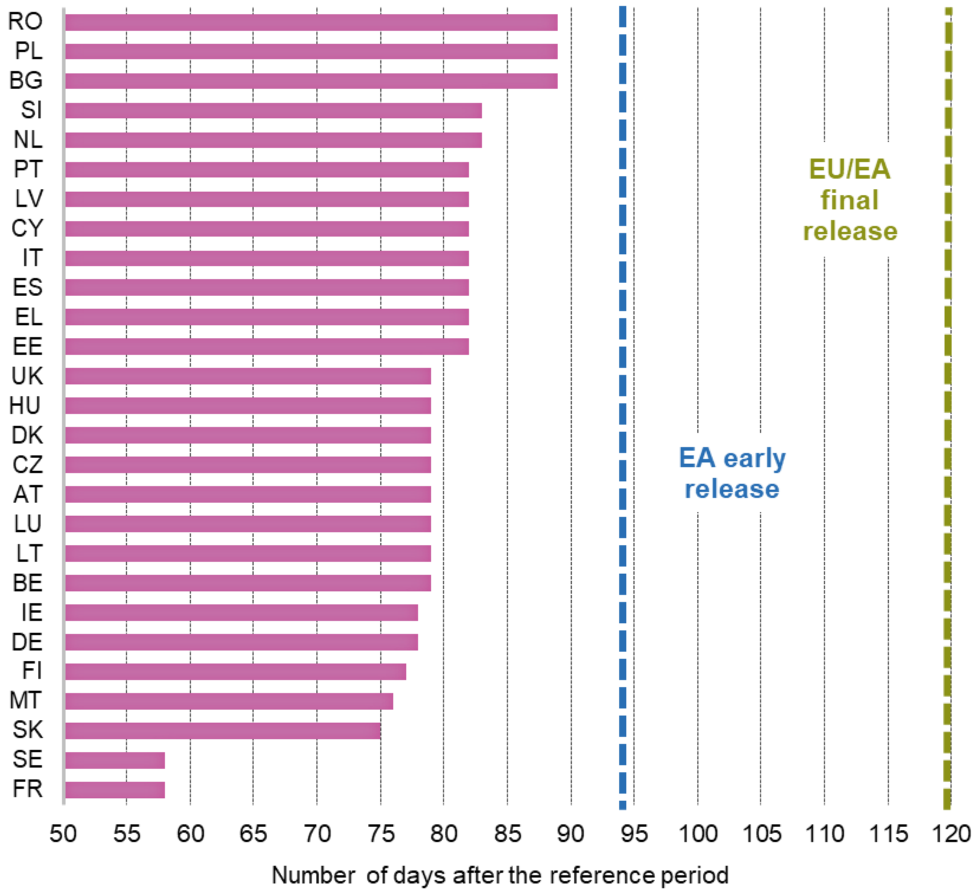


QUARTERLY SECTOR ACCOUNTS (QSA)

Quarterly sector accounts for the reference third quarter of 2019 were due by 24 December 2019 (t+85 days) for EA Member States and by 31 December 2019 (t+3 months) for non-EA 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 are compulsory.

Key indicators and selected transactions for the euro area aggregates are published at around t+94 days. Complete sector accounts data for the both the EA and the EU are released at around t+120 days.

Figure 12: Household and company accounts, transmission of 2019Q3



QUARTERLY GOVERNMENT FINANCE STATISTICS

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. Submissions are due at t+3 months, except for quarterly financial accounts for general government, where provisional data are due at t+85 days for EA Member States. 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.

7 Accessibility and clarity

Accessibility and clarity pertain to the conditions and terms under which users can obtain, use and interpret data.

They reflect the data's information environment, including 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, the household saving rate, the business investment rate as well as seasonally adjusted government deficit, quarterly government debt, taxes and social contributions and general government expenditure by function (COFOG). Information from national and regional accounts as well as government finance statistics is also included in Eurostat's yearbook and regional yearbook. In 2019, all information was published on time.

Eurostat implements a policy of free dissemination to allow users the widest possible access.

7.2 ESA 2010 metadata

To make data easily interpretable, Eurostat maintains a rich depository of generic metadata, which can be found in 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.

Eurostat is intending to develop more detailed metadata for each domain of national and regional accounts and, when appropriate, for each table as presented in Eurobase. This project should be completed by the end of 2020.

7.3 Inventories

In addition to regular metadata, EU 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)

GNI Regulation 2019/516[11] (the GNI Regulation) requires EU 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[12]. The purpose of the questionnaire is to ensure a systematic, consistent and fair approach in assessing the quality of GNI data.

All EU Member States submitted their GNI inventories to Eurostat. The GNI inventories of all 28 Member States are available in their entirety, while Switzerland has provided 5 chapters of their inventory. France's sources and methods for its GNI were still being assessed in 2019 (see Table 12). These are available on the CIRCABC website 'Monitoring GNI for own resource purposes'.

EXCESSIVE DEFICIT PROCEDURE (EDP)

Eurostat receives and verifies EDP statistics under the legal provisions of Article 126 of the Treaty on the Functioning of the European Union and Protocol 12 and Council Regulation (EC) No 479/2009, as amended by Commission 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.

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 (EC) 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

11 Replacing GNI Regulation 1287/2003
12 Replaced by the GNI Expert Group

underlying government accounts was adopted in 2014. All EU Member States are required to complete this EDP inventory, while the 27 Member States have provided these inventories under ESA 2010. For the Netherlands, only a list of general government units under ESA 2010 is published, while large parts of the inventory have been delivered to Eurostat. The inventories are publicly available on the Eurostat website.

Table 12: Availability of mandatory and voluntary inventories on the Eurostat website and/or CIRCABC public website, as of 31 December 2019

	Mandatory inventories				Voluntary inventories		
	GNI Entire document	EDP	QFAGG	National tax lists	QNA	ASA	QSA
Belgium	✓	✓	✓	✓			✓
Bulgaria	✓	✓	✓	✓	✓		
Czechia	✓	✓	✓	✓	✓		
Denmark	✓	✓	✓	✓	✓		
Germany	✓	✓	✓	✓	✓		
Estonia	✓	✓	✓	✓			
Ireland	✓	✓	✓	✓			
Greece	✓	✓	✓	✓	✓		
Spain	✓	✓	✓	✓			
France*	✓	✓	✓	✓			
Croatia	✓	✓	✓	✓	✓		
Italy	✓	✓	✓	✓			
Cyprus	✓	✓	✓	✓			
Latvia	✓	✓	✓	✓	✓		
Lithuania	✓	✓	✓	✓	✓	✓	
Luxembourg	✓	✓	✓	✓			
Hungary	✓	✓	✓	✓	✓		
Malta	✓	✓	✓	✓			
Netherlands	✓		✓	✓	✓	✓	
Austria	✓	✓	✓	✓	✓		
Poland	✓	✓	✓	✓	✓		
Portugal	✓	✓	✓	✓		✓	
Romania	✓	✓	✓	✓			
Slovenia	✓	✓	✓	✓		✓	
Slovakia	✓	✓	✓	✓			
Finland	✓	✓	✓	✓	✓	✓	✓
Sweden	✓	✓	✓	✓	✓		✓
United Kingdom	✓	✓	✓	✓			
Iceland							
Norway	✓				✓	✓	
Switzerland	✓						

(*) The French sources and methods for GNI were still being assessed in 2019.

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

Under Annex B of the ESA 2010 Regulation, all European Economic Area countries (subject to derogations) must regularly submit metadata on major events and revisions for QFAGG to Eurostat. 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’.

7.3.2 Voluntary inventories

To provide comprehensive information on sources and methods used for 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 are 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.

Fourteen EU Member States – four more than last year (Bulgaria, Latvia, Hungary and Sweden), plus Norway, submitted QNA inventories to Eurostat (see Table 13); 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 the national compilation procedures used for annual non-financial accounts by institutional sector, pursuant to 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 the production of quarterly sector accounts, since most comprehensive data sources are collected annually; hence, the compilation of quarterly accounts relies on annual benchmarks whenever quarterly data are not available.

Six EU Member States – one more than last year (Slovakia), plus Norway and Iceland, submitted their ASA inventories for publication on the Eurostat website and 3 submitted their QSA inventories (see Table 13). Only 1 EU Member State (Finland) submitted both inventories.

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

Following the developments of the Classifications of the Functions of Government task force (COFOG TF) in 2019, Eurostat published an updated version of the COFOG manual. In comparison to previous editions, the manual was completely updated, most importantly to reflect the ESA 2010 (European System of Accounts) framework. Further guidance is given by the additional general guidance on the recording of consumption of fixed capital on own-account research and development (R&D) and correspondences among the COFOG classification and economic transactions used in the ESA 2010 framework as well as sixteen new case studies.

The manual for quarterly non-financial accounts for general government is currently being updated.

8 Comparability

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

8.1 Methodological soundness

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

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

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

- Gross national income (GNI) for the EU's 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 own resources 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. It is an ongoing project to automate validation in accordance with ESS guidelines implementing the pre-validation service STRUVAL (structural validation) and CONVAL (content validation). Chapter 4 of the handbook – *Pre-validation rulesets* – 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 and progress in implementing them. The validation rules will be updated if necessary as the pre-validation services STRUVAL and CONVAL are implemented.

The Task Force on Data Validation was created in 2014 to address frequent errors in the transmission process, review validation checks performed by Eurostat when receiving data, clarify methodological or practical aspects underlying specific issues, propose validation rules for internal or external pre-validation tools and investigate possibilities for collecting and disseminating associated metadata. It followed guidance issued by the ESS Vision Infrastructure Project on Validation when reviewing and developing data validation rules for pre-validation tools. Main deliverables and detailed structural and methodological discussions of the Task Force are described in the ESA 2010 Validation Handbook. The Task Force created the handbook as a living document that is 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 the national accounts domains, as a blueprint for the validation service. Based on the ESS Vision Infrastructure Project's suggested structure for an efficient validation process, checks are split into five main groups:

1. Structural checks focusing on compliance with the statistical data and metadata exchange standard (SDMX), which identifies valid file format, coding according to the DSD, mandatory fields present, correct usage of data types and dataflow definition;
2. Basic logic checks, which cover consistency between the sender ID and reference area country, ensuring that a table ID is present, correct use of flags for the observation status to accompany missing values, embargo dates, 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, consistency between prices and comparison between unadjusted and adjusted series;
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.

In addition to automatic pre-validation services, a subsequent stage of data validation is performed using the internal Eurostat production and validation system, in order to run additional checks. Domain experts then do further analysis in order to decide whether the file can be validated, or if corrections, additional explanations and/or metadata are needed.

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 ESA 2010 was introduced, including in cooperation with international partners. This work is ongoing.

Regarding national accounts methodology, the challenging subjects of globalisation and digitalisation and well-being and sustainability continued to be priority items on the agenda. The GNI MNE pilot exercise which started in 2018 was completed in 2019 and suggested improvements to be introduced in national accounts. The project on global production and integrated global accounts, which provided horizontal support covering all the globalisation topics, also completed its first phase in 2019 and planned new actions to address some outstanding issues from the GNI MNE pilot. Technical discussions on digitalisation helped to identify the cross-border transactions and the link to globalisation issues (internet purchases, online streaming, cloud computing), the discussion on 'free' digital services, the link to the welfare discussion and further guidelines on the price and volume measures for ICT and intellectual property products. Eurostat and Member States contributed to international discussions on a new digital satellite account and planned its testing in 2020.

Work has progressed to update the 'Technical Compilation Guide for Pension Data in National Accounts', in view of the next data transmission planned in December 2020.

Eurostat continued to follow up on and address quality and compliance issues together with the Member States. The third quality exercise for national and regional accounts for data transmitted in 2018 was implemented and concluded with the publication of the Eurostat assessment report. Eurostat cooperated with several Member States bilaterally, including in the context of the Eurostat-ECB Memorandum of Understanding in the area of MIP.

The first phase of the FIGARO project on the compilation of EU inter-country input-output tables and a five-yearly production of EU inter-country supply, use and input-output tables was successfully implemented. It resulted in the publication of experimental statistics on the Eurostat website as EU-inter country Supply, Use and Input-Output Tables for the year 2010. The tables provide an analytical tool for measuring detailed economic relationships between EU Member States. In spring 2021 the FIGARO project will provide a time series of EU inter-country supply, use and input-output tables for the years 2010-2018. A dedicated task force on productivity indicators was set up to help implement the new phase of the project on Growth and Productivity Accounts for the period 2019-2021. Work continued on the compilation of data on distribution of income, consumption and wealth through micro-macro data linking under the auspices of a joint OECD-Eurostat expert group aiming at publication of experimental results at the end of 2020.

The coordinated benchmark revisions of national accounts and balance of payments were a major development in 2019. Eighteen Member States, namely Belgium, Bulgaria, Germany, Estonia, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom, as well as Norway carried out coordinated benchmark revisions of national accounts. Most of the revised quarterly and annual data were released by Eurostat from August to October 2019 while the updates of certain data sets continued until spring 2020.

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, and the GNI concept stems from the ESA definitions. According to the GNI Regulation[13], 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 EU Member States to calculate GNI and takes measures to improve their quality, with the assistance of a dedicated group composed of representatives of Member States (GNI Expert Group)[14]. The verification process for GNI is a stricter procedure compared to the one for national accounts.

Based on the GNI inventories presented by EU Member States at the beginning of 2016, Eurostat examined in the period 2016-2019 the implementation of the ESA 2010 methodology relevant to the GNI calculation individually by Member State. Core elements of the verification included desk checks, information-gathering visits, action points for improvements and, when needed, formal reservations on the quality of GNI data. During the verification cycle 2016-2019,

[13] GNI Regulation 2019/516 entered into force in March 2019, replacing GNI Regulation 1287/2003.
[14] In May 2019 the former GNI Committee was replaced by the GNI Expert Group (Commission Decision of 17.05.2019).

these verification activities resulted in a significant number of action points: by the end of 2019 a total number of 1 204 action points had been issued.

The verification process was finalised in the period covered by this quality report and has resulted in a number of reservations that have to be addressed by Member States. The following reservations were issued:

- 157 transaction-specific reservations
- 140 (5 for each country) transversal reservations
- 1 general reservation (for France)
- Process-specific reservations (for the UK for 2016-2019).

In terms of transaction-specific reservations (TSRs), in the ESA 2010 verification cycle, Eurostat issued 157 reservations. The breakdown of TSRs by country is presented in Table 13.

The deadline set for the countries to finalise the work is September 2021.

Table 13: Number of transaction-specific reservations by country

Country	TSR
BE	0
BG	9
CZ	3
DK	1
DE	0
EE	2
IE	6
EL	21
ES	4
FR	0
HR	16
IT	1
CY	1
LV	7
LT	4
LU	9
HU	2
MT	11
NL	0
AT	1
PL	18
PT	0
RO	11
SI	0
SK	6
FI	3
SE	3
UK	18
Total	157

Under the GNI verification process, some areas of national accounts were verified through detailed cross-country comparisons (CCCs). In the ESA 2010 GNI verification cycle, the following CCCs were performed:

- exhaustiveness (absence and misreporting, statistical deficiencies, VAT fraud, use of tax audit information, Illegal activities) – 15 TSRs;
- balancing of GDP – 6 TSRs;
- dwelling services – 8 TSRs;
- financial services, including financial intermediation services indirectly measured – 5 TSRs;
- 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) – 25 TSRs;
- changes between ESA 95 and ESA 2010;
- research and development – 7 TSRs;
- weapon systems – 2 TSRs.

Final reports on CCCs were presented to the GNI Expert Group.

Based on the results of the GNI verification, Eurostat also issued transversal reservations (TRs) for all Member States for the following issues:

- Globalisation
- Margins on trading financial assets
- Missing traders VAT fraud
- Reinvested earnings on foreign direct investment
- Recording of daily allowances.

For these 5 issues, the deadline set for the countries to finalise the work is September 2021. The only exception is globalisation, which has a deadline of September 2022.

Each year, the GNI Expert Group (GNIG) 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 meeting in November 2019 the GNIG observed that improvements had been made in the harmonisation and quality of the GNI estimates of the EU-28 Member States. It considered that, taking due account of the GNI reservations issued for the EU-28 between January 2012 and October 2019, these data were appropriate for use for own resource purposes with respect to reliability, comparability and exhaustiveness in accordance with Article 5.2 of the GNI Regulation. However, the GNIG 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.

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 EU Member States and for providing the statistics to be used for the EDP (see also other legal basis). It is solely responsible for interpreting the methodology underlying these statistics. This methodology is based on ESA 2010 and on Eurostat's Manual of Government Deficit and Debt, as well as Eurostat's EDP decisions and guidance notes and GFS interpretations. The methodology was developed based on a broad consensus of the EU statistical community.

For the EDP and government finance statistics (GFS), Eurostat's mission is to be the guardian of the EU Member States' implementation of ESA 2010 and to develop, when necessary, sound interpretations of the ESA 2010 rules based on advice from the EU statistical community. In carrying out this responsibility, Eurostat abides by the principles of equal treatment of Member States and of the European statistics Code of Practice, 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.

For GFS data reported in the ESA 2010 transmission programme, Eurostat, in close cooperation with Member States, ensures the consistency of data within the data set, consistency with other GFS data, and consistency with EDP data. In the context of regular transmission reports[15], Member States and Eurostat ensure data coherence and accuracy.

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.

A revision analysis of deficit and debt is published alongside the EDP press releases.

In 2019, a new addition of the COFOG manual was published. In comparison to previous

[15] Covering completeness, coherence, basis and advance plausibility checks, revisions, growth rates, unexpected amounts, etc. and providing for Member States' explanations.

editions, the manual was completely updated, most importantly to reflect the ESA 2010 (European System of Accounts) framework. Further guidance is given by the additional general guidance on the recording of consumption of fixed capital on own-account research and development (R&D) and correspondences among the COFOG classification and economic transactions used in the ESA 2010 framework as well as of sixteen new case studies.

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 data set, 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 measurement of the adequacy of the data to be reliably combined in different ways and for various uses.

The sufficiency of statistics that are produced for different primary purposes to be used jointly is assessed through checking for cases where there is lack of coherence between these statistics.

Coherence is a key quality criterion to assess the national and regional accounts data. This year's edition of quality reporting introduces an assessment of the coherence between non-financial and financial accounts data from EU Member States based on an analysis of new quality indicators. The new indicator joins the three existing quality indicators, as presented below. The remaining six coherence indicators will be employed in the assessments carried out in the quality reports from 2021.

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

- coherence between totals and sum of components;
- coherence between quarterly and annual data;
- cross-domain coherence, between non-financial sector accounts and financial accounts: net lending / net borrowing;
- coherence of identical variables across national accounts main aggregates tables.

9.1 Cross-domain coherence

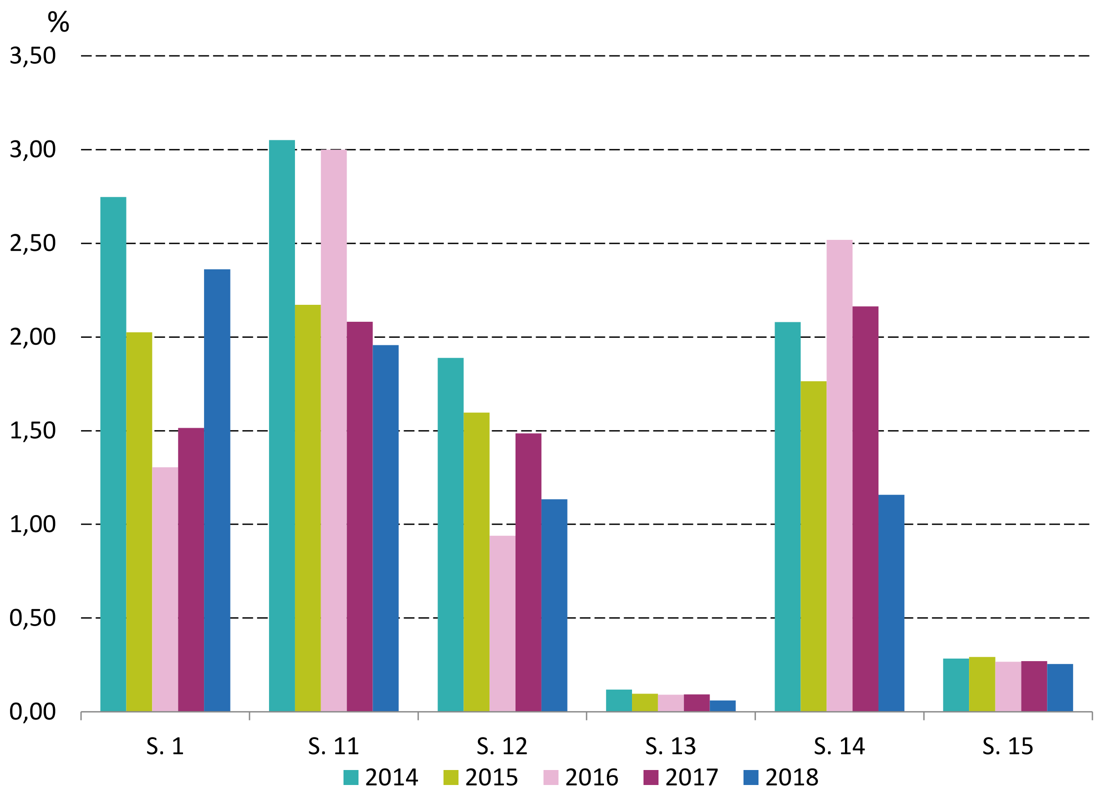
ESA 2010, paragraph 5.18, states that: 'The balancing item of the financial account is conceptually identical to the balancing item of the capital account. In practice, a discrepancy is usually found between them because they are calculated on the basis of different statistical data'. In other words, ESA 2010 acknowledges that non-financial and financial accounts require different source data, so discrepancies (known as 'vertical' discrepancies because of the sequence of accounts) are likely.

9.1.1 Coherence between non-financial sector accounts and financial accounts – net lending / net borrowing

When considering inconsistencies between net lending / net borrowing of the non-financial accounts (B9) and the financial accounts (B9F), it might be assumed that, generally, the larger the inconsistency, the more questionable the data quality of the non-financial and/or financial accounts. However, the interpretation of this inconsistency should be more nuanced.

The differences between net lending / net borrowing in the non-financial and financial accounts can be broken down by institutional sector: S.1: total economy; S.11: non-financial corporations; S.12: financial corporations; S.13: general government; S.14: households; and S.15: non-profit institutions serving households. The absolute differences as a percentage of GDP are shown in Figure 13 for 27 EU Member States (26 for year 2018). These are based on the data extractions for the two domains from the national quality reports.

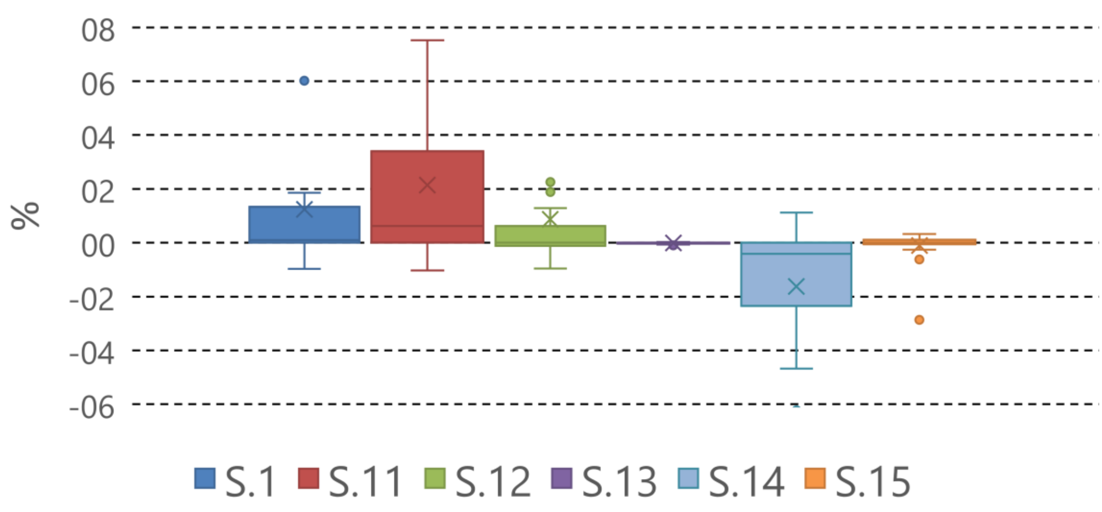
Figure 13: Absolute differences in net lending / net borrowing of non-financial account (B9) and financial account (B9F) as a percentage of GDP (average of EU countries)



Compared to other inconsistencies that may arise in national accounts data reporting, the differences shown in the chart are clearly significant in size. The absolute differences range from around 3% in the non-financial corporation sector (S.11) and 2% in the household sector (S.14), sectors where data sources tend to be less complete or reliable, to below 0.2% for the general government sector (S.13). Moreover, there is no indication that the differences diminish over time as data for earlier years become finalised. Indeed, an examination of a much longer time series indicates that similarly large differences persist in many countries over the whole period.

Also, there are large variations in size of vertical discrepancies between countries, depending on the institutional sector. The boxes in Figure 14 show the distribution of the differences among 27 EU Member States (26 for year 2018) for each sector, taking an average of countries' data for reference years 2014-2018. Very extreme values for Malta have been removed from the chart.

Figure 14: Differences in B9 / B9F as a percentage of GDP, box plots (EU countries, average of reference years 2014-2018)



One feature which is apparent is the wide range of differences (variability) for S.11 and S.15, followed by S.12. Additionally, the discrepancies tend to be negative in the case of S.14, (meaning that net lending of the financial accounts is higher, or net borrowing lower, than the non-financial accounts), whereas the discrepancy tends to be positive in the case of S.11 and to a lesser extent S.12. This suggests a sectoral bias in the results of at least some countries.

Table 14 shows the cases of vertical balancing to zero by sector, showing a variety of approaches across countries. Only two countries reduce vertical discrepancies for S.11 to zero (or almost to zero), while more countries do for S.12 and S.15.

Table 14: Vertical balancing to zero (maximum discrepancy 0.1% of GDP)

	S.1	S.11	S.12	S.14	S.15
CZ, DK	✓	✓	✓	✓	✓
FR, IT					✓
LU	✓		✓		✓
SK	✓				✓
DE			✓	✓	✓
ES	✓		✓		
BE	✓				
NL			✓		
AT				✓	✓

Note: S.13 is not shown.

EU Member States mentioned in Table 14 eliminate the discrepancy for the sectors concerned. This involves adjusting one or more transactions, in either domain, to ensure that net lending / net borrowing matches in the financial and non-financial accounts. The differences are allocated to data considered of lesser quality, typically accounts receivable/payable, or unlisted shares, but it could be other transactions. However, such adjustments may have little statistical justification, so there is a risk of reducing the quality of the affected data. Moreover, the adjustments make it more difficult to reconcile the accounts with data sources.

Nonetheless it is clearly good practice to reduce vertical discrepancies as much as possible without resorting to arbitrary decisions or techniques. The check of coherence between non-financial sector accounts and financial accounts in the national quality reports, through a comparison of net borrowing /net lending, showed a wide variability in terms of results by country and institutional sector. The absolute values of vertical discrepancies as a percentage of GDP, averaged over the period 2014 to 2018, are presented in Table 15. The indicator was not available for Croatia for the full period, nor for Bulgaria for 2018.

Table 15: Average absolute vertical discrepancy over 2014-2018, by sector (as % of GDP)

Institutional sector	S. 1	S. 11	S. 12	S. 13	S. 14	S. 15
AT	0.57	0.45	0.62	0.07	0.01	0
BE	0	1.10	0.62	0.23	0.84	0.14
BG	1.93	4.82	3.72	0.10	6.23	0.29
CY	1.21	0.90	0.98	0.03	0.72	0.22
CZ	0	0	0	0	0	0
DE	1.90	1.90	0	0	0.05	0.05
DK	0	0	0	0	0	0
EE	0.71	1.49	0.56	0.11	1.87	0.10
ES	0	1.06	0	0.04	0.96	0.13
FI	2.71	3.59	1.37	0.13	0.92	0.26
FR	0.18	0.18	0.11	0.04	0.15	0.07
GR	2.09	5.13	2.03	0.33	2.51	2.87
HU	1.34	2.79	0.60	0.04	2.07	0.21
IE	2.49	1.19	1.76	0.11	1.28	0.15
IT	1.08	0.74	1.39	0.08	0.59	0.03
LT	1.51	5.62	1.14	0.02	4.68	0.12
LU	0	0.37	0.01	0	0.38	0
LV	1.02	2.84	1.29	0.66	3.81	0.26
MT	18.92	16.25	16.03	0.13	14.49	0.61
NL	0.25	0.36	0.00	0.04	0.45	0.10
PL	1.47	5.95	1.05	0.03	4.48	0.63
PT	0.30	0.15	0.15	0	0.12	0.12
RO	6.02	7.52	2.25	0.11	4.21	0.13
SE	1.86	0.87	1.03	0.06	1.12	0.17
SI	0.89	0.88	0.97	0.03	1.00	0.12
SK	0.06	0.62	0.18	0.07	0.45	0.04
UK	0.41	0.39	0.39	0.04	0.33	0.21
Average	1.81	2.49	1.42	0.09	1.99	0.26

The table presents the vertical discrepancies for all sectors. The average absolute discrepancies were largest in S.11 and S.14, where the average of EU Member States (excluding Croatia) was 2.49% and 1.99% of GDP, respectively. The national practices of vertical balancing to zero can also be clearly seen for the countries presented in Table 14. Average absolute discrepancies of between 2% and 5% of GDP are shown in pale mauve colour, while discrepancies above 5% of GDP are shown in darker purple.

Apart from vertical balancing, on average over the 2014 to 2018 period, absolute vertical discrepancies were less than 0.5% of GDP in all sectors for Czechia, Denmark, France, Luxembourg, the Netherlands, Portugal, Slovakia and the UK.

Some Member States had high absolute discrepancies in percentage of GDP (Bulgaria, Greece, Lithuania, Malta, Poland, Romania), with Malta showing very high values for S.11, S.12 and S.14. By contrast, some Member States (Austria, Belgium, Cyprus, Germany, Estonia, Spain, Italy, Sweden and Slovenia) managed to keep the averages below 2% of GDP for all sectors, even if their vertical discrepancies are not close to zero.

Comments by EU Member States in their national quality reporting tended to underline that vertical discrepancies were being monitored, and in some cases there was specific mention of work to reduce them.

9.2 Coherence between quarterly and annual data

When both quarterly and annual data are submitted to Eurostat, it is important to ensure that the quarterly data are consistent with the 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 this quality reporting exercise. The analysis covered the differences between annual data and the sum of the four respective quarters of data over the period 2014 to 2018, 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.

9.3 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 2019 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, 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 from 2014 to 2018, for national accounts main aggregates and for the most recent four quarters, the overall results of consistency checks between totals and sums of components were good, with only very minor differences due to rounding.

9.4 Coherence of identical variables across national accounts main aggregates tables

National accounts main aggregates data for some key variables are sent in various 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, which is sent in Tables 1 and 8; gross fixed capital formation data, which are 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 in some 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 revisions can be incorporated into the full set of national accounts, more substantial differences can be observed across tables.

In the context of this 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 from 2014 to 2018, the internal coherence across national accounts main aggregates tables for both annual and quarterly frequencies was very good.

10 Overall quality assessment and recommendations

This chapter summarises the results of the quality assessment of the national and regional accounts data submitted by the EU Member States, Iceland, Norway and Switzerland in 2019 and this chapter summarizes Eurostat's own publications of European aggregates. It is the fourth such assessment since the introduction of ESA 2010 in September 2014. The scope is limited due to ongoing adjustments in the process of adapting national statistical systems to the new requirements of ESA 2010 by 2020.

As has been the case since 2016, the data sent in 2019 were broadly in line with the quality standards of the ESS and the ESA 2010 Regulation. Many EU 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. There have been improvements in both data completeness and punctuality since the first quality report on data submissions in 2016. Based on the quality criteria used in the assessment, the overall results are presented below.

10.1.1 Conclusions

RELEVANCE

National and regional accounts data are highly relevant to users as demonstrated by Eurostat's latest user satisfaction survey conducted in 2020. The domains included in the survey are in accordance with the ESA 2010 'Economy and Finance' theme and grouped as 'National accounts' data (including GDP, main aggregates, sector accounts, input-output tables and regional accounts), 'Financial accounts and monetary indicators' and 'Government finance statistics'.

Overall, the data completeness rate continued to be very high or high for most domains and tables. The benchmark revisions in 2019 gave several Member States the opportunity to improve their completeness rates. Four EU Member States (Belgium, Cyprus, Latvia and the Netherlands) had 100% completeness rates for all tables while four other Member States (Germany, Portugal, Slovakia and Slovenia) had very minor gaps in the single data table.

The EU-28 average completeness rates for tables for national account main aggregates (NAMA), government finance statistics (GFS), non-financial sector accounts (NFSA) and annual financial accounts (AFA) were between 96.9% (instead of the 93.4% of 2018 data) and 100%; for supply, use and input-output tables (SUIOT) and regional accounts (RA) tables, they were between 94.5% and 100%.

For main aggregates, more than half of the EU Member States reached a completeness rate of 95% to 100% across all tables. Only a few countries (Bulgaria, Croatia, Malta, Poland and Luxembourg) had significant gaps for one or several tables. The benchmark revision helped

some countries to improve their completeness rates (Spain, Iceland and Norway showed notable improvements while Hungary and Bulgaria made progress).
For GFS, data completeness rates are also high. The EU-28 average reached a completeness rate of 99.8% in 2019, with rates lower than 98% observed for the following countries and tables: Czechia (table 27 95.5%), France (table 9, 93%), Croatia (table 2, 97.7%, table 11, 95.8%), Poland (table 9, 97.4%), Portugal (table 9, 97.1%), Slovakia (table 27, 94.3%), Iceland (all tables, between 0% and 91.3%). Most of the mandatory series submitted were validated and published in the Eurostat database for all EU Member States.

The completeness rates for non-financial sector accounts data was high for most countries, with the exception of more substantive gaps in five countries (Bulgaria, Estonia, Croatia, Iceland and Norway).

In annual financial accounts, completeness rates were close to 100% for all but one EU Member State (Czechia), where it was above 97%.

Data completeness was generally very high in regional accounts, with significant data gaps in two EU Member States (France and Poland).

Also for SUIOT tables, data completeness rates were generally high. Twenty EU Member States had 100% completeness rates for all SUIOT tables, while significant gaps existed in data of the following countries: Bulgaria, Croatia, and Malta. For Finland, Sweden and the UK, the lower than 100% completeness rate is due to some technical issues and missing flags that will be or have been addressed in the meantime.

While Eurostat aims to compile a harmonised overview of the evaluation results across all the tables of the ESA 2010 transmission programme, the results for certain countries might still not be entirely appropriate or comparable, notably with respect to the counting of missing data - flagged as not applicable (M) or subject to derogation (J). As data flagging practices still vary across countries, further efforts will be made towards harmonisation.

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. However, the voluntary transmissions have not been taken into account in the national quality report assessment.

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, as was the accuracy of releases of aggregate data from quarterly sector accounts.

In 2019, 18 Member States, namely Belgium, Bulgaria, Germany, Estonia, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom, as well as Norway carried out coordinated benchmark revisions of national accounts.

Some Member States opted out to carry out their benchmark revisions earlier or later than 2019 due to national needs and in line with the voluntary nature of recommendations. France and the Netherlands implemented their benchmark revisions in 2018, while Austria did so in 2017. Czechia, Greece, Malta, Poland, Switzerland are implementing benchmark revisions in 2020. Luxembourg communicated delays in the benchmark revision that they initially planned for

2020. Latvia carried out a benchmark revision also in 2020 to incorporate the results of the work on specific GNI reservations. Lithuania concluded the benchmark revision in 2020 with the revision of back series (1995-2009). Some other countries, e.g. the United Kingdom[16], carry out yearly major revisions, which are considered benchmark revisions.

The content of available information on national revisions varies substantially among the countries for which the information is publicly available. Nearly all countries publish information on the national revision policy for quarterly national accounts. However, information on revisions for financial accounts, regional accounts and supply use input-output tables is still missing on most national websites.

TIMELINESS AND PUNCTUALITY

With most countries submitting all mandatory quarterly accounts on time or with a short delay on only one table, the punctuality of transmission of quarterly national accounts was overall high in 2019.

The assessment of timeliness is based on a punctuality indicator calculated by subtracting the due delivery date from the first delivery date of data, taking into account derogations. This means that data received in accordance with the official deadline are reported with a timeliness of 0 days, indicating that data were delivered on time. A positive number of days indicates a delayed delivery, whereas a negative number of days indicates an advanced delivery.

Data transmissions assessed according to this indicator showed high punctuality for most domains and tables (Annex 2). Twelve Member States (Belgium, Denmark, Germany, Greece, France, Cyprus, Latvia, the Netherlands, Austria, Portugal, Slovenia and United Kingdom) sent all data on time, 9 Member States (Czechia, Estonia, Ireland, Spain, Latvia, Hungary, Malta, Slovakia and Sweden) allowed minor delays , while 7 Member States (Bulgaria, Croatia, Italy, Luxembourg, Poland, Romania and Finland) had major delays with one data set or transmission.

For main aggregates, quarterly data were generally either transmitted by or shortly before the official transmission deadline. Longer delays occurred only for specific sub-tables for 3 EU Member States (Croatia, Luxembourg, Finland). For annual data, delays in the first transmission of annual data for 2019 occurred for 3 EU Member States (Croatia, Poland, Finland), but in two of the cases, the delay affected one transmission table.

For GFS, data are generally transmitted on time or in advance of the transmission deadlines. Countries transmitted quarterly data on time or in advance of the transmission deadlines, with the exception of Czechia, Poland and Iceland. The punctuality of annual government finance statistics tables was very high: for main aggregates of general government (Table 2); for 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); and for general government expenditure by function (Table 11). Twenty-five countries transmitted all data on time. Denmark’s revision schedule was not adjusted to the transmission deadlines, with the result that versions of Table 2 were provided in June and November rather than end-September. Croatia and Bulgaria each provided one submission of ESA Table 2 slightly late.

In non-financial sector accounts, quarterly data were generally transmitted on time or with very short delays. Regular delays were observed for 1 Member State (Bulgaria), while longer delays were observed for 5 EU Member States (Croatia, Lithuania, Romania, Slovakia, Luxembourg). In annual data, 4 countries (Estonia, Latvia, Malta, Poland) transmitted data with significant

[16] During the implementation of the 2019 benchmark revisions, the United Kingdom was an EU Member State. Therefore, their results are included in this analysis.

delays.

Annual financial accounts were transmitted mostly on time or in advance, while a few countries (Malta, France, Luxembourg, Slovakia, Iceland) had short delays of several days.

Regional accounts data were generally transmitted in line or shortly before the transmission deadline, with the exception of 2 Member States (France and Malta) whose transmission marked notable delays for certain tables.

SUIOT tables were also generally transmitted before the deadlines, with some countries (Czechia, Denmark, Ireland, Spain, France,Luxembourg, Hungary, Portugal, Romania, Slovenia, Slovakia, Sweden, United Kingdom and Norway) providing the data months, or even years, before the deadline. However, 4 countries (Bulgaria, Malta, Poland, Croatia) transmitted certain tables late, or not at all. For Italy, the short delay was due to technical issues.

Thanks to the punctuality of data submitted by EU Member States, the Eurostat's flash estimates and news releases of the European aggregates underlying the PEEIs remained timely.

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 just over half of EU Member States. Progress was seen in 2019 with 4 more Member States (Bulgaria, Hungary, Latvia and Sweden) publishing voluntary QNA inventories.

The indicators are also used to inform EU regional policy. In this context, deviations from the ESA 2010 concepts were noted for regional accounts, as follows:

The Netherlands - the acquisition and sale of used assets is not included in gross fixed capital formation;

France - employment data in persons refer to end of the year and not to the annual average;

Lithuania - employment data based on the place of residency instead of the place of work, and compensation of employees (in household accounts) based on the place of work instead of the place of residency;

Poland - hours worked for two regions based on the place of residency instead of the place of work.

COHERENCE

The analysis of coherence in this quality report is limited, as only the internal coherence of certain main aggregates tables was subject to detailed analysis. The coherence between non-financial sector accounts and financial accounts for net lending and net borrowing has been assessed in this report. The absolute differences range from around 3% in the non-financial corporation sector (S.11) and 2% in the household sector (S.14), both sectors where data sources tend to be less complete or reliable, to below 0.2% for the general government sector (S.13). Moreover, there is no indication that the differences diminish over time as data for earlier years become finalised. Indeed, an examination of a much longer time series indicates that similarly large differences persist in many countries over the whole period. The remaining eight coherence indicators will be employed in the assessments carried out in 2021.

Comparing the reporting of net lending/net borrowing in financial with non-financial sector accounts detected pronounced discrepancies for 5 countries (Bulgaria, Greece, Latvia, Malta, Romania) while several countries zeroed their discrepancies (Czechia, Luxembourg, Denmark for all sectors; Belgium, Austria, Germany, Spain, Netherlands, Portugal, Slovakia for some sectors).

Overall internal coherence within tables (Table 1) and between tables (Tables 1 and 3, 1 and 22) was very high for nearly all countries in 2019. Very minor discrepancies were noted for a small number of countries, which were mainly caused by vintage issues or rounding practices.

The internal coherence indicators cover: (i) the consistency checks between selected annual and quarterly data series transmitted in main aggregates tables and sector accounts, (ii) the consistency checks of GDP series transmitted in different sub-tables, and (iii) the consistency of the sums against the components for main aggregates. Based on these checks, discrepancies were generally zero for most countries.

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

1. Improve compliance in terms of the **completeness** of certain tables
2. Improve compliance in terms of the **punctuality** of certain tables
3. Improve compliance in terms of the **methodological adherence to ESA 2010**
4. Improve quality aspects regarding the **accuracy** of statistics
5. Improve quality aspects regarding the **accessibility and clarity** of statistics
6. Improve quality aspects regarding the **coherence** of statistics.

In addition, based on national quality reports and analysis of submitted data, Eurostat provided country-specific recommendations. The specific recommendations given to Member States are then linked to and examined under each generic recommendation. Each specific recommendation is evaluated from zero to three, with zero meaning no recommendation and three indicating major data gaps or a recommendation with high priority. The evaluation scores are presented below:

0 - No recommendation
1 - Minor gap/Lower priority
2 - Significant gap/Medium priority
3 - Major gap/High priority.

The country-specific recommendations are summarised in Table 16.

Table 16: Country-specific recommendations

Recommendations	Countries		
	Minor gap / Lower priority	Significant gap / Medium priority	Major gap / High priority
Improve compliance in terms of the completeness of certain tables			
NAMA	DK, EL, HU, IT, IE, LT, RO, SE, UK	FI, EE, CH, NO	BG, HR, LU, MT, PL, IS
GFS	BG, DE, EE, FR, LU, SI, SK	HR, PL	IS
NFSA	DE, DK,CH, EL, FI SK, UK	RO, NO	BG, EE, HR, MT, PL, IS
AFA	BG, CZ	IS, LU	HR, IE
RA	IT		PL, FR
SUIOT	EL, IE, LT, SE	FI, UK	BG, HR, LU, MT, IS, NO

Improve compliance in terms of the punctuality of certain tables			
NAMA	IT	LU, PL	HR
GFS	Please refer to GFS and COFOG progress reports.		
NFSA	MT, CH	IE, PL	BG, HR, LU
AFA	FR, MT		
RA	BE		FR, PL
SUIOT	IT		BG, HR, LU, MT
Align the national release calendar to Eurostat's calendar to enable the inclusion of national data in European data releases			IE, LU
Improve compliance in terms of the methodological adherence to ESA 2010			
Implement correctly the concepts for employment and compensation of employees		FR	LT, HR
Aligning the recording of gross fixed capital formation in terms of exhaustiveness			NL
Implement correctly the concepts for employment and population in regional accounts			PL
Implement the concept of market production in line with ESA 2010 and uniformly in national accounts and government accounts			
GNI country-specific reservations	CZ, DK, EE, FR, IT, CY, HU, AT, FI, SE	IE, ES, LV, LT, SK	BG, EL, HR, LU, MT, PL, RO
Improve quality aspects regarding accuracy of statistics			
Develop and publish or update information on the national revision policy for national accounts	CH, SE, SK	FR, LV, HR	DK, EL, IE, LU, MT, NO
Ensure the integration of annual financial accounts into the national revision policy for national accounts		IT	BE, CZ, EL, HR, LV, SE, SK, RO, NO
Foster efforts towards alignment of the national revision policy to the harmonized European revision policy endorsed by the CMFB	BE, RO, SK	BG, HU, HR, PL, EL, UK, CH	DK, MT, IE, FR, LU
Improve aspects of the routine revisions practice	BE, DE, SE, DK	HU, IE, CH, IS	EL, HR, LU, MT, NO
Improve aspects of the benchmark revisions practice		BE, DE, EE, IE, RO, NO	BG, HR, MT, EL
Improve the accuracy of imports of goods and services in the first transmissions of quarterly national accounts			BG

Address the high volatility of quarterly employment data			RO
Improve quality aspects regarding accessibility and clarity of statistics			
Widen the scope of the methodological documentation available online		BG, PL, SK	HR, LU, MT, RO
Pursue the development/update of the voluntary inventories (ASA, QNA etc.)	BG, CY, CZ, DE, EE, ES, EL, HR, HU, IE, FR, LV, LU, MT, PL, RO, SI, SK, CH		
Implement accurately the recommendations of the ESA 2010 Validation Handbook on data flags			BE, BG, ES, EL, FI, HU, HR, LU, NL, IS
Ensure additional effort to prepare and publish the country metadata for ESA 2010 for the domains of national and regional accounts on Eurostat's website		AT, SE, CY, CZ, DE, ES, IE, HR, EL, FI, FR, MT, NL, PT, PL, RO, UK, CH, IS	
Engage in the elaboration of data set-specific metadata for ESA 2010 for publication on Eurostat's website	CZ, DK, EE, FI, HU,IE, LT, SE		
Send explanatory metadata such as on major events, major revisions, series breaks, methodological deviations, negative stock values, and data not for publication, along with the data on annual financial accounts			AT, BE, BG, CY, CZ, DE, DK, EE, HU, IE, EL, IT, HR, LT, MT, PT, PL, RO, FI, SE, UK, CH, IS, NO
Improve quality aspects regarding coherence of statistics			
Address systematic difficulties in delivering NFSA data to Eurostat	CH	IE, PL	BG, HR, LU
Ensure the consistency of reported data internally within the data set and/or between the frequencies		LU	BG, HR, IS, NO
Continue to improve the consistency of NFSA with GFS and/or NAMA where needed	RO	EL, IE, SK, LU, PL	BG, HR, IS, NO
Monitor and reduce the discrepancies between financial and non-financial sector accounts	SE	IT	BG, EL, HR, LT, LV, IE, MT, PL, RO

Annexes

Annex 1: ESA 2010 transmission programme

Table 17: Transmission programme of data — Overview of the tables

Table No	Subject of the tables	Frequency	Deadline t + months (days where specified)	Period covered
T1Q	Main aggregates	quarterly	2	1995Q1 onwards
T1A	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[17,18]	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
T27	Financial accounts of general government	quarterly	85 days[17]	1999Q1 onwards
T28	Government debt (Maastricht debt) for general government	quarterly	3	2000Q1 onwards
T29	Accrued-to-date pension entitlements in social insurance	three-yearly	24	2012 onwards

[17] 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. If a Member State transmits the complete data set within 85 days, data does not need to be transmitted at 3 months.
[18] For Member States whose gross domestic product at current prices is less than 1 % of the corresponding Union total GDP, only data for selected items is compulsory.

Annex 2: Completeness rates per ESA 2010 domain and table

Figure 15: Table 1Q - Main aggregates - quarterly (period covered: 1995Q1–2019Q3, data reported in 2019)

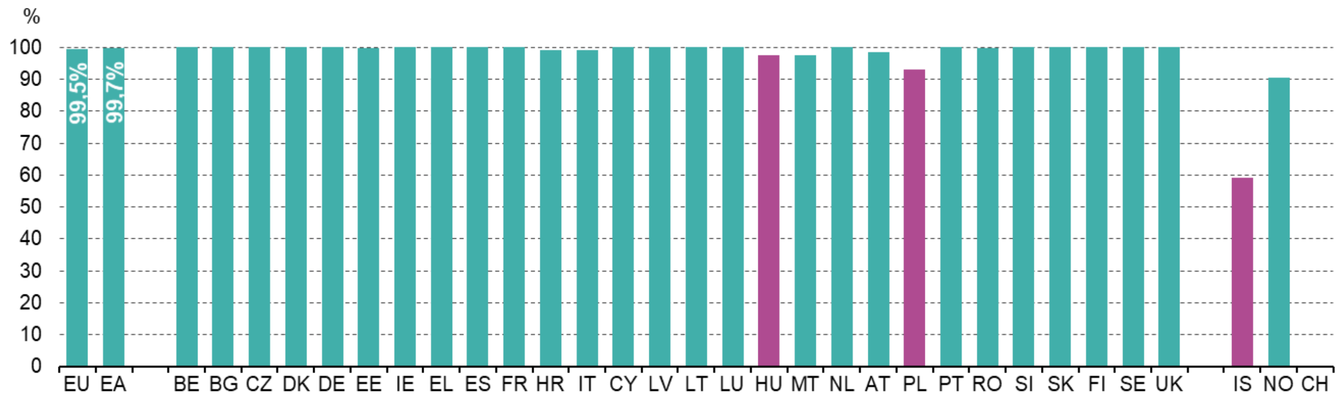


Figure 16: Table 801 - Non-financial accounts by sector - quarterly (period covered: 1999Q1–2019Q3, data reported in 2019)

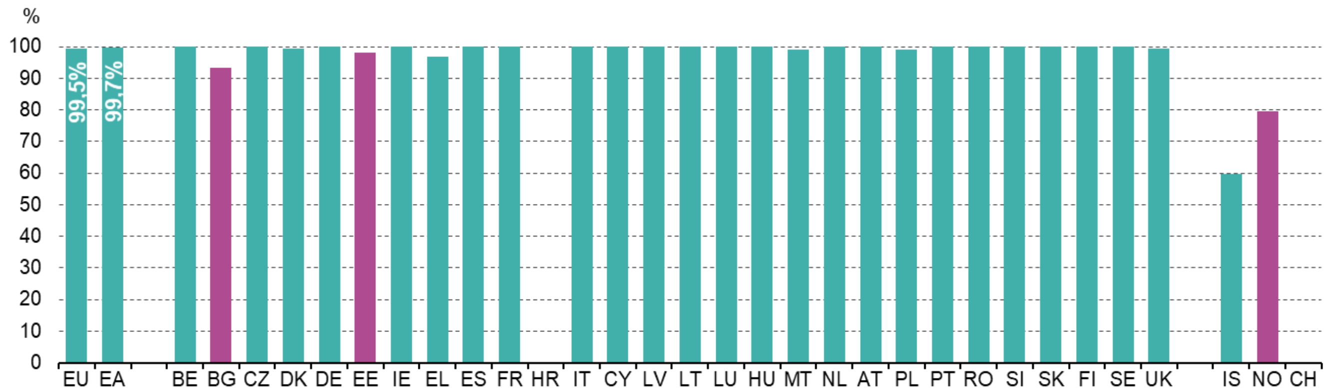


Figure 17: Table 27 - Financial accounts of general government - quarterly (period covered: 1999Q1–2019Q3, data reported in 2019)

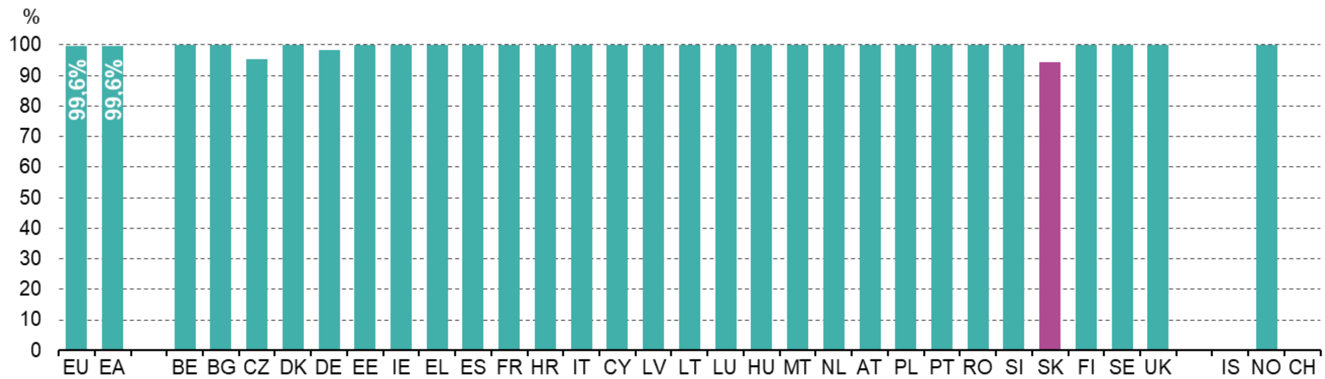


Figure 18: Table 28 - Government debt (Maastricht debt) for general government - quarterly (period covered: 2000Q1–2019Q3, data reported in 2019)

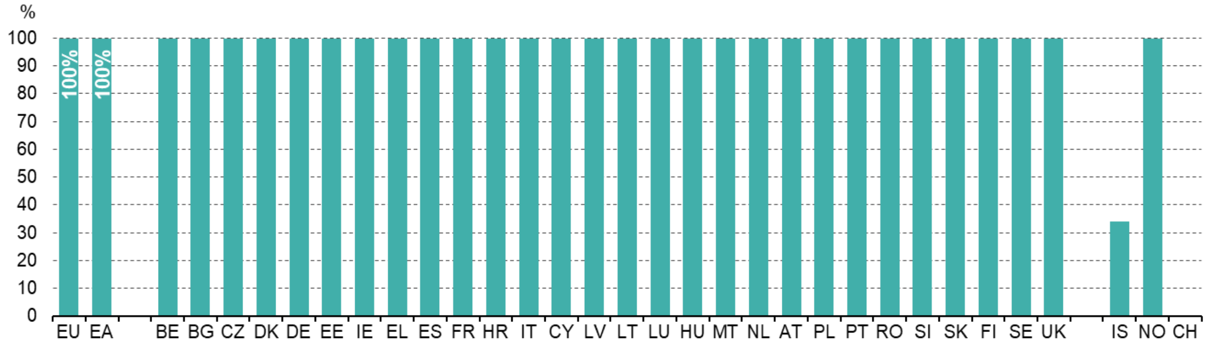


Figure 19: Table 1A - Main aggregates - annual (period covered: 1995–2018, data reported in 2019)

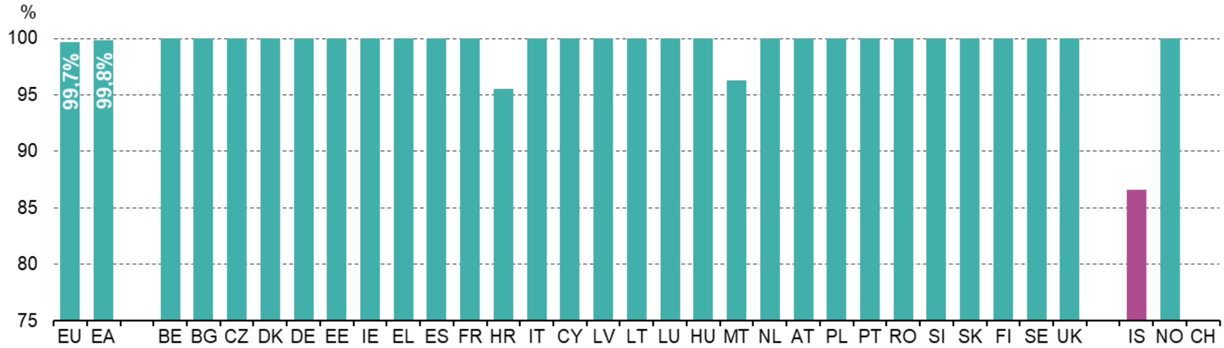


Figure 20: Table 3 - Tables by industry - annual (period covered: 1995–2018, data reported in 2019)

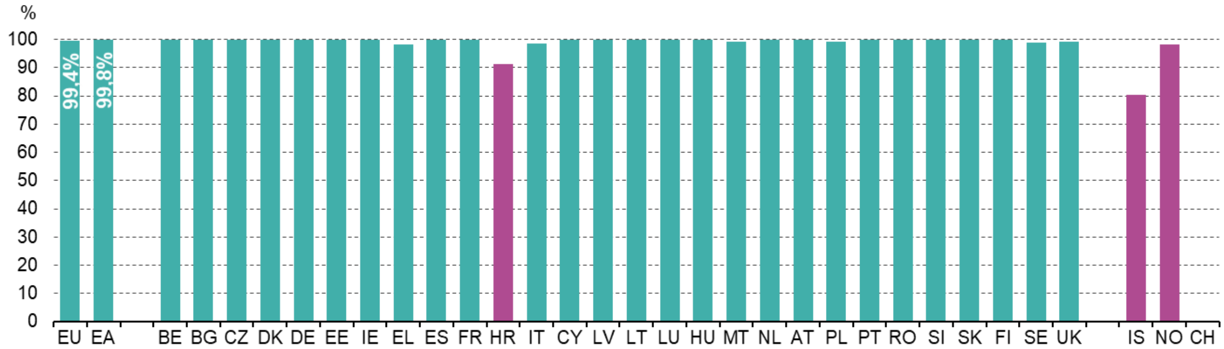


Figure 21: Table 5 - Household final consumption expenditure by purpose - annual (period covered: 1995–2018, data reported in 2019)

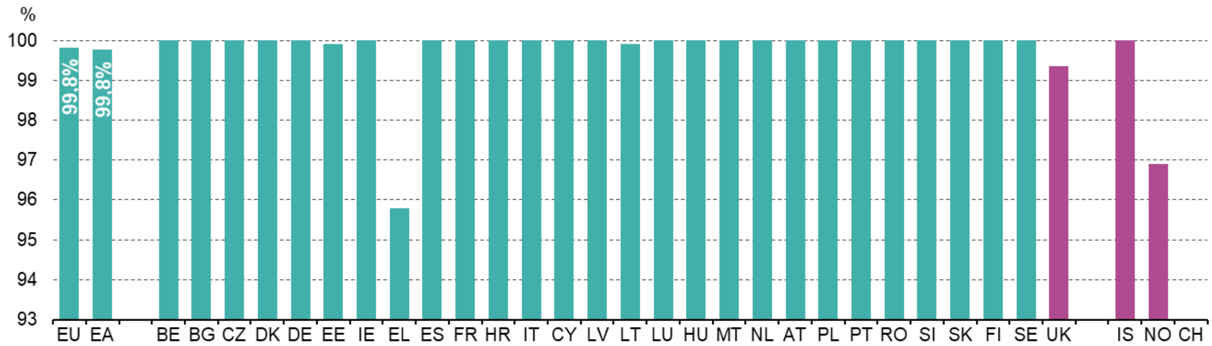


Figure 22: Table 20 - Cross classification of fixed assets by industry and by asset - annual (period covered: 2000–2017, data reported in 2019)

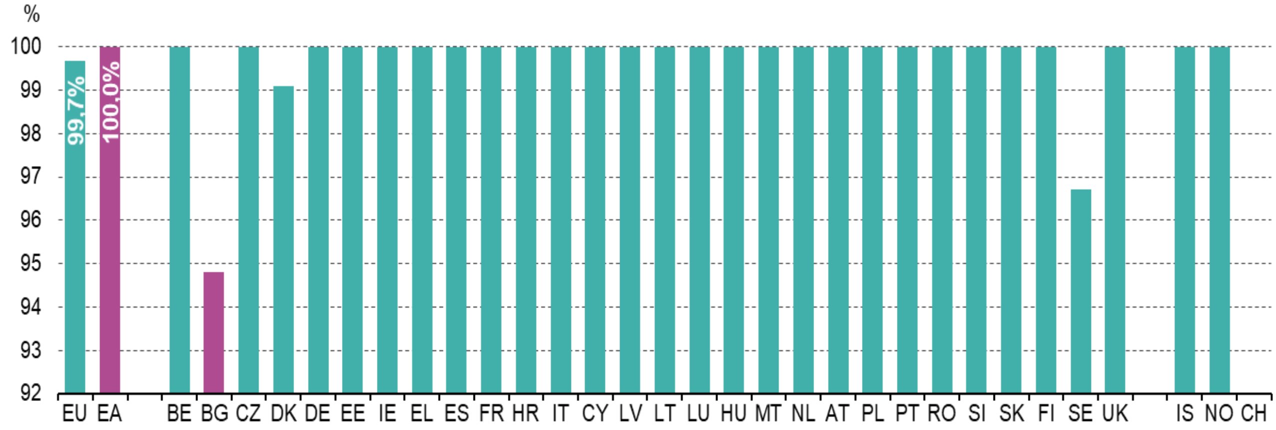


Figure 23: Table 22 - Cross classification of gross fixed capital formation by industry and by asset – annual (period covered: 1995–2017, data reported in 2019)

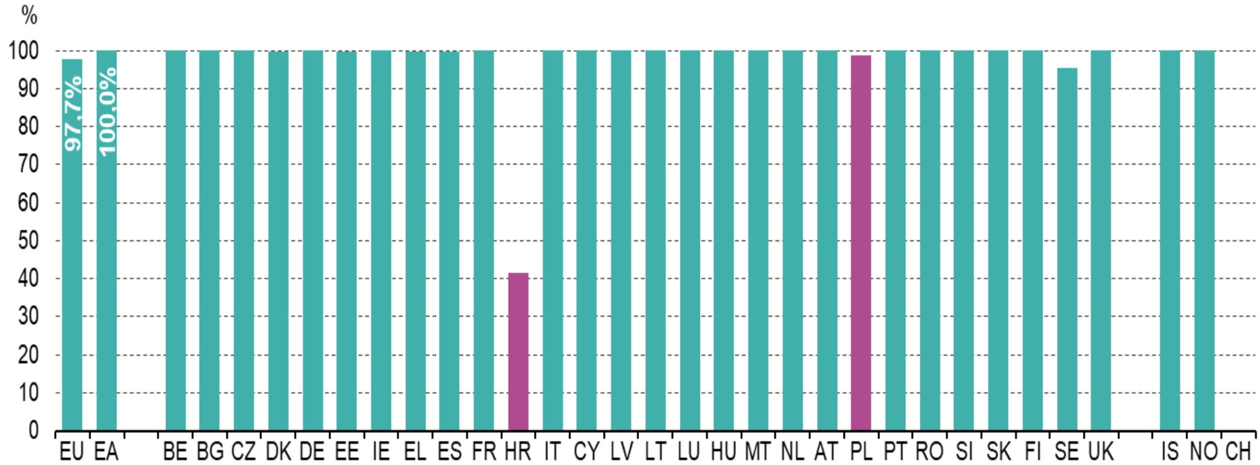


Figure 24: Table 26 - Balance sheets for non-financial assets - annual (period covered: 1995–2017, data reported in 2019)

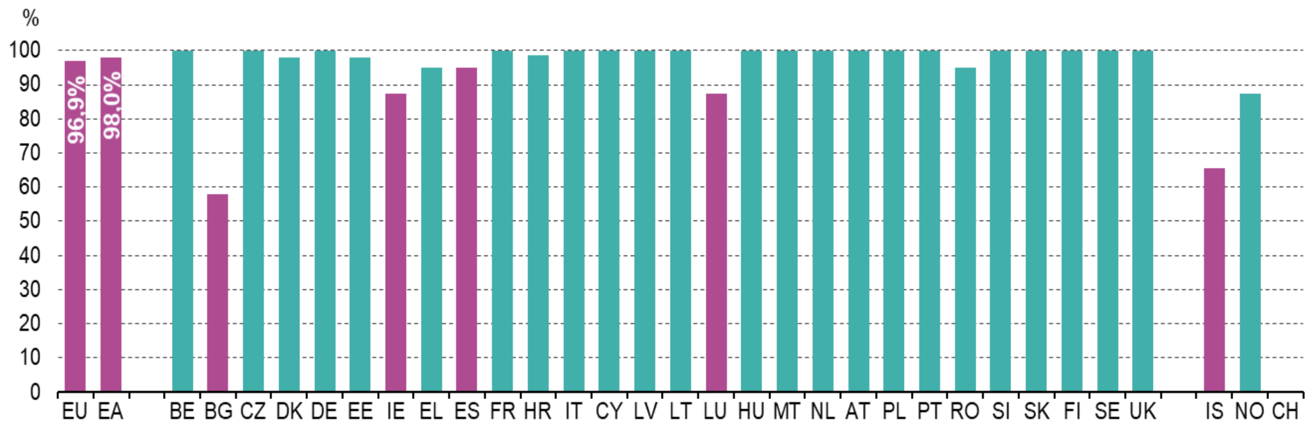


Figure 25: Table 2 - Main aggregates of general government - annual (period covered: 1995–2018, data reported in 2019)

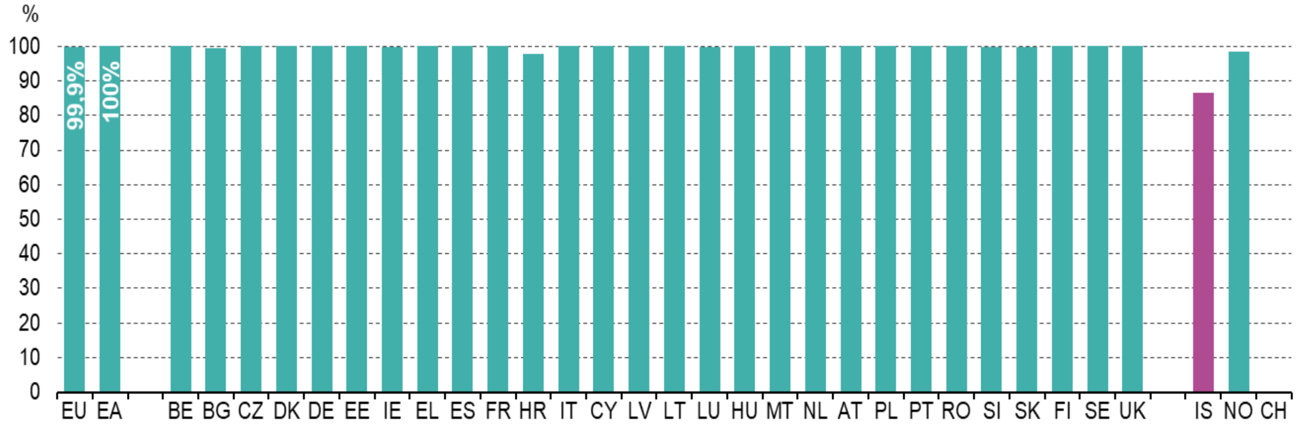
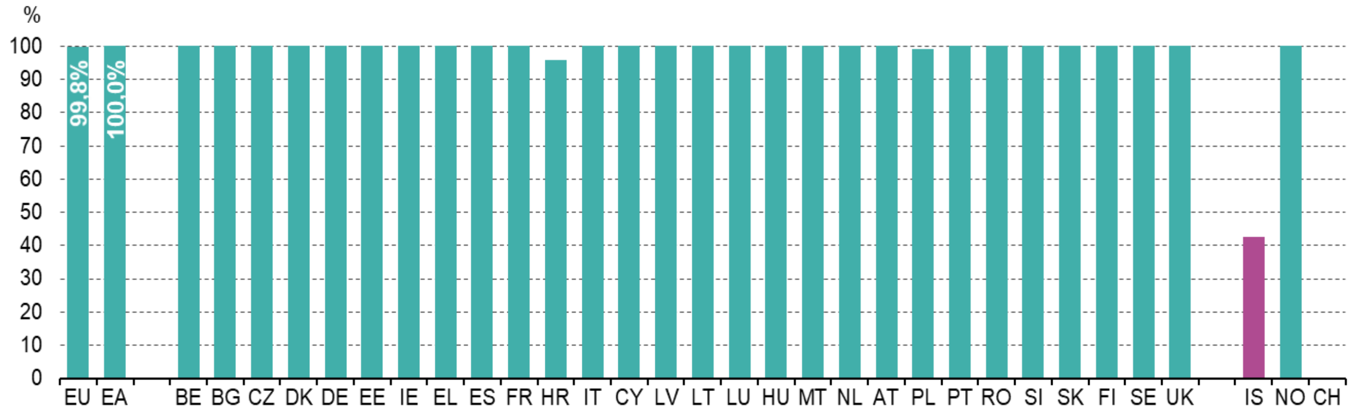


Figure 26: Table 919 - Detailed tax and social contribution receipts by type of tax and social contribution and receiving subsector including the list of taxes and social contributions according to national classification – annual (period covered: 1995–2018, data reported in 2019)

Figure 27: Table 11 - General government expenditure by function - annual (period covered: 1995–2018, data reported in 2019)



[19] The transmission of national tax lists is not separately reported. National tax lists were generally sent – as required – at the same time as the ESA Table 9. Switzerland did not provide a national tax list.

Figure 28: Table 8 - Non-financial accounts by sector - annual (period covered: 1995–2018, data reported in 2019)

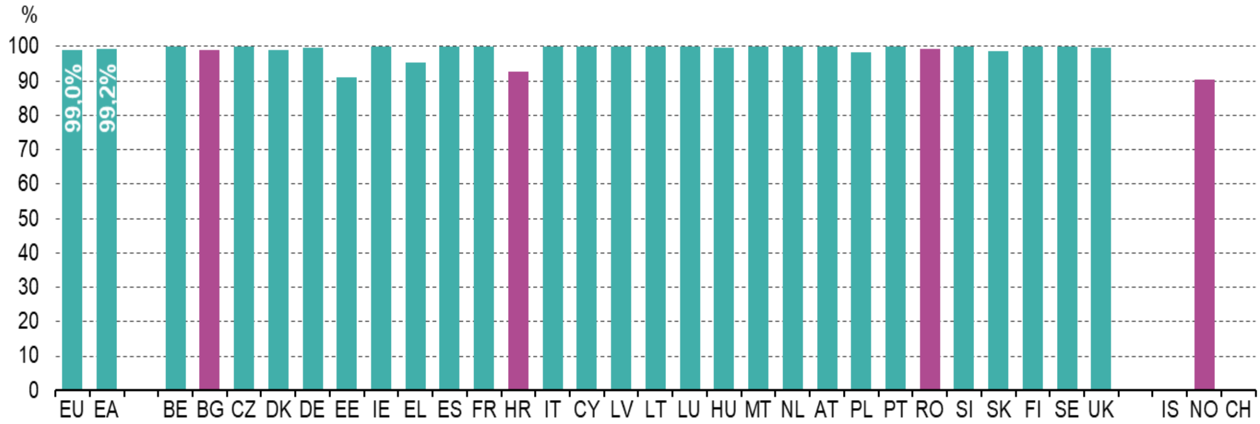


Figure 29: Table 6 - Financial accounts by sector (transactions) - annual (period covered: 1995–2018, data reported in 2019)

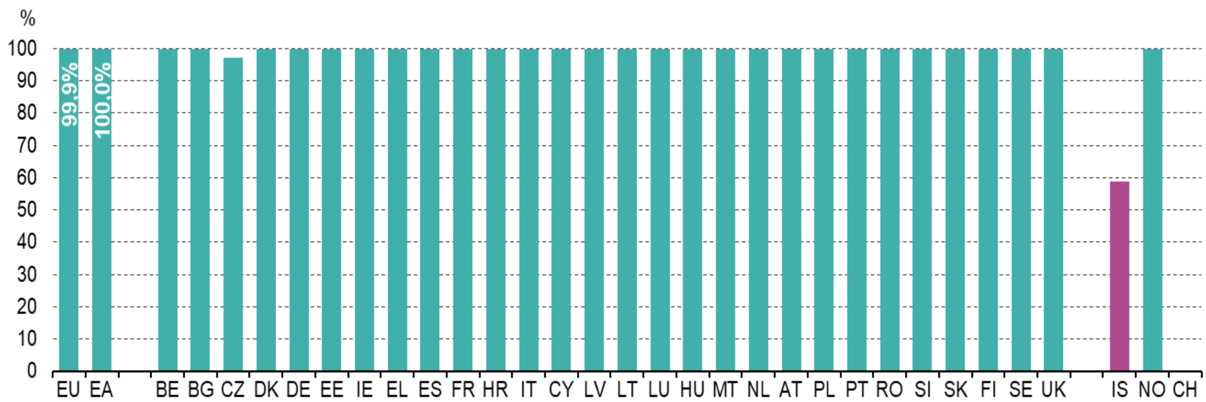


Figure 30: Table 7 - Balance sheets for financial assets and liabilities - annual (period covered: 1995–2018, data reported in 2019)

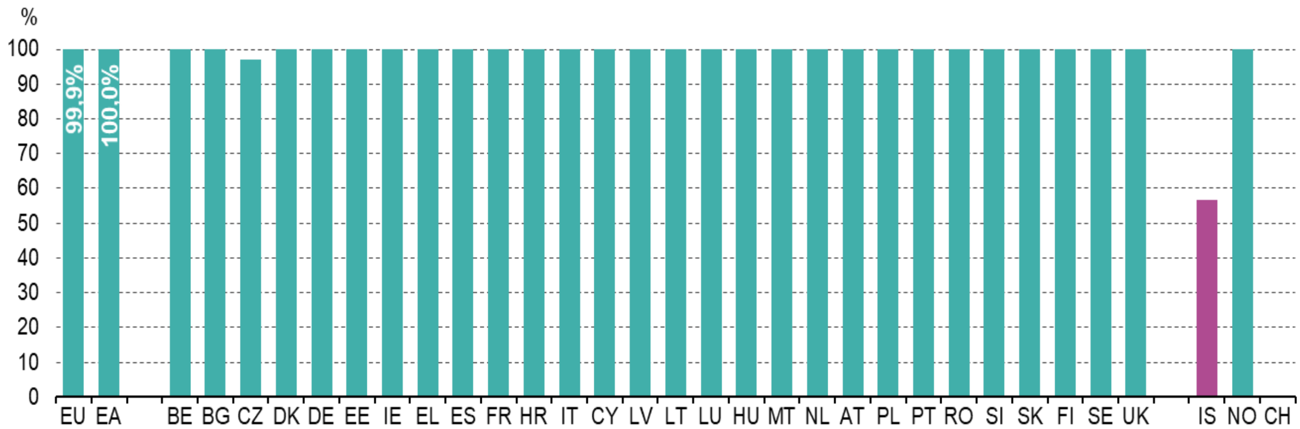


Figure 31: Table 10.1 (t+12) - Tables by industry and by region (NUTS level 2) - annual (period covered: 2000–2018, data reported in 2019)

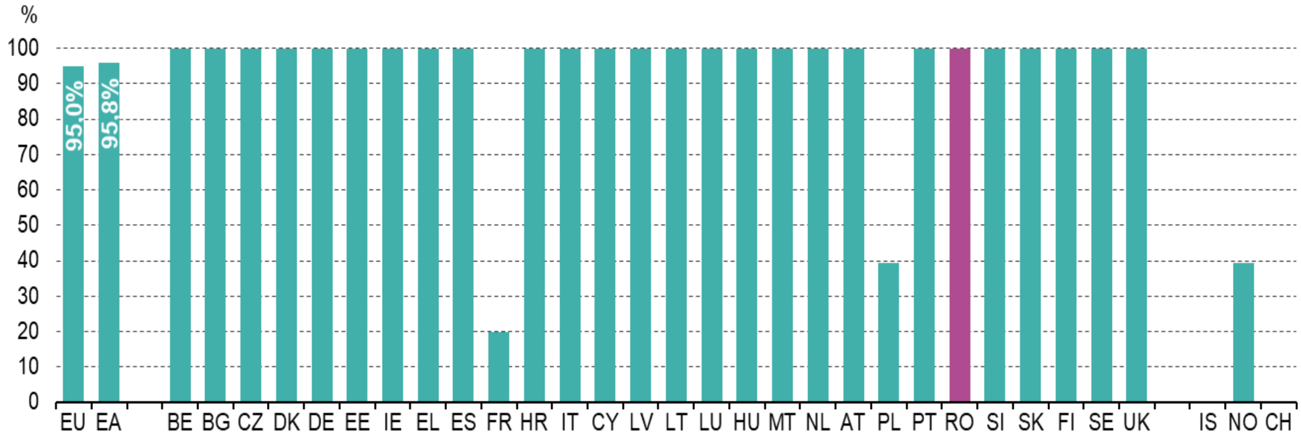


Figure 32: Table 10.2 - Tables by industry and by region (NUTS level 2) - annual (period covered: 2000–2017, data reported in 2019)

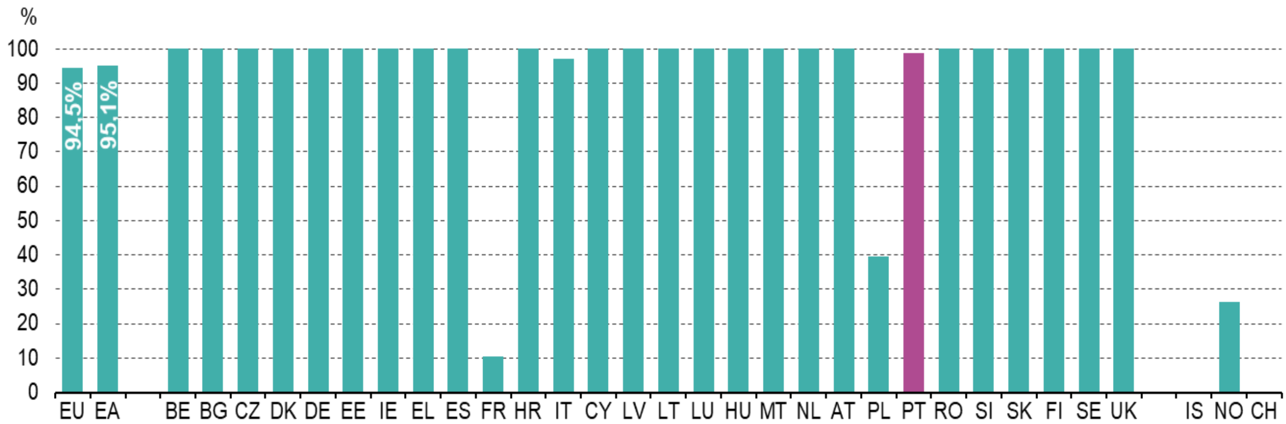


Figure 33: Table 12 - Tables by industry and by region (NUTS level 3) - annual (period covered: 2000–2017, data reported in 2019)

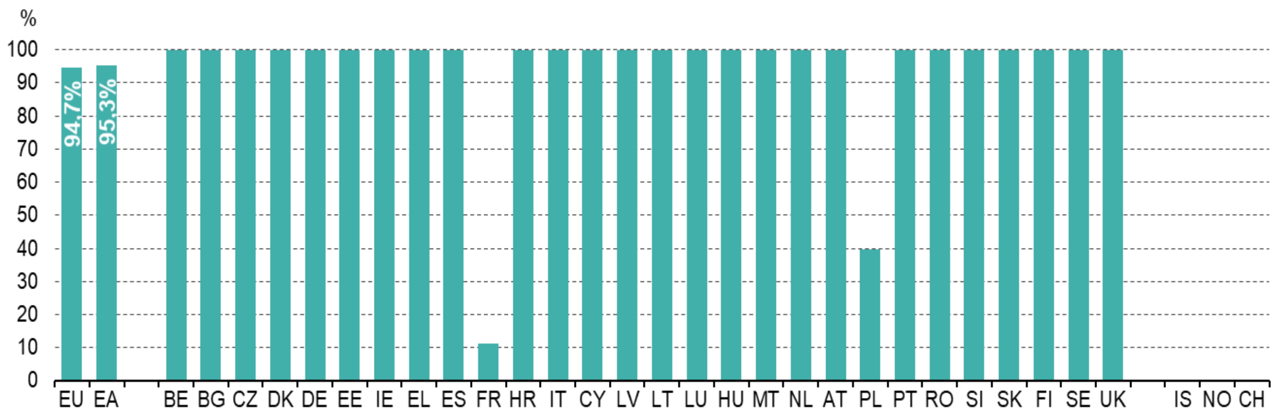


Figure 34: Table 13 - Household accounts by region (NUTS level2) - annual (period covered: 2000–2017, data reported in 2019)

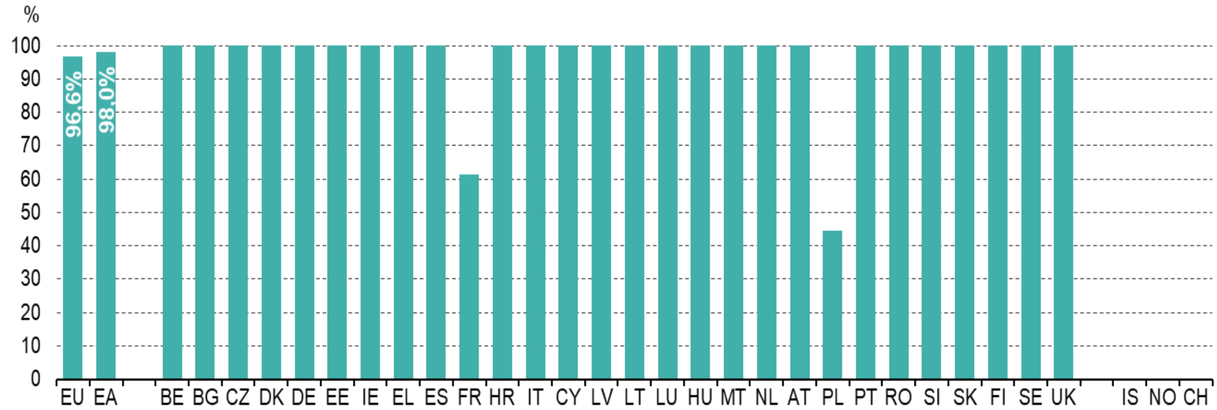


Figure 35: Table 15 - Supply table at basic prices incl. transformation into purchasers' prices - annual (period covered: 2010–2016, data reported in 2019)

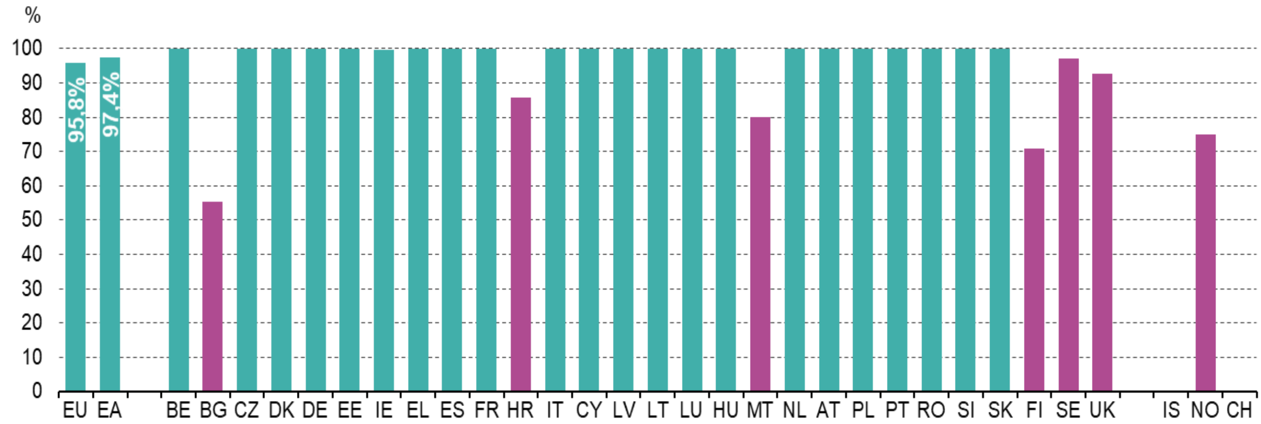


Figure 36: Table 16 - Use table – annual & five-yearly (period covered: 2010–2016, data reported in 2019)

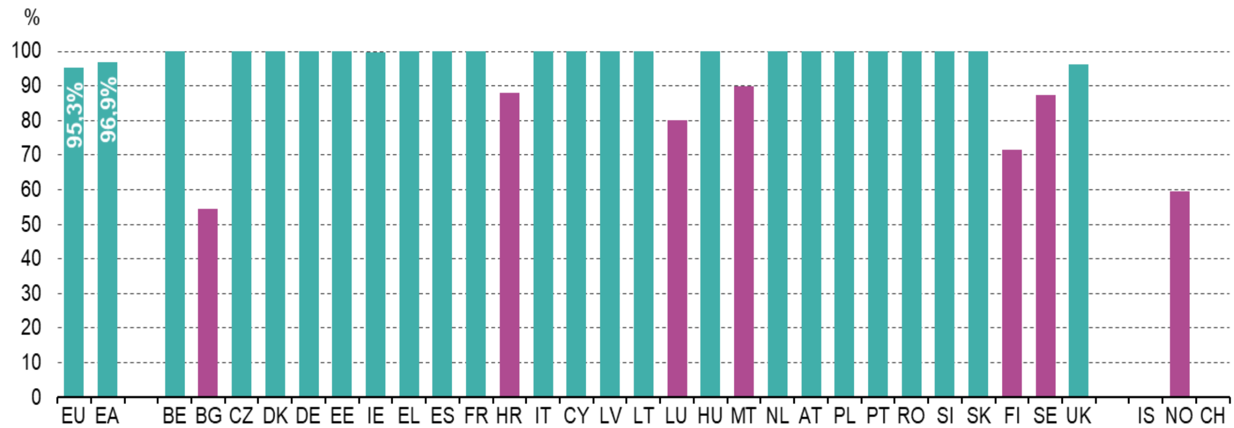
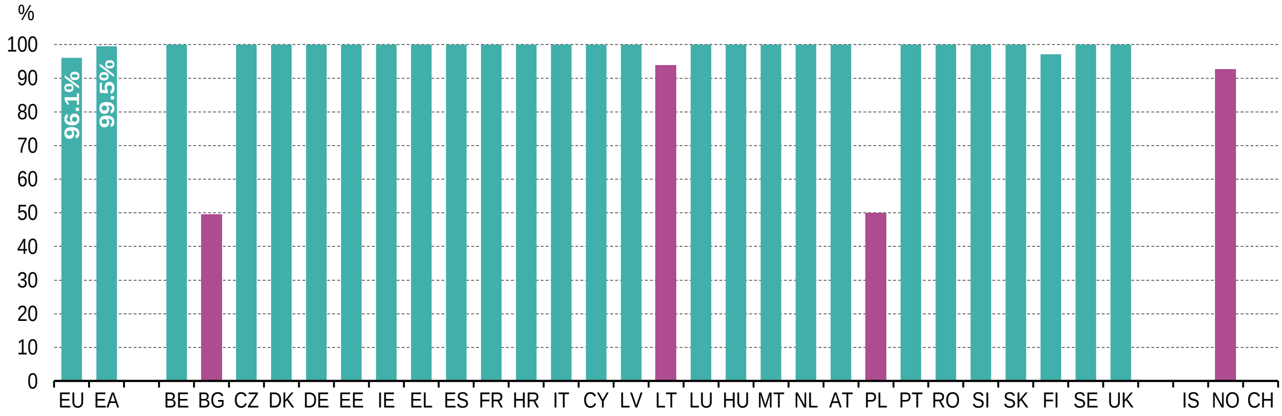


Figure 37: Table 17 - Symmetric input-output table at basic prices - five-yearly (period covered: 2010–2015, data reported in 2018)



Annex 3: Punctuality indicators per ESA 2010 domain and table

Figure 38: Punctuality of national accounts quarterly tables reported in 2019

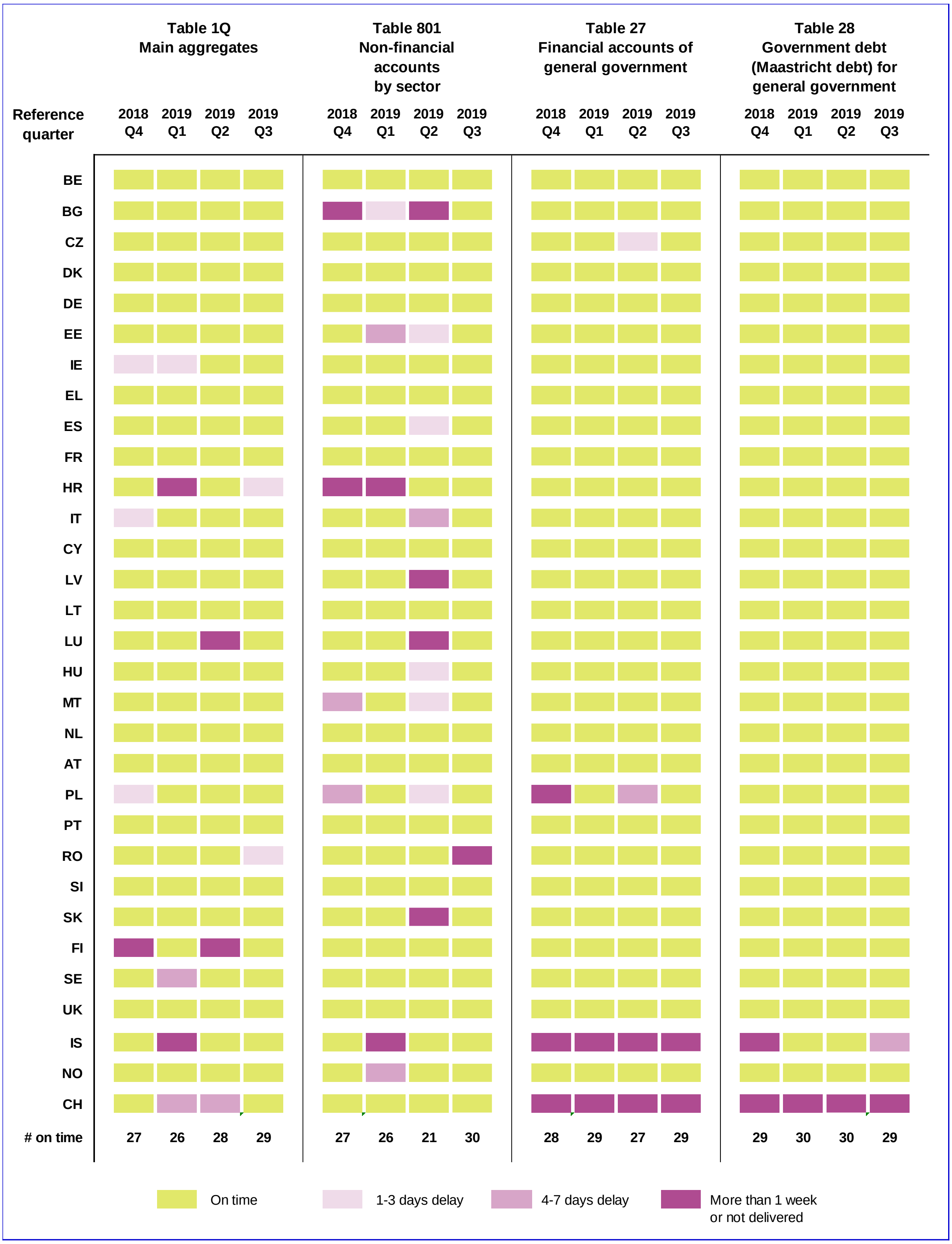


Figure 39: Punctuality of annual tables for national accounts main aggregates and government financial statistics reported in 2019

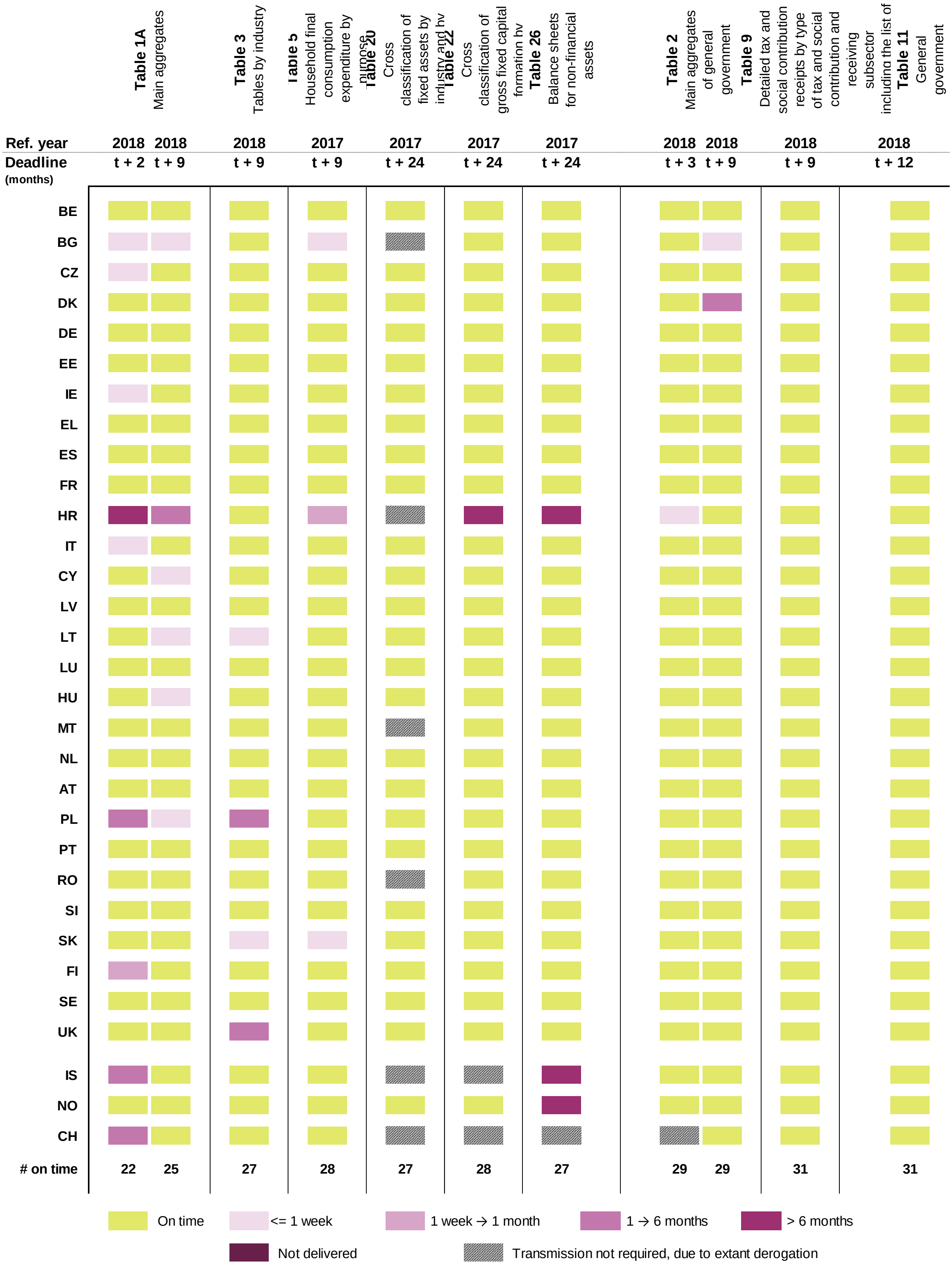
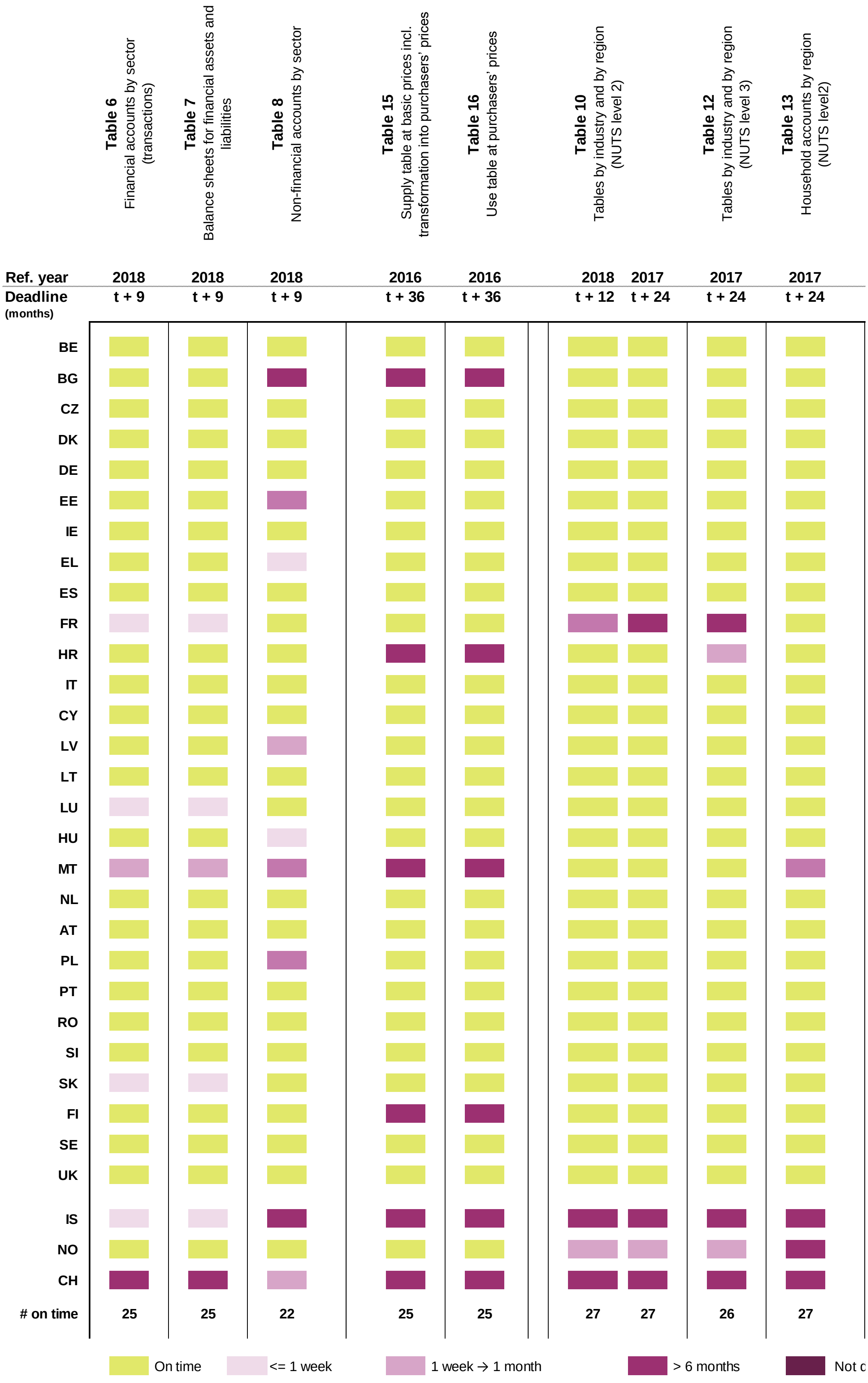


Figure 40: Punctuality of annual tables for sector accounts, supply, use and input-output tables, regional accounts and pension entitlements reported in 2019



* T+36 or later, according to deadlines specified in derogations. The first deadline under ESA 2010 was 31 December 2014.

Annex 4: In-depth analysis of 2019 benchmark revisions

Introduction

Benchmark revisions are a coordinated major European revision carried out at least once every 5 years to incorporate new data sources and major changes in international statistical methodology. They ensure a maximum degree of consistency within national accounts, the longest possible time series as well as consistency across Member States and between domains. As data sources and statistical methods evolve, improvements must be introduced in national accounts in a coherent and systematic way. This takes place during benchmark revisions, typically every five years. It also helps to ensure stability of key macroeconomic indicators for policy and business analysis.

The introduction of the European System of Accounts 2010 (ESA 2010)[20] in the EU in 2014 represented a coordinated benchmark revision due to changes in concepts, definitions and compilation methods.

In 2019, 18 EU Member States, namely Belgium, Bulgaria, Germany, Estonia, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom, as well as Norway carried out coordinated benchmark revisions of national accounts.

Some Member States opted out to carry out their benchmark revisions earlier or later than 2019 due to national needs and in line with the voluntary nature of recommendations. France and the Netherlands implemented their benchmark revisions in 2018, while Austria did so in 2017. Czechia, Greece, Malta, Poland, Switzerland are implementing benchmark revisions in 2020. Luxembourg communicated delays in the benchmark revision that they initially planned for 2020. Latvia also carried out a benchmark revision in 2020 to incorporate the results of the work on specific GNI reservations. Lithuania concluded the benchmark revision in 2020 with the revision of back series (1995-2009). Some other countries, e.g. the United Kingdom[21], carry out yearly major revisions, which are considered benchmark revisions.

The purpose of this analysis is to:

- assess the adequacy of recommendations on benchmark revisions;
- present the final results of the 2019 benchmark revisions comprehensively by looking at the common methodological improvements, the impact on key indicators from national accounts domains, dissemination, transmission, quality and communication aspects as well as coordination with balance of payments statistics; and
- study the process, identify good practices and draw lessons for the next coordinated benchmark revision of national accounts.

[20] Regulation (EU) No 549/2013, *OJ L 174, 26.6.2013, p. 1–727*
[21] During the implementation of the 2019 benchmark revisions, the United Kingdom was an EU Member State. Therefore, their results are included in this analysis.

Recommendations on benchmark revisions

In January 2019, Eurostat published the '*Practical guidelines for revising ESA 2010 data*', in good time for the preparation of the 2019 benchmark revision. Chapter 5 of the practical guidelines discusses good practices on conducting benchmark revisions (major regular revisions) of ESA 2010 data. These good practices are based on the recommendations of the DMES Task Force on Benchmark Revision Policy, which was discussed and endorsed by the Task Force at its meeting on 14-15 December 2016. In addition, Chapter 8 discusses good practices for '*Metadata and communication on benchmark revisions*'.

Eurostat initiated the discussions with Member States on the preparatory actions for the benchmark revision at the October 2018 meeting of the National Accounts Working Group (NAWG)., It presented a number of areas concerning data compilation and transmission where special attention was needed: timing of the transmission of results, handling of a break in a time series, consistency of the various ESA 2010 tables, relation to compilation of GNI for own resources, intra- and inter-institutional cooperation. The issue of additional metadata needed for the benchmark revision and communication aspects were also extensively discussed. Discussions continued at various levels (Expert Groups, NAWG, DMES) throughout the first half of 2019.

The discussions that took place over a year and the practical experience from the benchmark revision in 2019 showed that national compilers found the recommendations to be clear. However, to ensure even greater harmonisation across Member States, the guidelines may need to be further elaborated in the following areas:

- *Release policy* – The release policy of Member States differed considerably, with some Member States releasing the first set of results in August 2019 and the whole set of main ESA 2010 tables by September 2019, while others started the national dissemination in the 4th quarter, which expanded for many months after that. In certain cases, national data were not released on time to be used for the compilation of the EA/EU aggregates, resulting in either rough estimations of the missing data or incorporation in the aggregates of the non-revised data.

- *Timing of data transmissions* – The recommendation on the timing of the benchmark revision envisages the publication of results in the 3rd quarter of the year. Therefore, users (as well as Eurostat) expected that all transmissions in the 3rd quarter would incorporate the results of the benchmark revision. However, this has not been the case with quarterly main aggregates, for which the majority of Member States had not incorporated the benchmark revision in the T+2 transmission, and with quarterly sector accounts, where many files transmitted at T+85d or even T+3 were based on non-revised data and incorporated the results of the benchmark revision only after the transmission of annual data at T+9.

- *Metadata & communication* – While the practical guidelines discuss good practices for 'metadata and communication on benchmark revisions', there was a divergence in the practices followed by Member States. While some published very detailed information and transmitted very detailed metadata to Eurostat (even at variable level), others communicated only limited information which did not allow for an easy and quick validation of results. In addition, many Member States inquired whether the formal email that had to be sent to the Director-General of Eurostat had to follow a standard structure.

- *Implementation of GNI reservations & action points* – While the recommendations on the incorporation of GNI reservations and action points were followed, certain Member States faced practical challenges with the timing of the implementation.

- *User expectations* – To anticipate user expectations, Eurostat circulated a questionnaire in March 2019, asking Member States to provide a numerical estimate of the expected impact of the benchmark revision, an overview of the main areas impacted by the benchmark revision and information on national plans for data transmissions and the release of results. The analysis of the responses received and the presentation of results to users at EU level (ECB, DG ECFIN) and at international level (OECD) proved very useful in managing user expectations and better preparing them for the analysis of results that were received in September 2019. Indeed, Eurostat observed that users were well aware of what they should expect and, therefore, the burden to respond to user questions during the validation of results was kept to a minimum.

Common changes in sources and methods

While the changes were not as uniform across Member States as in the benchmark revision of 2014, certain common topics were identified. The most common improvements pursued by Member States were the recording of flows vis-a-vis the rest of the world, agriculture, government, financial services, exhaustiveness, data sources and capital formation;

Many countries improved the exhaustiveness of accounts and the classification of units in institutional sectors and used administrative data more extensively. Member States highlighted certain changes stemming from GNI/EDP work.

Apparently, the benchmark revision did not result in the incorporation of all GNI action points and reservations, and certain methodological improvements related to this work need to be incorporated in all national accounts data sets, either as part of routine revisions or in the benchmark revision of 2024.

In addition, most Member States were able to close gaps in missing mandatory data. However, for some, there is still work to be done to close all gaps, either by identifying and developing appropriate sources or by elaborating on statistical methods to produce estimates.

The majority of Member States noted that the benchmark revision constitutes a resource-intensive exercise. Many said that investing in a more modern IT infrastructure for the compilation of results could improve the quality, timeliness and accuracy of the data and reduce the workload,.

Impact on key national accounts indicators

In this section, the impact of benchmark revisions in various national accounts domains is analysed.

Annex I to this document presents an in-depth structural analysis of the benchmark revisions in non-financial sector accounts.

GDP AND MAIN AGGREGATES, INCLUDING REGIONAL ACCOUNTS

While the 2019 benchmark revisions had a very limited impact on the EU-19 and EU-28, revisions were more significant for some countries. There were also some variations across the years.

The table below shows the changes in **current price GDP** for the European aggregates and country data in per cent between 19 July and 21 October 2019 over the period 2015-2018.

While significant changes are mostly shown for countries with a benchmark revision, there were also regular revisions for other countries (small except for Luxembourg). No revisions are shown for some countries who revise data earlier (e.g. Czechia, France and Ireland) or later in the year (Denmark).

The analysis below is purely quantitative in nature and therefore does not separate out benchmark revisions from routine revisions.

Impact of 2019 benchmark and other revisions on European aggregates and country data

Change of current price GDP in percent between 19 July and 21 October 2019 on 2015-2018

	2015	2016	2017	2018	Average	Max	Min
EU-28	0.2%	0.1%	0.1%	0.0%	0.1%	0.2%	0.0%
EA-19	-0.1%	-0.1%	-0.1%	-0.2%	-0.1%	-0.1%	-0.2%
BE (1)	1.4%	1.4%	1.6%	2.1%	1.6%	2.1%	1.4%
BG (1)	0.9%	1.0%	1.3%	1.6%	1.2%	1.6%	0.9%
CZ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DK	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DE (1)	-0.6%	-0.8%	-1.0%	-1.2%	-0.9%	-0.6%	-1.2%
EE (1)	0.6%	0.1%	0.7%	1.5%	0.7%	1.5%	0.1%
IE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
EL	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ES (1)	-0.3%	-0.4%	-0.4%	-0.5%	-0.4%	-0.3%	-0.5%
FR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
HR	0.0%	-0.1%	0.2%	0.2%	0.1%	0.2%	-0.1%
IT (1)	0.2%	0.3%	0.5%	0.5%	0.4%	0.5%	0.2%
CY (1)	0.5%	2.1%	2.0%	2.0%	1.6%	2.1%	0.5%
LV (1)	0.4%	0.1%	-0.9%	-1.3%	-0.4%	0.4%	-1.3%
LT (1)	-0.3%	0.1%	0.2%	0.3%	0.1%	0.3%	-0.3%
LU	0.9%	2.9%	2.7%	2.0%	2.2%	2.9%	0.9%
HU (1)	1.2%	1.2%	1.3%	1.4%	1.3%	1.4%	1.2%
MT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NL	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AT	0.0%	0.3%	0.1%	-0.1%	0.1%	0.3%	-0.1%
PL	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PT (1)	-0.1%	0.0%	0.7%	1.1%	0.4%	1.1%	-0.1%
RO (2)	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%
SI (1)	0.0%	0.0%	0.0%	-0.4%	-0.1%	0.0%	-0.4%
SK (1)	0.8%	-0.2%	-0.4%	-0.5%	-0.1%	0.8%	-0.5%
FI (1)	0.7%	0.7%	0.8%	1.0%	0.8%	1.0%	0.7%
SE (1)	1.1%	0.7%	0.9%	0.9%	0.9%	1.1%	0.7%
UK (1)	1.1%	1.3%	1.1%	1.1%	1.1%	1.3%	1.1%
IS	0.0%	0.0%	-0.1%	0.3%	0.0%	0.3%	-0.1%
NO (1)	-0.2%	-0.7%	-0.3%	-0.1%	-0.3%	-0.1%	-0.7%
CH	0.0%	0.2%	0.1%	-0.1%	0.1%	0.2%	-0.1%

(1) Countries that carried out benchmark revisions in 2019

(2) Romania completed the last stage of its benchmark revision already in March 2019

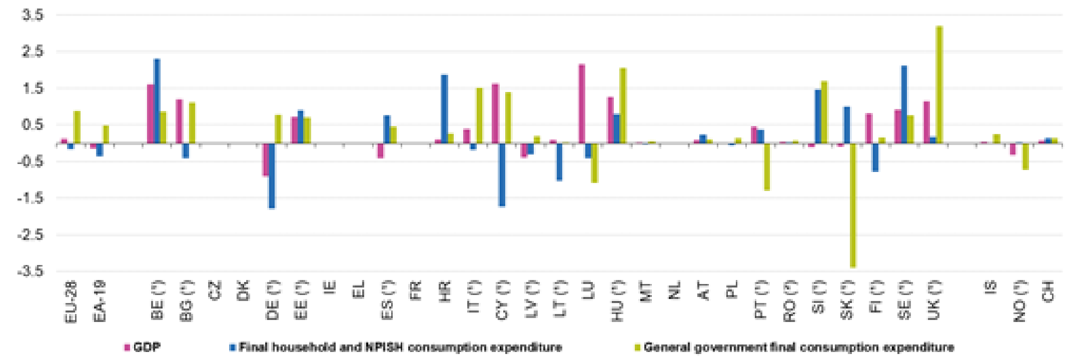
Source: Eurostat (online data code: nama_10_gdp)

A relatively heterogenous picture in terms of the size and direction of revisions is also observed for specific **main GDP aggregates**:

For instance, significant increases of **final household consumption** (incl. NIPSH) were noted for BE, SE, HR and SI while decreases were observed for DE, CY, LT and FI.

Government consumption (taken from main aggregates Table 0102) was revised downwards for SK, PT, LU and NO but increased in most other countries (mostly in the UK).

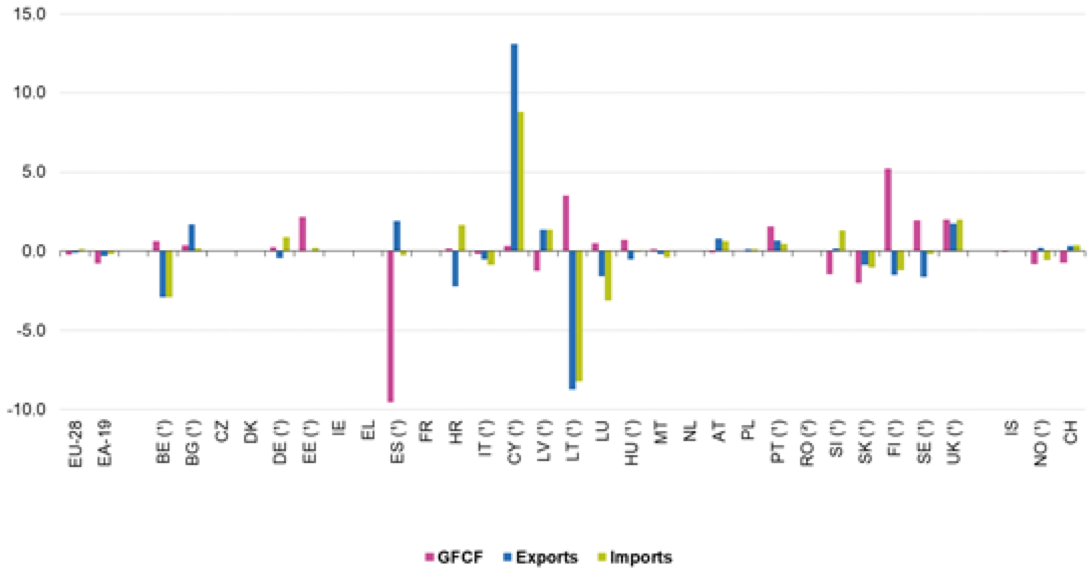
Revisions of GDP, final household and general government consumption
(% change in current prices, 2015-2018 average)



(¹) Countries that carried out benchmark revisions in 2019
(²) Romania completed the last stage of its benchmark revision already in March 2019
Source: Eurostat (online data code: nama_10_gdp)

For **gross fixed capital formation** (GFCF), a significant drop was notably observed for Spain. Exports and imports decreased the most for Lithuania and increased in Cyprus.

Revisions of gross fixed capital formation, exports and imports
(% change in current prices, 2015-2018 average)



(¹) Countries that carried out benchmark revisions in 2019
(²) Romania completed the last stage of its benchmark revision already in March 2019

Further analysis was published on 30 October 2019 in Statistics Explained: Annual national accounts coordinated 2019 benchmark revisions - impact on main GDP aggregates.

KEY INDICATORS FROM GENERAL GOVERNMENT ACCOUNTS

The provision of results for GFS of the 2019 benchmark revisions coincided with the 2nd EDP notification.

In July 2019, the finalised update of the Manual on Government Deficit and Debt was published, giving Member States a firm basis for proceeding with harmonisation efforts. Further to the previous DMES meeting, Member States could choose to implement MGDD updates in the April 2020 notification if the impact on debt and deficit was not large.

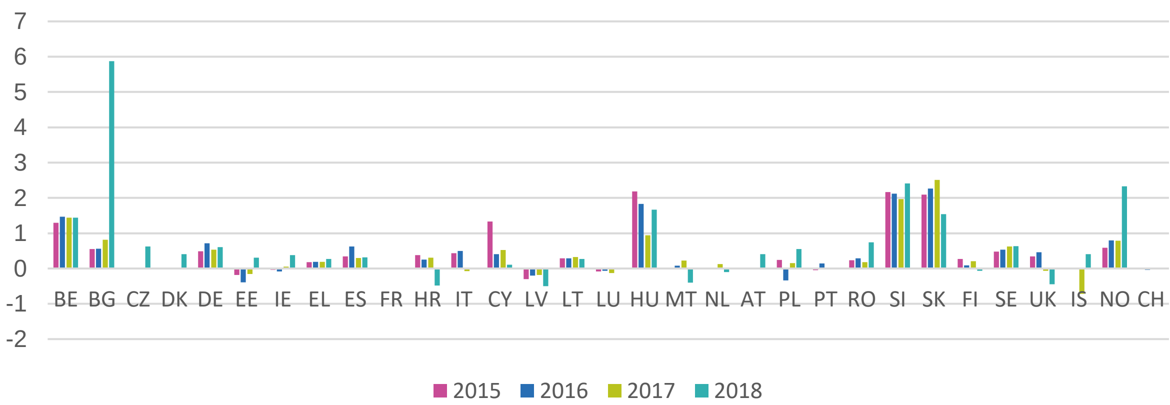
As in previous benchmark revisions, a number of Member States also took the opportunity to undertake a much appreciated review of potential errors in the accounts.

Information on the reasons for the revisions affecting debt and deficit were provided in the news release constituting the provision of EDP data by Eurostat. The main changes in the MGDD are detailed in the introduction to the updated MGDD and were also presented in detail in previous DMES meetings[22].

As in past benchmark revisions, GFS aggregates were also revised due to improvement actions related to the adherence with ESA methodology not related to debt or deficit – this concerned, for example, improvements in the recording of standing timber in several Member States, improvements in the recording of EFSF operations and improvements in the valuation of equity.

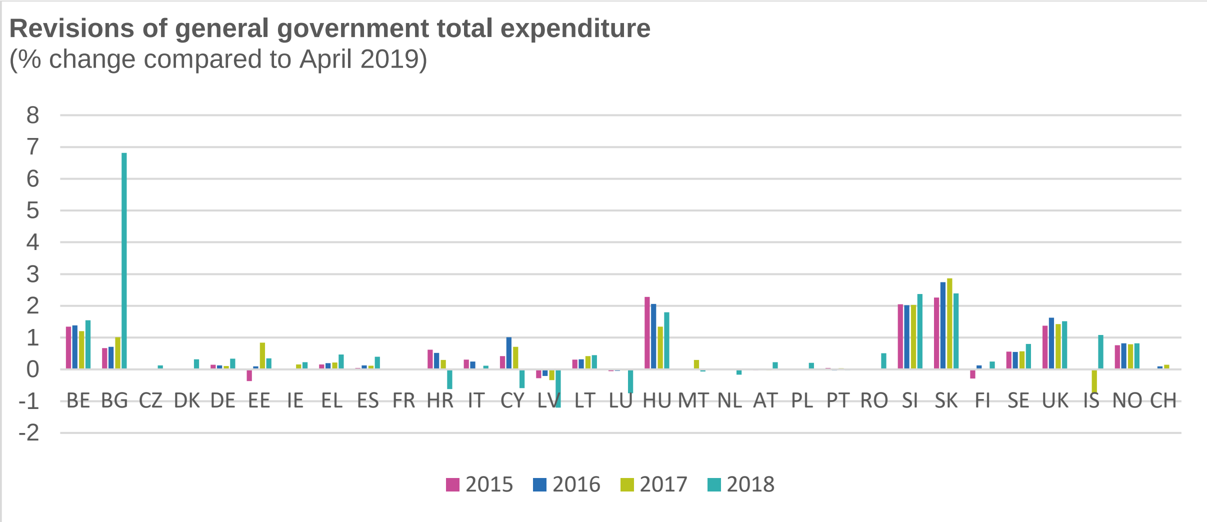
Below, revisions between April and October 2019 for the last four reported years/ 18 quarters are presented for **general government total revenue, total expenditure** and **net financial worth** for the countries which stated that they had undertaken a benchmark revision in 2019. Necessarily, this quantitative measure of impact does not separate between routine revisions and benchmark revision effects.

Revisions of general government total revenue
(% change compared to April 2019)

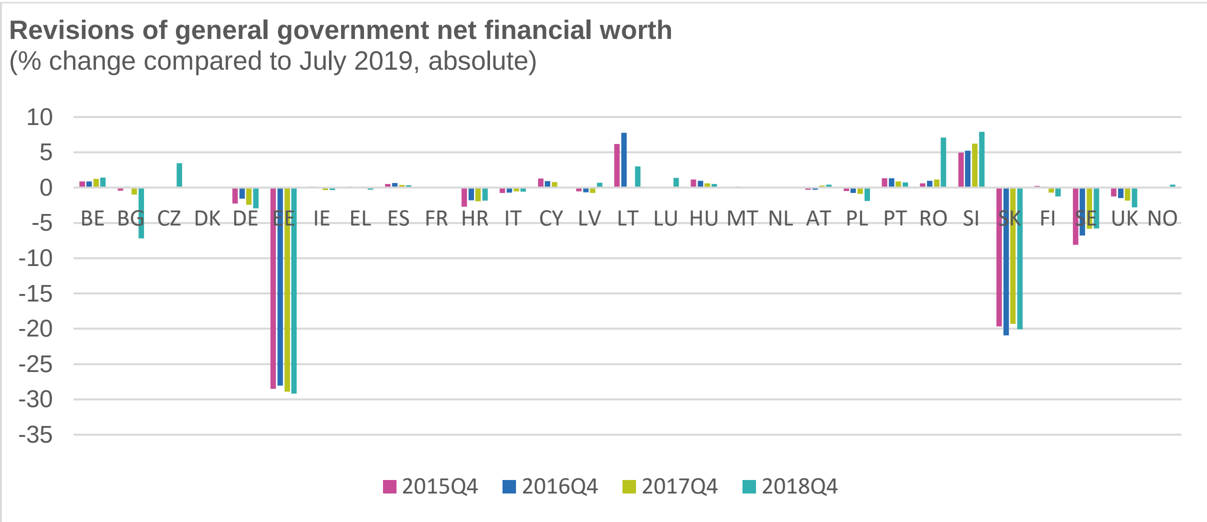


As can be seen from the chart above, the effect of the revisions on total revenue was largely a positive sign. This is due, for example, to sector reclassifications and improvements in the recording of tax-subsidy schemes (notably Belgium). The outlier for Bulgaria is due to corrections in the recording of emission trading permits, and is replicated in total expenditure.

[22] https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-19-007



As for revenue, revisions in expenditure were mainly a positive sign.

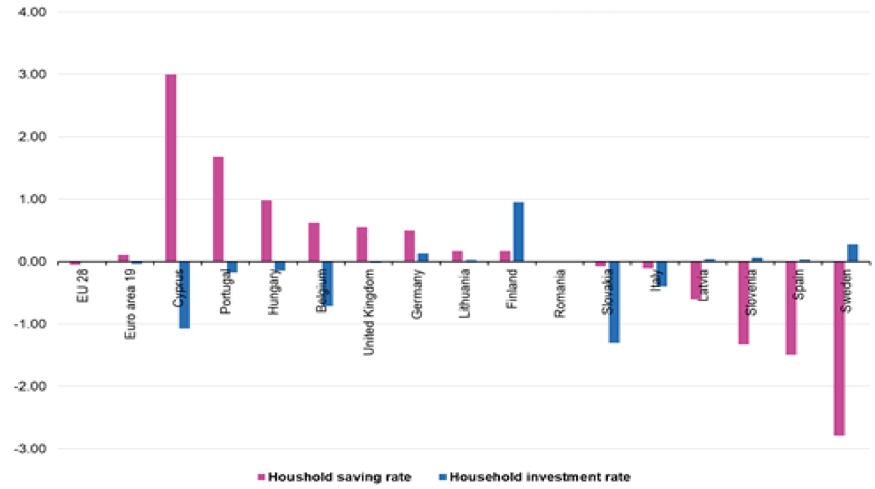


KEY INDICATORS FROM NON-FINANCIAL SECTOR ACCOUNTS

Non-financial sector accounts publish four key indicators: household saving rate, household investment rate, non-financial corporation investment rate and non-financial corporation profit share. Revisions of all four key indicators were limited for the **EU-28/EA aggregates** for reference year 2015. This reflected the fact that positive revisions by some Member States were offset by negative revisions by the other Member States.

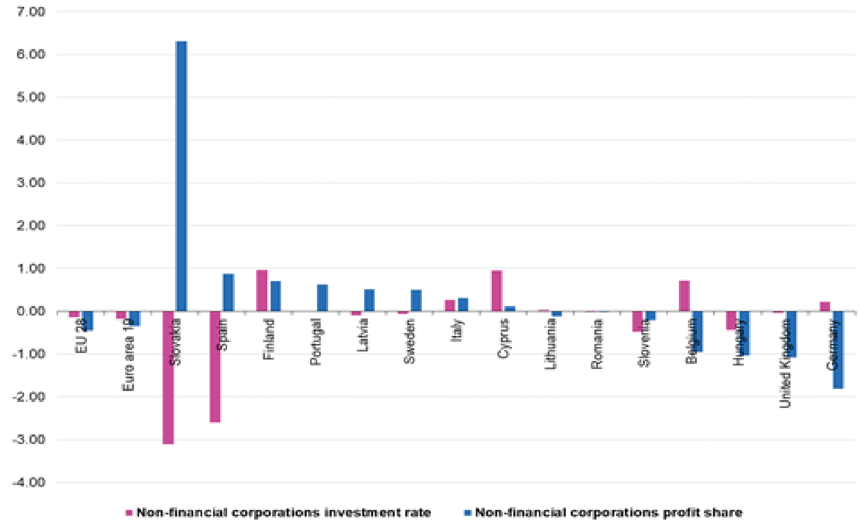
The following two figures show the revisions of the four indicators of non-financial sector accounts.

Revisions for key indicators of households for reference year 2015 (percentage points)



(1) Bulgaria, Estonia and Norway are not included due to non-availability of data
(2) Czechia, Denmark, Ireland, France, Greece, Croatia, Luxembourg, Malta, Austria, Netherlands, Poland are not conducting a benchmark revision in 2019

Revisions for key indicators of non-financial corporations for reference year 2015 (percentage points)



(1) Bulgaria, Estonia and Norway are not included due to non-availability of data
(2) Czechia, Denmark, Ireland, France, Greece, Croatia, Luxembourg, Malta, Austria, Netherlands, Poland are n conducting a benchmark revision in 2019

For **household saving rate**, the biggest upwards revision was observed for Cypus (+3 ppts) and the biggest downwards revision for Sweden (-2.8 ppts). The EU-28 aggregate was revised downwards by 0.05 ppt and the EA aggregate is revised upwards by 0.1 ppts.

For **household investment rate**, the biggest upwards revision was observed for Finland (+1 ppts) and the biggest downwards revision for Slovakia (-1.3 ppts). The EU-28 aggregate was revised downwards by 0.01 ppt and the EA aggregate was revised downwards by 0.03 ppts.

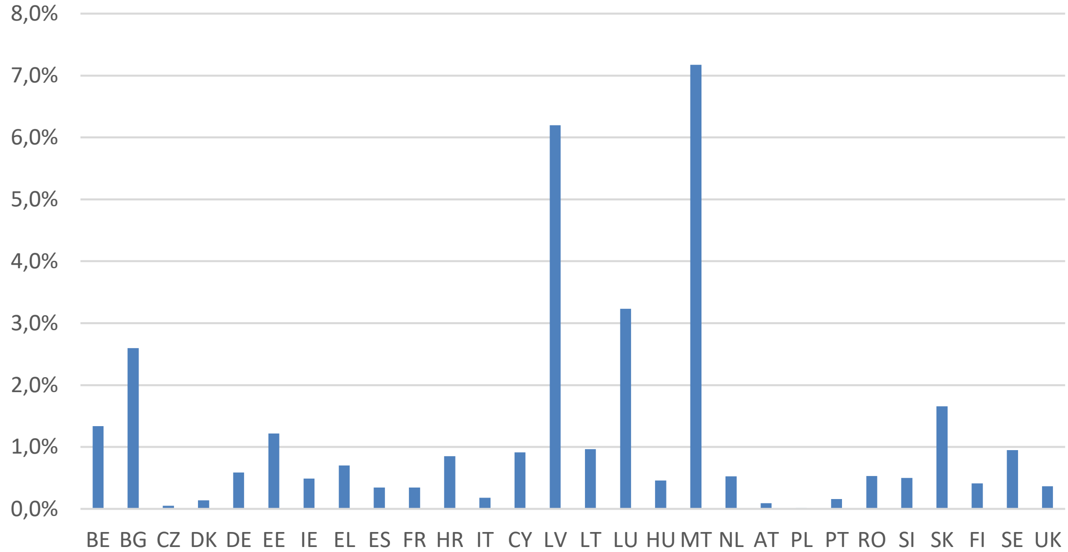
For **non-financial corporation investment rate**, the biggest upwards revision was observed for Cyprus (+1 ppts) and the biggest downwards revision for Slovakia (-3.1 ppts). The EU-28 and EA aggregates were revised downwards by 0.15 ppt and by 0.18 ppts respectively.

For **non-financial corporation profit share**, the biggest upwards revision was observed for Slovakia (+6.3 ppts) and the biggest downwards revision for Germany (-1.8 ppts). The EU-28 and EA aggregates were revised downwards by 0.45 ppt and 0.34 ppts respectively.

KEY INDICATORS FROM ANNUAL FINANCIAL ACCOUNTS

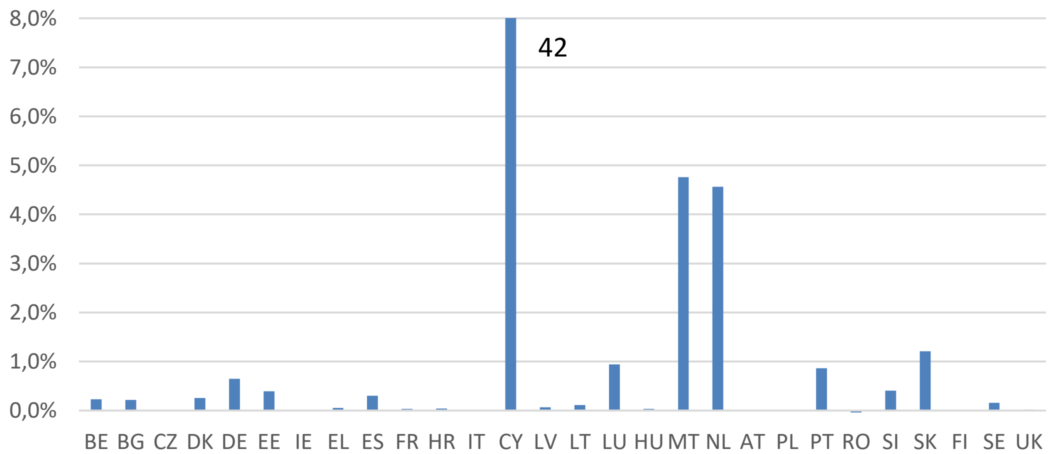
In financial accounts, revisions tend to be frequent and quite extensive in both scope and time. One reason is that source inputs tend to be revised frequently. Also, revising back several years avoids having series breaks in the most recent years. Therefore, in analysing the annual data, the impact of benchmark revisions may not be distinguishable from other revisions. Moreover, not all countries performing benchmark revisions of national accounts necessarily performed such revisions in the financial accounts.
To measure the extent of revisions, three key indicators were examined in terms of absolute revisions for the ten-year period 2008-2017: the macroeconomic imbalance indicators on private sector debt and total financial sector liabilities, and net financial transactions for the total economy.

Private sector debt, annual average revision for 2008-2017



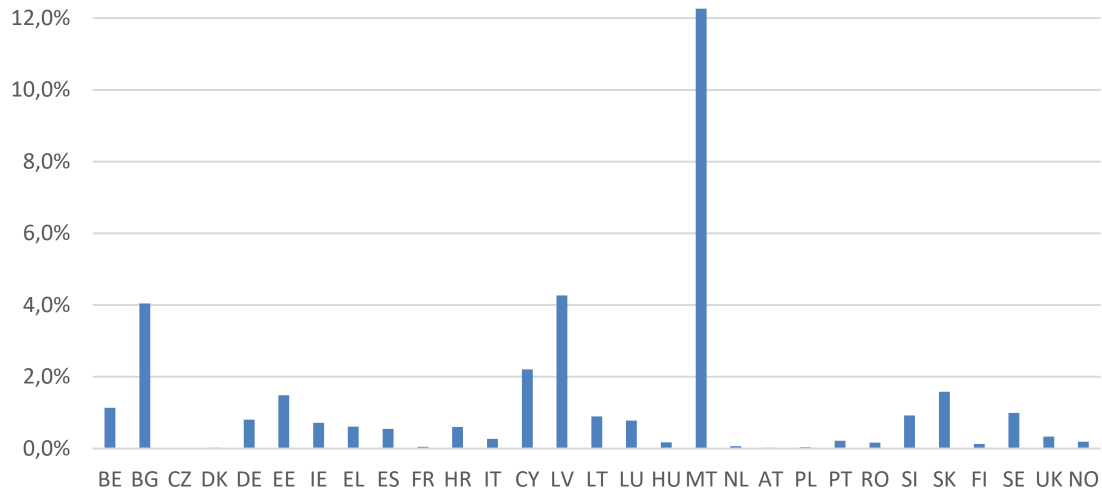
The biggest revisions of private sector debt were for Malta due to BoP/IIP changes and the availability of administrative source data at only T+18 months (therefore not available at the time of the T+9 release). Latvia also had relatively large revisions to the indicator, which were associated with improved sources and methods. Luxembourg's revisions were largely explained by a new SBS survey and revised BoP/IIP data. Bulgaria's revisions were mainly to align the annual data to the quarterly data.

Total financial sector liabilities, annual average revision for 2008-2017



There were huge revisions in the total financial sector liabilities of Cyprus due to greater coverage of special purpose entities as part of the benchmark revision.

Net financial transactions (B.9f), annual average revision for 2008-2017, in % of GDP



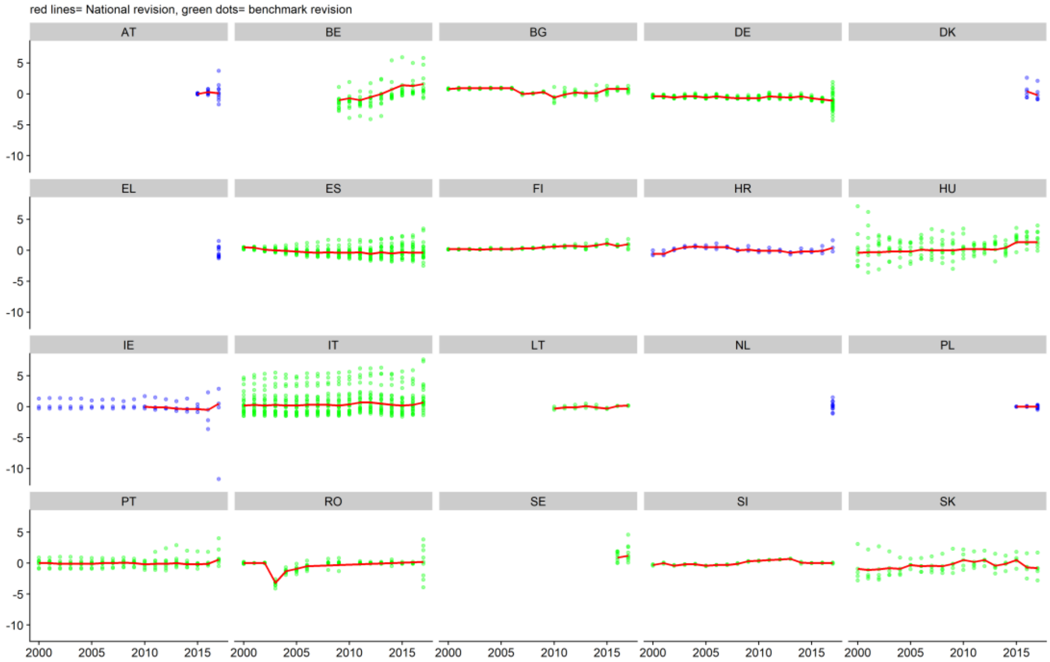
The various revisions to transactions in financial assets and liabilities caused a substantial revision in the balance of financial transactions for Malta. For other countries, the net change was much less pronounced.

KEY INDICATORS FROM THE REST OF THE WORLD ACCOUNTS

This section provides an overview of the impact of the 2019 benchmark revision in regional accounts. Two aspects of the analysis are simplified. It only focuses on NUTS 2 level regions because NUTS 3 is only available for a limited set of variables and will only show countries with more than 1 NUTS 2 region, as the analysis for countries composed of a single NUTS 2 region would overlap to a great extent with what is said in other sections of the document.
This section begins with an overview of main changes in total gross value added (GVA), followed by a more detailed analysis of GVA by NACE Rev.2, an analysis of revisions to net disposable income and finally a general overview of all the variables reported in regional accounts.

Revisions in gross value added
Chart 1 provides an overview of the revisions, in percentage points, of total GVA that were reported in regional accounts. Not all countries that carried out a benchmark revision applied it completely for all the years. Belgium, Lithuania and Sweden only applied the benchmark revision for the most recent years. That was also the case for Italy and Portugal in December, but they transmitted the remaining years in May 2020.

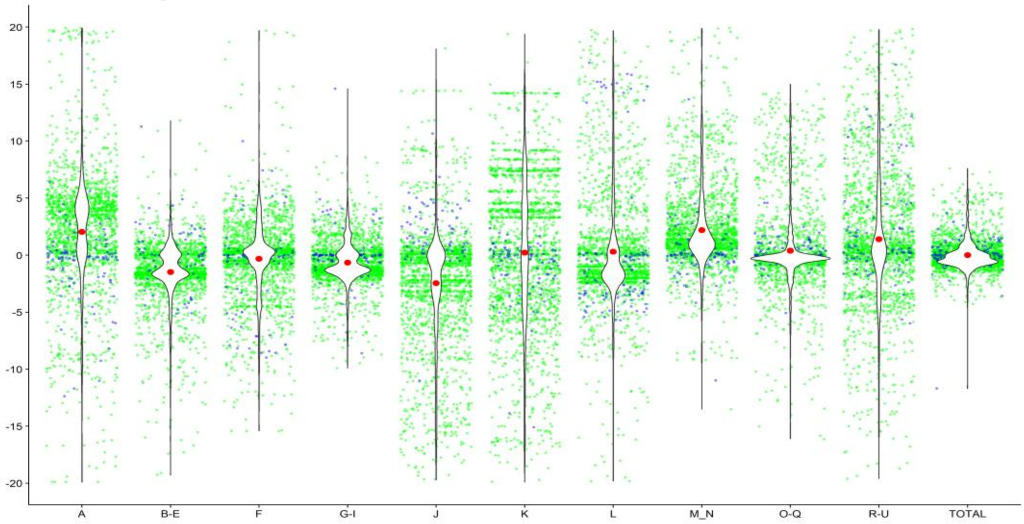
Revisions of Gross Value Added by NUTS 2, %



For Bulgaria, Germany, Finland, Lithuania, Portugal, Romania, Slovenia and Sweden, the benchmark revision introduced quite limited revisions very close to the national revision. The benchmark revision introduced more significant changes at regional level in Belgium, Spain, Hungary, Italy and Slovakia. Belgium informed that the changes were due to methodological changes, while for the other countries, it is assumed that the changes are mainly related to new source data. France did not report any regional revisions.
Chart 2 shows the revisions broken down by NACE Rev.2 activities. The distribution of the revisions is shown with the shape of the violin plot, the mean revision is shown as a red dot, and individual revisions are shown as individual dots which are differentiated between benchmark (green) and routine revisions (blue). The chart only displays revisions (null revisions are omitted) and removes the outliers (only revisions below +/-20%).

Revisions of Gross Value Added by NACE rev.2 and NUTS 2, %

red dots= Mean revision, green dots= benchmark revision



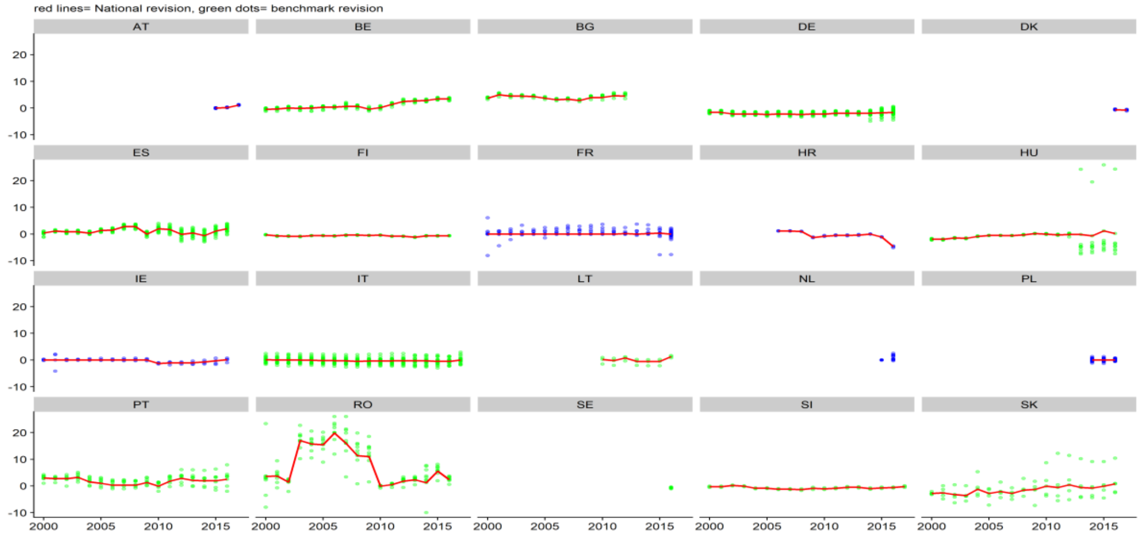
The mean revision for Total GVA was 0.0%. By NACE Rev.2 activities, there were positive mean revisions for M_N (2.2%), A (2.0%) and R-U (1.4%) while negative mean revisions occurred in J (-2.5%) and B-E (-1.5). In the other NACE Rev.2 activities, revisions ranged from -0.6 to 0.4%. From the shapes in the chart, it can be seen that the range of revisions was wider in the smaller NACE Rev.2 activities A, J, K and R-U while the range was much condensed for the other activities, and particularly for O-Q.
While routine revisions were normally lower than benchmark revisions, in some specific NACE Rev.2 activities (positive revisions in NACE L and negative revisions in NACE F) they were relatively more frequent.

Revisions in household accounts

This sub-section looks at revisions in net disposable income (B.6N), as it is the last variable in the sequence of variables reported in household accounts and captures the revisions in all the variables reported in Table 13 of the ESA 2010 transmission programme.
Rather substantial revisions took place in: Romania, mainly driven by a national revision; Hungary, for the most recent years and mainly explained by some corrections to the changes reported the previous year that were linked to the introduction of the NUTS 2016 classification; and Slovakia, mainly explained by revisions in D.61 and D.7. For the other countries, revisions in household accounts were of a similar size to revisions in total gross value added.

Revisions of Net Disposable Income by NUTS 2, %

red lines= National revision, green dots= benchmark revision



An overview of revisions of regional accounts

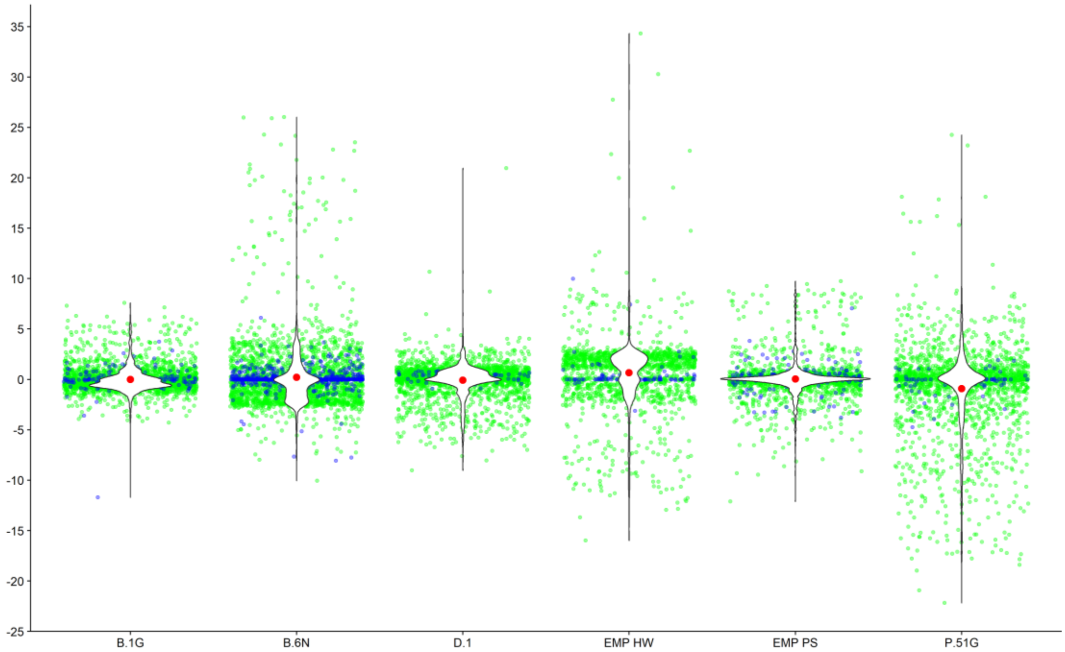
This sub-section provides an overview of the revisions at an aggregate level (total NACE) of the different variables reported in regional accounts: gross value added (B.1G), net disposable income (B.6N), compensation of employees (D.1), gross fixed capital formation (P.51G), employment measured in persons (EMP_PS) and in hours (EMP_HW).

The mean revision (excluding data that were not revised) was remarkably close to zero for B.1G (0.00%) and EMP_PS (0.03%) and D.1 (-0.07%). It was slightly positive for B.6N (0.21%) and EMP_HW (0.64%) and negative for P.51G (-0.92%).

Regarding the range of revisions, it was narrower for, above all, EMP_PS and B.1G and D.1 The distribution of revisions was wider in EMP_HW and P.51G.

Revisions of Regional Accounts variables, %

red dots= Mean revision, green dots= benchmark revision



KEY INDICATORS FROM BALANCE OF PAYMENTS

The current benchmark revision has been the first one since the implementation in 2014 of the new methodologies: ESA 2010 and BPM6.

Eighteen EU Member States implemented benchmark revisions for balance of payments in 2019, namely BE, BG, DE, EE, EL, ES, HR, IT, CY, LV, LT, HU, PT, RO, SI, SK, FI and UK. Four Member States have already conducted such revisions (DK in 2016, AT in 2017 and FR and NL in 2018) while another 3 (CZ, LU and PL) will do so in 2020. Ireland began revising data in 2017, but made major revisions (including for earlier years) already in 2018. Sweden does not plan benchmark revisions at this stage, while Malta planned to have it in 2019 but has decided to postpone it. A majority of Member States transmitted revisions in Q3 of 2019, while Germany provided BOP/IIP revisions already in Q1 of 2019, and Romania will do so in Q4 of 2019. Additionally, Norway submitted revisions in Q3 of 2019, while Switzerland plans benchmark revisions for Q3 of 2020.

The length of the revisions varied considerably among the Member States. Seven countries (DE, ES, IT, LT, HU, PT, UK) revised quarters starting from different years in the 1990s. Revisions starting from the years between 2000 and 2009 took place in 2019 for BE, EE, HR, CY, LV, SI and FI, while shorter revisions, starting from 2010 or later, occurred for BG, EL, SK and NO

The size of the revisions can be measured by **symmetric mean absolute percentage error (SMAPE)**, which is calculated as follow:

$$SMAPE = \frac{\sum_{t=1}^{T} \left| x_t^L - x_t^I \right| / T}{\sum_{t=1}^{T} \left(\left| x_t^L \right| + \left| x_t^I \right| \right) / T}$$

In the case of net/balance time series, revisions cannot be properly related to the series value itself because the observations may have different signs, and the values of the series may often be close to zero. To better understand the size of the revisions for the net/balance items, the revisions can be related to average current account flows. The indicators used are called **net relative revisions (NRR):**

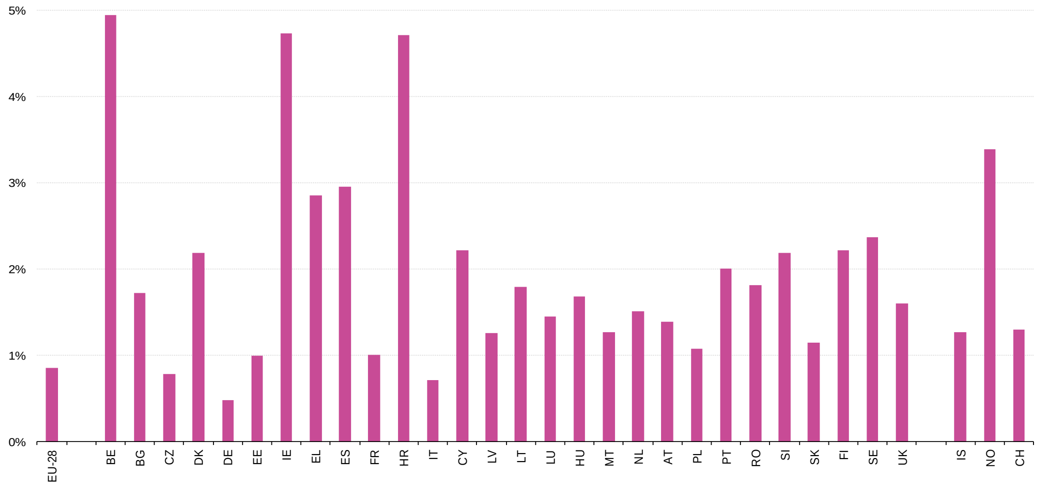
$$NRR_{CA} = \frac{\sum_{t=1}^{T} \left| x_t^L - x_t^I \right| / T}{\frac{1}{2} \sum_{t=1}^{T} \left(x_t^{L\,credit} + x_t^{L\,debit} \right) / T}$$

For the EU aggregates, the impact was rather limited, with values of the SMAPE indicator for total current account for time span 2014Q1-2019Q1 being at 1% for credits and 1.3% for debits. As a result, the value of the indicator on net relative revisions for current account balance was at only 0.8%.

The smallest revisions were for goods, with SMAPE values of 0.4% for credits and 0.2% for debits, while the revisions were more substantial for services (1.8% and 2.5%) and secondary income (1.4% and 1.3%). Among main current components, revisions were the largest for primary income (2.7% and 3.3%) and particularly significant for capital account (9% and 21%), for which absolute values are smaller, however. Analysing each reference year separately (sum of four reported quarters), revisions for the current account were most significant for 2015 (2% and 2.7%) and 2016 (1.6% and 1.5%), lower for 2017 (0.7% and 1.4%) and minor (between 0.4% and 0.7%) for 2014 and 2018.

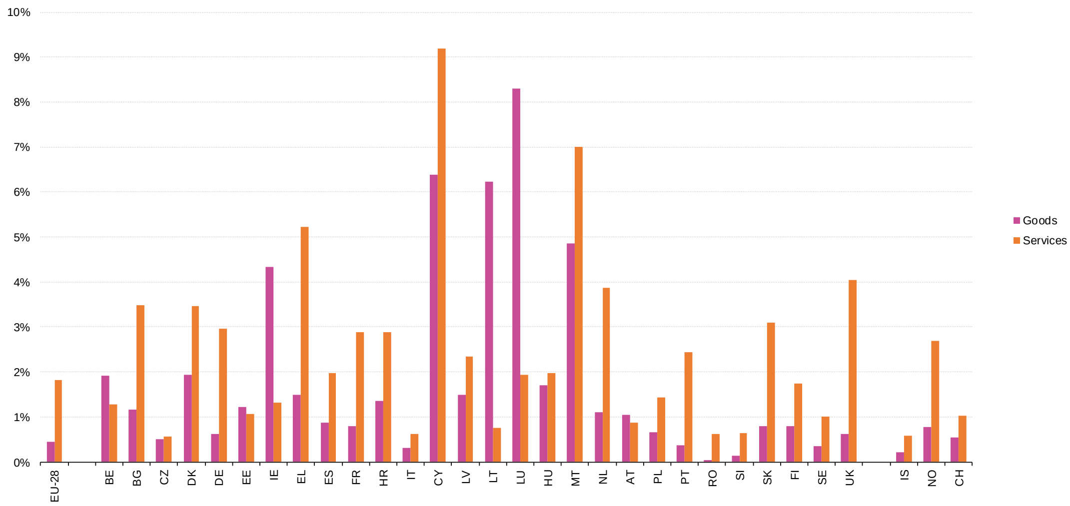
As shown in the figure below, the size of the revisions for total current account balance was not very substantial in the majority of the Member States, with Belgium, Ireland and Croatia having the most revisions.

Net relative revisions for current account balance, counterpart Rest of the World (extra-EU-28 for EU-28),, 2014Q1-2019Q1 (%)



Revisions for <u>goods</u> were generally limited, with Ireland and Lithuania having the most along with Luxembourg and Malta, which have not made any benchmark revisions. most significant revisions for <u>service</u>s were for Greece, Cyprus, the Netherlands (benchmark revisions in 2018) and the United Kingdom.

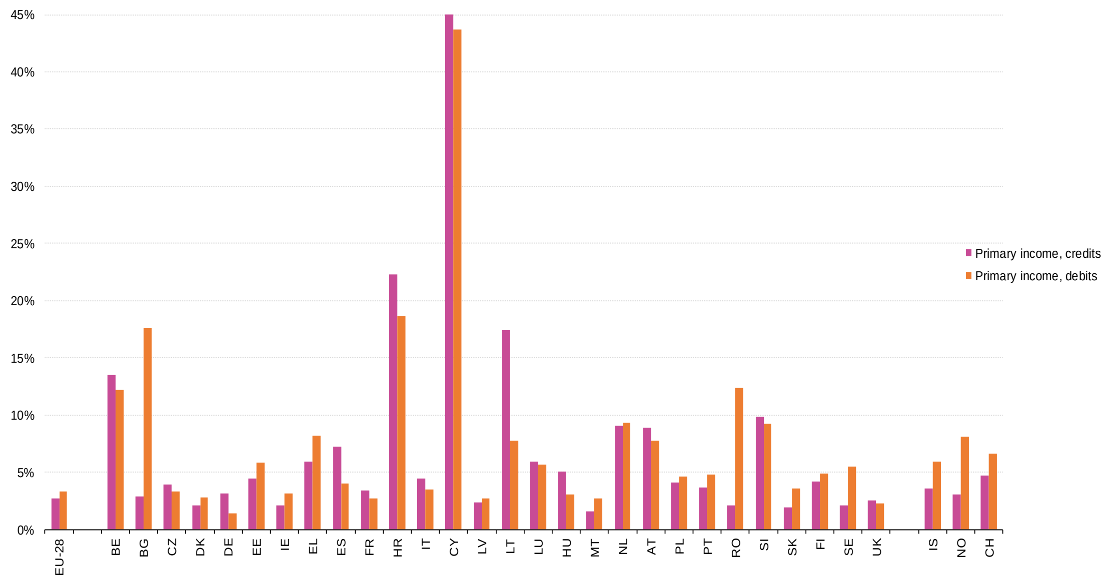
Symmetric mean absolute percentage error for exports (credits) of goods and services, counterpart Rest of the World (extra-EU-28 for EU-28), 2014Q1-2019Q1 (%)



As shown in the following figure, the most substantial revisions were for <u>primary income</u>, particularly for Cyprus (with small revisions on balance due to similar upward revisions for both credits and debits), Belgium, Croatia, Lithuania, the Netherlands and Austria (benchmark revisions in 2017), while for Bulgaria and Romania substantial revisions were only for debits.

For secondary income, the most substantial revisions were for Bulgaria, Ireland, France, Croatia, the Netherlands, Austria, Portugal (only credits) and Finland.

Symmetric mean absolute percentage error for primary income, credits and debits, counterpart Rest of the World (extra-EU-28 for EU-28), 2014Q1-2019Q1 (%)



Dissemination and transmission of revised data

Most Member States transmitted data by the legal deadline or with small delays. The table below shows that by the end of October, 3 EU Member States (BG, EE, RO) and Norway had outstanding transmissions. The table refers to transmissions with a due date of end of September and, therefore, transmissions with a due date of end of December are not included.

Country	National accounts main aggregates		Government finance statistics		Non-financial sector accounts		Annual financial accounts	Quarterly balance of payments
	Quarterly	Annual	Quarterly	Annual	Quarterly	Annual		
BE								
BG								
DE								
EE								
ES								
IT								
CY								
LV								
LT								
HU								
PT								
RO								

SI								
SK								
FI								
SE								
UK								
NO			*					

Legend:

Data published by Eurostat.
Transmitted in December.
Data transmitted by Member State but not published by Eurostat due to poor quality.
* Preliminary T25 revised data were transmitted for vertical cross-checking but remained under embargo; finalised data expected prior to DMES.

Eurostat informed users of the dissemination date of the various datasets on its website: https://ec.europa.eu/eurostat/documents/737960/9861115/Benchmark+revisions+2019_data+availability.pdf

As can be seen in the file, the first results of the benchmark revision were already published in August 2019 (3 countries), while for some others the dissemination was not concluded until March 2020. Moreover, for a number of countries the quarterly data were disseminated with a delay compared to annual data.

In few cases, national releases took place later than preannounced. At the end of October, quarterly non-financial sector accounts data of few countries that were needed for the Commission's autumn October economic forecast were still missing.

Quality aspects of revised data

This section discusses the observed practices regarding the main quality aspects that were discussed with Member States during the preparatory period of the benchmark revision in 2019.

CONTINUITY OF TIME SERIES

The majority of series were able to incorporate the results of the benchmark revision for the whole time series in all ESA 2010 tables. Three Member States had informed Eurostat that they would introduce temporary breaks in the series that would be resolved in the coming months or by September 2020 in the case of Lithuania.
The validation of countries' data that the benchmark revisions had been appropriately carried out for the whole time series without creating any visible breaks, for all Member States other than the three countries that followed a staged approach.

CONSISTENCY BETWEEN NATIONAL ACCOUNTS DATA SETS

The alignment of key aggregates (GDP and net lending/net borrowing in particular) within national accounts was very good, and in certain cases the benchmark revision also resulted in the alignment of back series. The smaller differences observed were mainly due to the impact of routine revisions for the latest periods.
In a few cases, the practices followed for non-financial and financial accounts were not fully aligned.

CONSISTENCY WITH BALANCE OF PAYMENTS STATISTICS

The benchmark revision gave Member States the opportunity to work further on aligning balance of payments and rest-of-the-world accounts. The discrepancies in the two data sets were reduced after the benchmark revision, and some countries achieved perfect consistency between the domains.
However, the length of benchmark revisions was not the same for the two statistical collections, and in some cases discrepancies in the back series were not reconciled. Moreover, the numerical analysis of results shows that there is still work to be done to fully harmonise the data sets.

CONSISTENCY WITH INDICATORS REPORTED FOR EU ADMINISTRATIVE PURPOSES

The benchmark revision resulted in good consistency between national accounts and data for EU administrative purposes. This result was expected, as many methodological improvements implemented as part of the benchmark revisions were actually the result of the GNI and EDP work. However, in a few cases discrepancies were observed between GNI and national accounts data.

Communication aspects of the benchmark revision

Most countries participating in the revisions of national accounts succeeded in publishing them. Data were released as initially announced and the information was communicated to users, before, during and after the release of the data. In some cases, a very detailed analysis about the changes that occurred accompanied the data. Moreover, all Member States sent a formal letter to Eurostat to inform it in advance about their plans for the benchmark revision. Overall, Eurostat received positive feedback on the information posted on its website.

However, there were a few cases where information to users on the content and impact of benchmark revisions was missing in the national news releases and on the national website. Furthermore, in addition to data sets that were needed for EU policymaking missing, national metadata explaining the revisions were also missing for a few countries. In a few other cases, national metadata explaining the GDP revisions were not provided, because countries considered the information in the GNI quality reports to be sufficient. While metadata required under the GNI Regulation and the ESA 2010 Regulation overlap for annual GDP in current prices, the reporting of metadata is mandatory under Article 3 of the ESA 2010 Regulation and should cover comprehensively the ESA 2010 data sets.

Conclusions

The preparatory coordination process gave positive results and the final impact of revisions on GDP was within the initially assessed ranges.

Most countries participating in the revisions of national accounts succeeded in publishing them. Availability of revised annual data on 21-23 October 2019 for EU policy purposes was very good as was the alignment of key aggregates (GDP and net lending/net borrowing in particular) within national accounts and with data for EU administrative purposes.

Some countries delayed the transmission of quarterly data. This was more pronounced for quarterly non-financial sector accounts, with a few still outstanding by the legal deadlines, but was also the case for the main aggregates where the delays did not impact the Eurostat publication.

In a few cases, national releases took place later than initially announced. At the end of October, a few countries' quarterly non-financial sector accounts data, which were needed for the Commission's autumn October economic forecast, were still missing.

In a few other cases, national metadata explaining the GDP revisions were not provided because countries considered the information included in the GNI quality reports to be sufficient. While metadata required under the GNI Regulation and the ESA 2010 Regulation overlap for annual GDP in current prices, the reporting of metadata is mandatory under Article 3 of the ESA 2010 Regulation and should cover comprehensively the ESA 2010 data sets.

For some countries, the revisions of time series of balance of payments were not as extensive as the revisions of national accounts.

Overall, Eurostat received positive feedback on the information posted on its website. Further discussions will be held with main users for the comprehensive analysis of the 2019 benchmark revisions. The annex shows the communication actions that have been implemented and those that are still planned.

The analysis of the benchmark revisions showed that even if the level of harmonisation achieved was not perfect it was very good, especially since, in principle, benchmark revisions are carried out on a gentlemen's agreement basis. However, it is recommended that preparations for the 2024 benchmark revisions should start even earlier to ensure that all countries participate (meaning it should be made practically impossible that a country would have to decide last minute to postpone the revision). For certain aspects of benchmark revisions, there could be the need to further develop the existing practical guidelines.

List of figures

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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: Directorate-General for Economic and Financial Affairs 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

- S.1: Total economy institutional sector
- S.11: Non-financial corporations institutional sector
- S.12: Financial corporations institutional sector
- S.13: General government institutional sector
- S.14: Households institutional sector
- S.15: Non-profit institutions serving households institutional sector
- S.1M: Households and non-profit institutions serving households institutional sectors
- 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

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Quality report on National and Regional Accounts

2019 DATA

This document presents Eurostat's assessment of the quality of the national and regional accounts transmitted in the year 2019 by the EU Member States, Iceland, Norway and Switzerland, and information on Eurostat's publications of European aggregates. The quality report contains the fourth assessment of results since the start of data transmission according to the European System of Accounts (ESA 2010) on 1 September 2014. In general, data sent in 2019 were in line with the ESS quality standards and the ESA 2010 Regulation and Member States have shown improvements in complying with the new data requirements and methodology.

For more information

https://ec.europa.eu/eurostat/

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