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26

Special report

European statistics

Potential to further improve quality

EUROPEAN
COURT
OF AUDITORS

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Executive summary

I Official statistics are a public good that aims to describe economic, demographic, social and environmental phenomena. They are essential to support evidence-based decision-making by politicians and business leaders, but also by individuals and households. For the EU, statistics are needed in all areas – from the design, implementation, monitoring and evaluation of EU policies, to the collection and allocation of EU funds and high quality is crucial. It is operationalised through the following criteria: relevance; accuracy; comparability and coherence; timeliness and punctuality; and accessibility and clarity.

II In 2012, we published a special report on the quality of European statistics. Following up in 2016, we found that some agreed improvements had not been fully implemented. Since there have also been recent developments in European statistics, we decided to carry out a new audit on the same subject. The aim is that our findings and recommendations will contribute to the effectiveness of Eurostat's quality management processes and thus help to improve the reliability of European statistics.

III In this audit, we assessed whether the Commission provides effectively for high-quality European statistics. To answer that question, we examined whether the Commission has a comprehensive strategy and effective programmes (€489 million allocated in 2013-2020 period) for the production of statistics. We also assessed whether Eurostat provides appropriate support, has put in place a robust assessment of the quality of the data, and ensures that all users have transparent and equal access. For that, we selected statistical activities in three thematic areas (labour, businesses and health), and checked whether Eurostat's assessment work ensured quality for the 2017-2020 data collections. Finally, we examined whether the potential of peer reviews to ensure the quality of European statistics has been fully exploited.

IV Our overall conclusion is that the Commission provides statistics that are generally of sufficient quality for policy-makers, businesses and citizens. However, some weaknesses are still to be addressed.

V Eurostat's statistical strategies reflect the priorities set out in successive programmes, but they fell short on measuring what progress had been achieved. The European Statistical Advisory Committee, the main representative body for users, does not effectively represent all users such as the collective views of the academic and research community. Furthermore, user needs are not fully met, as there are data gaps in the audited areas.

VI Despite increased funding through the European statistical programme, the production of regular European statistics still partially relies on financing by other Commission departments. Some of the 13 EU-funded projects that we analysed did not provide added value through an innovation focus, but simply financed compulsory activities.

VII Eurostat's support for Member States is largely appropriate. However, Eurostat's verification powers are limited in the areas we examined. We also found that the quality reports sent by Member States are not harmonised between and within statistical processes and do not contain the same level of detail. In addition, Eurostat does not carry-out in-depth assessments of all quality dimensions, such as comparability and coherence. Health and business statistics are also affected by timeliness, as some datasets can be submitted up to 24 months after the reference year.

VIII Eurostat has developed a release calendar, which lacks certain details. It does not have a general revisions policy, describe the rules governing pre-release access in full on its website, or publish a comprehensive list of users granted privileged access.

IX Although the design of the European Statistical System peer review exercise has improved, their frequency and the coverage of national statistical systems are still not appropriate to ensure continuous quality improvements. In addition, the Commission and Member States have only partially addressed key recommendations of the 2013-2015 peer review on enhancing independence and impartiality.

X As a result of our audit, we recommend that the Commission:

- better meet user needs by making European Statistical Advisory Committee more inclusive;
- aim to enhance the European statistical programme's financial independence and prioritise innovative projects;
- improve Member States quality reports and the quality assessment of European statistics;
- reconsider the current practice of pre-releasing statistics; and
- assess the feasibility of strengthening the mandate of the European Statistical Governance Advisory Board.

Introduction

Knowledge is power: The role of official statistics

01 Official statistics are "an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation"[1]. As a public good, they are developed, produced and disseminated by national statistical authorities and international organisations. Official European statistics cover the EU itself, its Member States and regions, and European Free Trade Association (EFTA) countries.

02 High-quality European statistics are important to help policy-makers design and monitor economic, demographic, social and environmental policies towards growth and sustainable development. They are also crucial for the collection and allocation of EU funds, and are essential for businesses, researchers and the public at large. The COVID-19 pandemic has demonstrated that there is an urgent need for almost real-time data delivered by fast, flexible and more coordinated statistical systems (see ***Annex I***).

03 Quality is a multidimensional concept, but a simple definition is "fit for use" or "fit for purpose". In the context of European statistics, quality is operationalised through the following criteria: relevance; accuracy; comparability and coherence; timeliness and punctuality; and accessibility and clarity (see ***Table 1***). These dimensions are interrelated, and there are trade-offs between some of them.

[1] United Nations' Economic and Social Council, *Resolution adopted by the Economic and Social Council on 24 July 2013: 2013/21 - Fundamental Principles of Official Statistics*, 2013.

Table 1 – Quality criteria

Quality criteria	Description
Relevance	The degree to which statistics meet users' current and potential needs.
Accuracy	Refers to the closeness of estimates to unknown true values.
Comparability	Refers to the measurement of the impact of differences in applied statistical concepts, measurement tools and procedures where statistics are compared between geographical areas, sectoral domains or over time.
Coherence	Refers to the adequacy of the data to be reliably combined in different ways and for various uses.
Timeliness	The period between the availability of information and the event or phenomenon it describes.
Punctuality	The delay between the date the data are released and the target date (the date by which the data should have been delivered).
Accessibility and clarity	Refer to the conditions and procedures by which users can obtain, use and interpret data.

Source: ECA, based on Article 12 of Regulation (EC) 223/2009.

The legal framework for producing European statistics

04 The EU legal framework has evolved over time, largely in response to the needs of the EU institutions. The Treaty on the Functioning of the EU[2] states that the production of statistics "shall conform to impartiality, reliability, objectivity, scientific independence, cost-effectiveness and statistical confidentiality; it shall not entail excessive burdens on economic operators".

05 The Regulation on European Statistics[3] establishes the European Statistical System (ESS) as a partnership between Eurostat (a Commission directorate-general and the Statistical Office of the EU) and the national statistical institutes (NSIs) and other national authorities (ONAs) responsible in each Member State for the development, production and dissemination of European statistics. The partnership also includes the statistical authorities of EFTA countries.

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[2] Article 338 TFEU.

[3] Regulation (EC) 223/2009 of the European Parliament and of the Council of 11 March 2009 (OJ L 87, 31.3.2009), last amended by Regulation (EU) 2015/759.

06 The Regulation further defines how the ESS should be organised, outlines the main duties of its partners, and provides a framework for developing, producing and disseminating European statistics based on common statistical principles. It also provides the legal basis for the preparation of European statistical programmes (ESPs, hereafter "programmes"), which define the main fields and objectives for the development, production and dissemination of European statistics for a period corresponding to that of the multiannual financial framework. Out of a total amount of €489 million, the previous programme (2013-2020) provided €193 million in grants to ESS countries (with an additional €181 million provided as sub-delegated credits by other directorates-general (DGs)). The current programme (2021-2027) has planned expenditure of €552 million[4], including €74 million in commitment appropriations for 2021[5]. The Commission is currently considering a revision of the regulation, to focus on new data sources, technologies and insights, data-sharing and statistical responses in the event of a crisis.

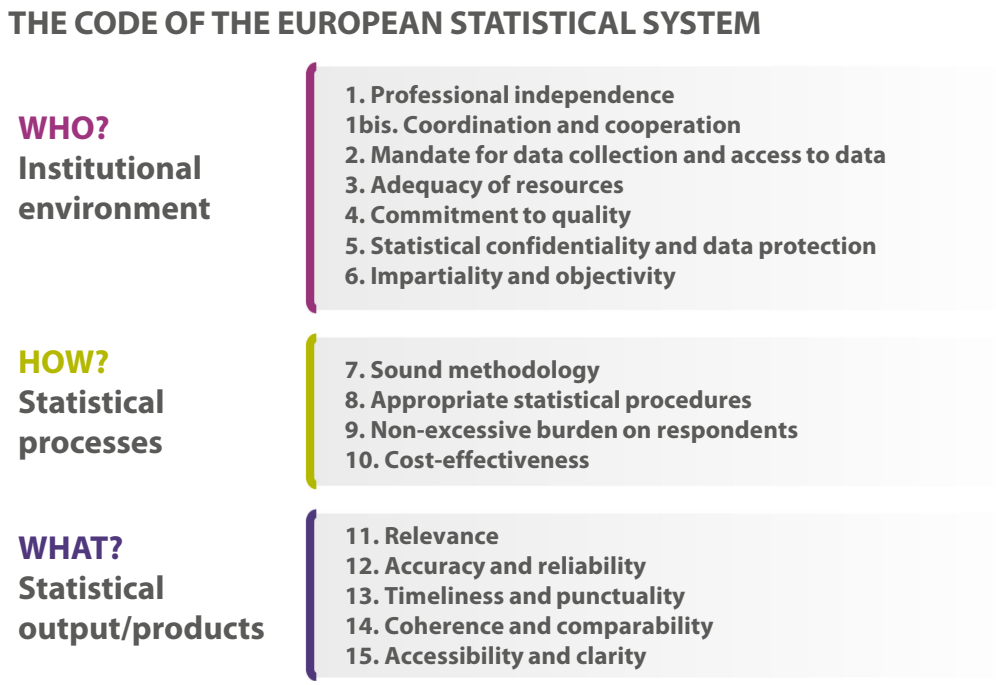
07 The statistical principles set out in the regulation are further elaborated in the European Statistics Code of Practice (CoP), the purpose of which is to ensure public trust in European statistics[6]. The CoP was last revised in 2017 (see ***Figure 1***).

[4] Article 4.2 of Regulation (EU) 2021/690 of the European Parliament and of the Council of 28 April 2021.

[5] Article 03 02 05 "Producing and disseminating high quality statistics on Europe" of approved 2021 budget, available at http://data.europa.eu/eli/budget/2021/1/oj

[6] Article 11 of Regulation (EC) 223/2009.

Figure 1 – Principles of European Statistics Code of Practice



Source: ECA based on 2017 European Statistics Code of Practice.

Governance of the European Statistical System

08 Responsibility for collecting the necessary data to generate European statistics for public use (by the EU and the Member States) lies with two statistical systems with separate legal frameworks that reflect different governance structures. These are the European Statistical System (ESS)[7] and the European System of Central Banks (ESCB)[8].

09 The ESS is guided by the European Statistical System Committee, which is chaired by Eurostat and composed of representatives of the member national statistical institutes. The Committee provides the ESS with professional guidance on developing, producing and disseminating statistics. It is also responsible for the European Statistics Code of Practice.

10 Eurostat operates as the EU's statistical authority. Its role is to lead the way in the harmonisation of statistics in close cooperation with national statistical authorities. Its primary function is to process and publish comparable statistical information at European level by assessing the quality of data submitted by the Member States.

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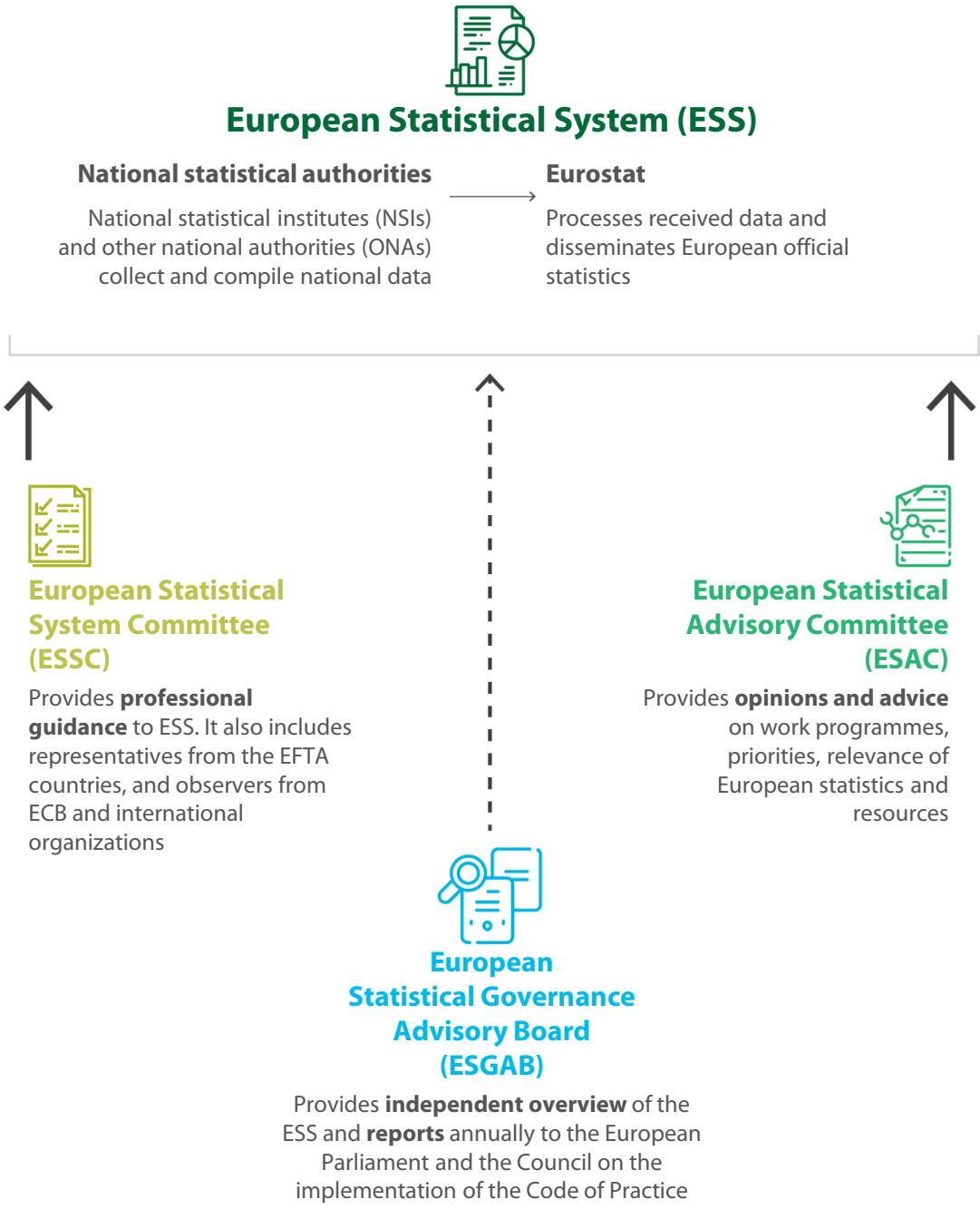
[7] As described in Article 4 of Regulation 223/2009.

[8] The ESCB's statistical function is based on Article 5 of the Statute of the ESCB and the ECB.

11 The ESS is assisted by the European Statistical Advisory Committee[9] (hereafter called "the Advisory Committee"), and its activities as regards the implementation of the European Statistics Code of Practice are overseen by the European Statistical Governance Advisory Board (ESGAB)[10], a body of independent statistical experts (see ***Figure 2***).

Figure 2 – ESS governance structure



Source: ECA.

[9] Established by Decision No 234/2008/EC of the European Parliament and of the Council.

[10] Established by Decision No 235/2008/EC of the European Parliament and of the Council.

Audit scope and approach

12 The overall objective of this audit was to assess whether the Commission provides effectively for high-quality European statistics. In this document, we refer to Eurostat when reporting on areas for which, as the EU Statistical Office, it has sole responsibility.

13 To answer the audit question, we assessed whether:

- the Commission has a comprehensive strategy and effective programmes for the production of high-quality statistics;
- Eurostat provides appropriate support, has put in place a robust assessment of the quality of the data it receives and, when disseminating European statistics, ensures that all users have transparent and equal access; and
- the peer reviews have been fully exploited to ensure and further improve the quality of statistics.

14 In 2012 we published a special report on the quality of European statistics[11]. In a follow-up in 2016, we found that some of the recommendations had still not been fully implemented. For this reason, and given recent developments in European statistics, we decided to carry out a new audit on the same subject. We have therefore examined what progress has been made from January 2013 until December 2021. The aim is that our findings and recommendations will contribute to the effectiveness of Eurostat's quality management processes and thus help to improve the quality of European statistics.

15 We selected three thematic areas (labour, businesses and health), and checked whether Eurostat's assessment work ensured high-quality statistics focusing on the 2017-2020 data collections in line with the quality criteria established in Regulation 223/2009. We focused our analysis on the following statistical activities (see ***Annex II***):

- the EU Labour Force Survey (LFS);
- structural business statistics;
- health, consisting of 'health expenditure', 'health non-expenditure' and 'causes of death'.

[11] ECA special report 12/2012: "Did the Commission and Eurostat improve the process for producing reliable and credible European statistics?"

16 We examined all the dimensions of quality (see paragraph ***03***) in the sampled Member States (Croatia, Italy, Cyprus, Lithuania and Finland). As regards timeliness, punctuality and completeness we covered all EU Member States due to readily available documentation. We selected the sample using six criteria to ensure relevance, materiality, broad geographical coverage and a good mix of different statistical systems, i.e. based on surveys or administrative data.

17 Our audit work also covered the contributions made by other Commission departments (DG for Employment, Social Affairs and Inclusion (EMPL), DG Internal Market, Industry, Entrepreneurship and SMEs (GROW), DG Health and Food Safety (SANTE), and by ESGAB and the Advisory Committee, to producing European statistics. We did not look at the quality of the data sent by Member States, the European statistics produced by the ESCB, or the exploitation of new data sources.

18 We based our work on criteria from various sources, such as agreed principles for official statistics, the corresponding implementing guidelines, and international best practice (see ***Annex III***).

19 As well as examining data and statistics, we looked at relevant legislation, international guidelines and recommendations, and documents provided by the Commission and selected Member States – including their replies to detailed questionnaires covering the whole audit scope. We reviewed a sample of 13 grants relevant to the three thematic areas (see ***Annex IV***), managed by Eurostat under the 2013-2020 programme. Those grants relate to projects that are implemented by national statistical institutes or other national authorities in our five Member States.

20 We interviewed staff from the Commission, the European Centre for Disease Prevention and Control, national statistical institutes and other national authorities in the five Member States, and three international organisations (ILO, OECD and WHO). We also observed meetings of the ESS Committee, and interviewed current and former members of the ESS governance bodies (ESGAB and the Advisory Committee), the EFTA Statistical Office, the Federation of European National Statistical Societies, the Royal Statistical Society, and experts in labour, business and health statistics. Because of the COVID-19 situation, we held all interviews by videoconference only.

Observations

Strategy and programmes met expectations, but there was insufficient focus on innovation and not all user needs were met

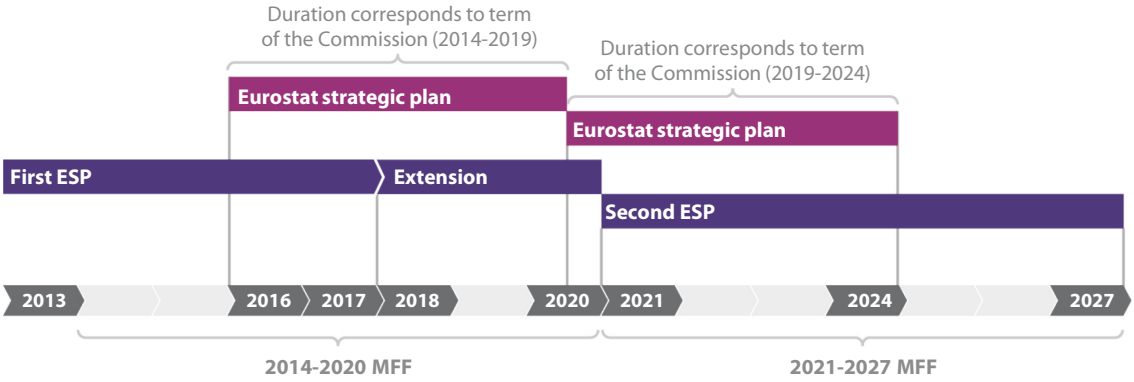
21 The Commission mainly implements its strategic priorities through successive programmes, which should be designed to respond to European statistics users' needs and, where necessary, reviewed to take account of any unexpected changes (see *Figure 3*). In the following sections, we examine whether:

(a) the Commission's statistical programmes and Eurostat's strategic plans are well-designed, comprehensive and effectively monitored;

(b) the programmes meet users' needs; and

(c) the programmes provide value for money through grants to national statistical systems.

Figure 3 – Multiannual financial planning, programmes and Eurostat strategies



Source: ECA.

Strategic plans and programmes largely met institutional expectations but fell short on measuring progress

22 We examined the programme for 2013-2020 and the Eurostat's strategic plans for 2016-2020 and 2020-2024, the statistical annual work programmes since 2013, and documentation on the monitoring and evaluation of the programmes. We also examined the current programme within the EU's Single Market Programme for

2021-2027, the mechanism used to set priorities during 2013-2020, and the substance of talks within the ESS during 2019 to modify those priorities for the 2021-2027 period.

23 We found that the 2013-2020 programme was largely designed to meet the expectations and needs of the institutional users of European statistics and included a monitoring framework. However, the Commission later considered that some of the KPIs initially used to measure the programme's effectiveness were not linked to the programme's objectives or able to show the impact of EU funding. These KPIs were replaced by others (see ***Figure 4***).This replacement and the changes in methodology in the user satisfaction survey did not allow to measure what progress had been achieved over the full eight-year period.

Figure 4 – Evolution of Eurostat's key performance indicators for the 2013-2020 programme

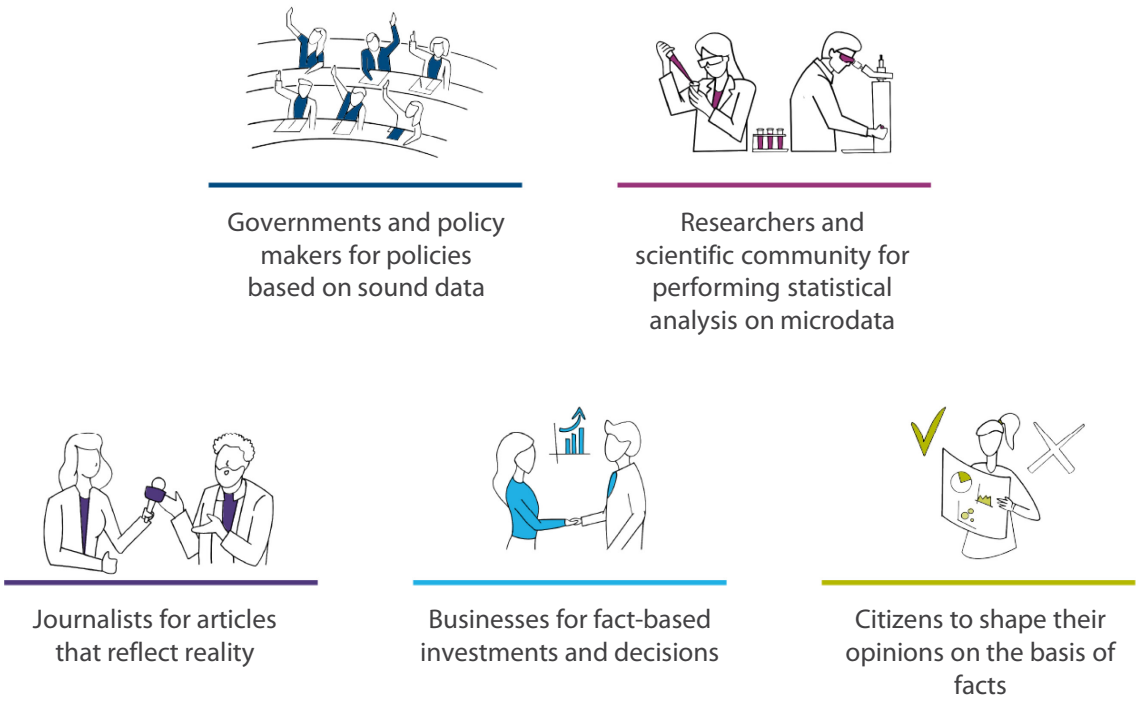
KPI	2014	2015	2016	2017	2018	2019	2020
Number of data extractions made by external users from Eurostat public databases (EuroBase and Comext) via the Eurostat website	✓	✓	✓	✓	✓	✓	✓
Statistical coverage (measured as number of indicators, sub-indicators and all their breakdowns)					✓	✓	✓
Eurostat impact on Internet: a) Number of mentions b) Percentage of negative opinions					✓	✓	✓
Percentage of users that rate as "very good" or "good" the overall quality of European statistics	✓	✓	✓	✓			
Timeliness of a sub-set of the statistics provided by Eurostat measured as number of days between the last day of the statistics' reference period and the release day of the related news release					✓	✓	✓
Percentage of users that rate as "very good" or "good" the timeliness of European statistics for their purposes	✓	✓	✓	✓			
Punctuality of a sample of statistics: average number of days in advance (positive) or late (negative), in comparison with the legal target: PEEIs and EU external trade	✓	✓	✓	✓	✓	✓	✓
Percentage of users that rate as "very good" or "good" the comparability of European statistics among regions and countries	✓	✓	✓	✓			
Percentage of the time series that cover 10 or more consecutive years					✓	✓	✓
Length of the time series of a sample of statistics: Euro-Indicators active series	✓	✓	✓	✓			

Source: ECA, based on Commission data.

User needs are not sufficiently met and data gaps still exist

24 To ensure the **relevance** of statistics, they must be generated first and foremost with users in mind. Their production is not an end in itself; rather, it must serve those who use the data to improve policy and outcomes. With this objective in mind, Eurostat should consult all types of users to identify the needs that strategic planning must address. As the main representative body for users, the Advisory Committee should assist by ensuring that their requirements are taken into account in the programme planning process and establishing relations with national statistical user councils[12] (see ***Figure 5***).

Figure 5 – Users of European statistics



Source: ECA.

25 Eurostat identifies user needs through a number of channels. For instance, it holds annual hearings to consult other Commission departments, organises a biannual user satisfaction survey, and carries out occasional, less representative consultations on specific products (e.g. the European Statistical Recovery Dashboard).

[12] See Articles 1 and 3 of Decision No 234/2008/EC of 11 March 2008.

26 The Advisory Committee gives precedence to the needs stemming from EU policies and initiatives. Moreover, the 12 members appointed by the Commission participate in their personal capacity rather than representing the scientific associations, universities and research institutes from which they come[13]; as a result, they do not really ensure a collective viewpoint. Other key users and stakeholders, such as civil society, non-governmental organisations representing vulnerable and marginalised groups and international organisations are not involved.

27 Since it was set up, the Advisory Committee has not made significant progress towards establishing relations with national statistical users. Indeed, it was not until 2021 that it put together an overview of 23 national statistical user councils and made plans to strengthen its cooperation with them. Moreover, we found evidence during our work that the activities of the Italian user council had been suspended, and no such council was yet operational in Croatia.

28 Our audit identified gaps in 'health non-expenditure' and morbidity statistics. Health non-expenditure statistics, such as healthcare resources and activities, are voluntary, and datasets are still incomplete because not all Member States submit all the agreed data to Eurostat. A draft implementing regulation defining a minimum list of requirements is due to be adopted, and the first data transmission is expected in 2023. Unless certain Member States are granted derogations, quality (including completeness) is expected to improve. Morbidity statistics have been under development for more than 10 years, and have still not been finalised.

29 Another important gap we found relates to the EU definition of SMEs, which Eurostat does not apply correctly due to difficulties in obtaining all the financial data in some Member States. The classification of SMEs in European statistics is only based on the number of employees (fewer than 250 people) and ignores the financial criteria (annual turnover and balance sheet total).

[13] See Article 4 of Decision No 234/2008/EC of 11 March 2008.

EU statistics funding is not appropriately sourced and does not sufficiently prioritise innovative projects

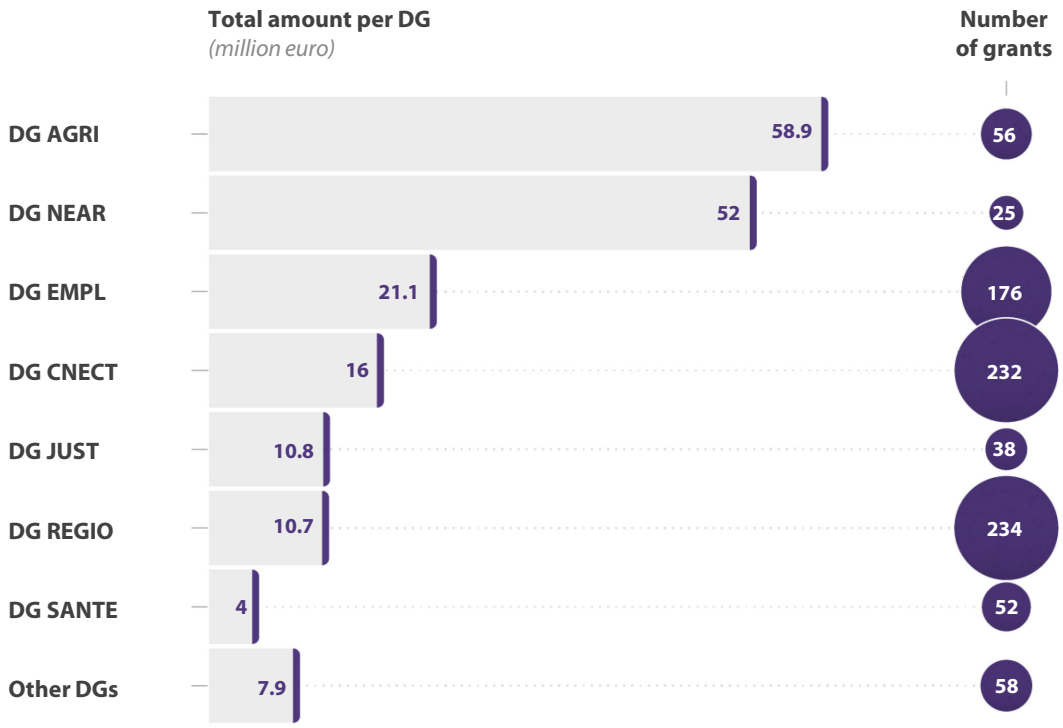
30 The Commission should address key user needs and complement national funding by providing national statistical systems with adequate financial resources, as recommended by international guidelines (see ***Annex III***). The programme funding is allocated through annual work programmes, which are produced and adopted by the Commission and cover financing through grants, procurement and other agreements. The 2021-2027 multiannual financial framework includes €552 million for the programme – about €78.9 million a year (+29 % compared to the annual average for the 2013-2020 period). The EU's annual contribution to the ESS represents 2.4 % of the total estimated cost of producing official statistics (around €3 billion in 2020 according to a cost-assessment survey carried out by Eurostat[14]).

31 Grants are the most widely used and best-established means of encouraging the development of new statistics in response to needs identified by institutional users. They are demand-driven and finance around 70 % of the project costs for developing statistical activities such as the creation of new survey modules, face-to-face data collection and phone interviews.

32 Eurostat also manages grants financed by other Commission departments (e.g. DG EMPL and DG SANTE) outside the programme (see ***Figure 6***). Much like those financed under the programme, the aim of these grants is to encourage the development of statistics to meet DGs' specific needs – though sometimes they also serve statistical activities that are already compulsory. In this context, in 2012, we recommended the following: "In order to achieve full implementation of the European Statistics Code of Practice the Commission should: (e) […] phase out the mechanism of sub-delegated operational credits for statistical production". We consider that the current arrangement, whereby Eurostat is financially reliant on other DGs, is not fully aligned with international recommendations and best practice on adequate resourcing, and does not promote institutional independence.

[14] Eurostat, *Support for the Final Evaluation of the European Statistical Programme 2013-2020*, July 2021, p. 43.

Figure 6 – Statistics grants from other DGs but managed by Eurostat, 2013-2020



NB. Other DGs include DG DEVCO, DG EAC, DG HOME and DG MOVE.

Source: ECA, based on Commission data.

33 We found that EU grants largely cover institutional needs, with a significant number financing compulsory statistical activities and, in some cases, covering national statistical systems' regular staff costs. Only a few grants finance innovative projects (e.g. pilot studies on morbidity statistics) with considerable added value that would not otherwise be funded nationally.

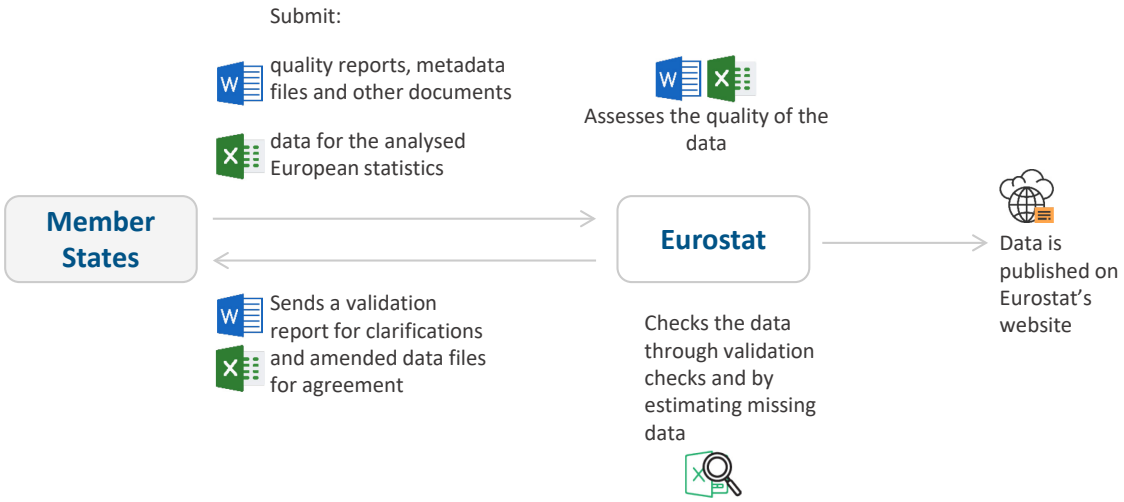
34 The financed projects need to be assessed in order to check whether they achieve their objectives and provide benefits commensurate with the resources being invested. Although the individual grants were assessed, there was generally no justification of the qualitative assessment of the results, which risks limiting the scope for follow-up and diminishing the sustainability of results.

Eurostat provides national statistical systems with appropriate support, but assessment and dissemination weaknesses remain

35 Eurostat's task is to develop, produce and disseminate European statistics[15]. To that end, it provides support to national statistical institutes, assesses the quality of the data received from Member States according to the established criteria (see paragraph ***03***), and then consolidates and publishes. The quality criteria 'relevance' and 'accessibility and clarity' are addressed in paragraphs ***24-29*** and ***59-69*** respectively.

36 Eurostat should have in place an effective quality management system, with written procedures for the quality assessment of each thematic area[16] (see ***Figure 7***).

Figure 7 – Quality assessment process: from data submission to data publication



Source: ECA, based on Commission information.

37 In the following sections, we examine whether Eurostat:

(a) provides national statistical institutes with appropriate support;

(b) makes a robust assessment of the quality of incoming data; and

(c) when disseminating statistics, ensures that all users have transparent and equal access.

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[15] Article 6 of Regulation (EU) 223/2009.

[16] Commission Dec. 2012/504/EU and European statistics Code of Practice.

Eurostat provides national statistical systems with appropriate support

38 In its role as coordinator for improving the quality of European statistics, Eurostat should provide Member States with timely and appropriate support and develop collaborative networks to promote knowledge-sharing[17]. We found from the available documents that Eurostat's support for Member States is usually appropriate and timely. For example, the onset of the COVID-19 pandemic created unprecedented demand from governments, the media and the public as a whole for rapid and reliable statistics in several domains (see ***Annex I***). Shortly after the outbreak of the pandemic, Eurostat issued guidelines and methodological notes on the production of datasets such as the LFS.

39 However, Eurostat does not have written internal procedures for providing support, in particular as regards the timeframe. We found examples of complex methodological problems that have taken a long time to resolve. For instance, the problem of how to treat data on long-term care (distinction between social and health) has existed since the implementation of the System of Health Accounts 2011 in 2015[18]. The problem affects the completeness and comparability of data in that field. A task force started working on this issue in February 2022, and is expected to deliver a report by the end of 2023.

Member States' quality reporting is not fully harmonised and documented

40 The ESS Handbook provides guidelines for the preparation, by ESS partners, of producer and user quality reports on the full range of statistical processes and outputs. For each statistical dataset, these reports should be harmonised between and within statistical processes to ensure compliance with the guidelines for making sure essential information about data collection and validation processes is available to users and producers.

41 We examined whether the quality reports submitted by Member States in the three thematic areas covered by our audit were in line with the ESS Handbook and included information that was both appropriate and harmonised to allow a proper assessment and understanding of the corresponding statistical outputs.

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[17] Articles 6.3, 7, 15 and 18 of Regulation (EU) 223/2009, Commission Dec. 2012/504/EU.

[18] Commission Regulation (EU) 2015/359 implementing Regulation (EC) No 1338/2008.

42 The sectoral regulations require Member States to send Eurostat quality reports and metadata at intervals of up to five years. A long interval between two reports increases the risk that descriptions of sources and methods will have changed between two datasets. Moreover, one of the five Member States in our sample (Croatia) has not yet submitted its expected quality report for 'causes of death' data. There is no legal requirement to submit a quality report for health non-expenditure data; however, Member States are expected to submit a metadata file, which is not in line with the structure of the quality reports.

43 There are reporting differences between, and even within, statistical activities. The level of detail varies between the Member States in our sample; some do not provide sufficient information for a proper understanding and assessment of data quality. In addition, with the exception of 'causes of death', the structure of quality reports does not follow the guidelines. These inconsistencies result in incomplete information that could be confusing for users.

Eurostat's quality assessment did not fully ensure data reliability

44 Eurostat is legally empowered to carry out verification work on-the-spot in Member States in statistical domains such as the excessive deficit procedure and gross national income. It does not have comparable powers in the three areas covered by our audit. Given that EU contributions through a number of funding instruments, such as the new Recovery and Resilience Fund, are calculated on the basis of European statistics where Eurostat has no verification powers (e.g. labour and population) and therefore cannot ensure reliability, there is a risk that any allocation of EU funds based on such data may be inaccurate.

45 Eurostat has developed written procedures for validating data in each of the thematic areas we examined. However, those procedures do not include more in-depth verifications of data quality in Member States, such as on-the-spot.

46 Eurostat has also developed user manuals and guidelines on monitoring compliance with the EU statistics legislation. One aspect missing from these guidelines is a timeline for its own action if it finds a Member State non-compliant with the deadlines set in the rules.

47 Eurostat uses a range of IT tools to carry out validation checks (of matters such as logic, plausibility, consistency, revision rates and annual rates of change). Some of these checks are embedded in the files that include the questionnaire which Member States must fill in so they can detect and correct any errors before sending. Once validations have been made, Member States are sent a validation report for approval; only then can their data be disseminated more widely.

48 Eurostat, OECD and WHO collect and split validations of 'health expenditure' and 'health non-expenditure' data between them and, apply the checks in an identical way. The validation of LFS, 'causes of death' and 'health expenditure' data is similar for all Member States. However, the final quality assessments for each Member State are not structured and do not document or propose solutions for all issues found. For the other thematic areas ('health non-expenditure' and structural business statistics), we received data files but no final quality assessments. We found that Eurostat was aware of data quality problems emerging from its validation work or from information provided by the Member States. Some data quality problems take a long time to resolve (see, for example, the discussion of data on long-term care in paragraph ***39***).

49 During the period covered by our audit, we found weaknesses in relation to data **accuracy** in the three audited areas (see ***Box 1***).

Box 1

Examples of weaknesses related to accuracy

Labour force survey

- The non-response rate was very high in the three Member States where the LFS is voluntary. In 2018, it was 34.5 % in Finland, 21.6 % in Lithuania and 42.4 % in Croatia. In the second quarter of 2020, the non-response rate for *all* Member States peaked at 34.6 % because of the pandemic.

- Article 3(1) and (2) of Regulation (EC) 577/98 requires the use of a "relative standard error" in the analysis of representativeness. However, Eurostat does not calculate this or use in its analysis the relative standard errors submitted by Member States.

Structural business statistics

- We saw no evidence that Eurostat assessed rates of response or confidence intervals.

- Since 1995, in accordance with Regulation (EC) 696/93, Member States have been required to compile their structural business statistics using the concept of "enterprise" rather than "legal unit", and "kind of activity unit (KAU)" instead of "establishment". Eurostat started to enforce compliance with the regulation in 2015. Some Member States are still in the process of implementing the new statistical unit. In the year in which they first do so, the changes necessarily have an impact on the data and cause a break in the time series. We found no evidence that Eurostat had requested Member States' methodologies so that it could carry out a thorough analysis of their work in this regard, or that it had taken any other action.

Causes of death

- Although electronic death certificates would allow more rapid reporting of deaths, paper certificates are still used in Cyprus, Italy and, partially, Finland (85 %). The national statistical institutes collect and process them using Iris, an automated coding system, which aims to improve international comparability. In Italy, the 20 % of certificates rejected by Iris (120 000 annually) are manually encoded by a team of experts, and in Cyprus all certificates are manually encoded. The manual encoding of certificates increases the risk of error.

50 We examined whether Eurostat analysed compliance with the conceptual frameworks and the degree of data **comparability** and **coherence**, and found weaknesses in all the thematic areas covered by our audit (see ***Box 2***).

Box 2

Examples of weaknesses affecting the comparability of data

Labour force survey

- The detail of the LFS questionnaires used in the five Member States we analysed varies. We received no documentary evidence that Eurostat properly analysed how questionnaires mapped with the mandatory variables. With the new framework regulation, in force since 2021, Eurostat has started working towards identifying and correcting these weaknesses.

Structural business statistics

- The fact that Member States adopted the new "enterprise" unit at different times had an impact on data not only between countries but also over time. Eurostat's metadata file and Member States' quality reports refer to breaks in the time series owing to the introduction of the "enterprise" unit. Eurostat

has not requested recalculations of previous years' data, taking account of the new statistical unit, to ensure comparability over time.

Health expenditure

- The expenditure of non-market providers (mainly public healthcare producers) should be valued using the cost approach, which includes the consumption of fixed capital and all production costs on an accrual basis. Of the five Member States in our sample, only Italy takes this approach, using data from the national accounts, which ensures that these entities are correctly valued.

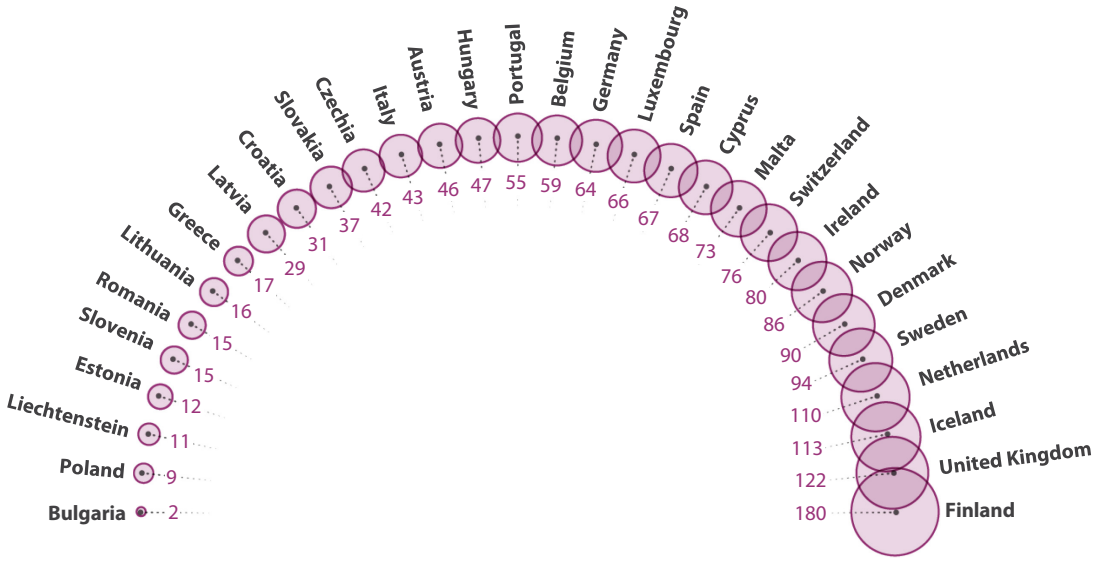
51 We also found that 'causes of death' data presents significant differences, indicating that, despite a number of guidelines on harmonisation, it is not encoded in the same way in all Member States. ***Figure 8*** illustrates the poor comparability of 'causes of death' data for dementia: it shows significant differences in the way Member States encode dementia, one of the most expensive diseases[19] and the second leading cause of death in high-income countries[20]. Moreover, although Alzheimer's disease accounts globally for 60-70 % of all dementia cases[21], its share under the 'dementia' category in 'causes of death' varied in 2018 from 3.4 % in Malta to 99.9 % in Romania. We also found high disparities in the share of deaths due to respiratory diseases such as pneumonia and influenza.

[19] El-Hayek, Y., *Tip of the Iceberg: Assessing the Global Socioeconomic Costs of Alzheimer's Disease and Related Dementias and Strategic Implications for Stakeholders*, Journal of Alzheimer's Disease, 70, 2019, p. 323-341.

[20] WHO, The top 10 'causes of death', 9 December 2020.

[21] WHO, Dementia: Key facts, 2 September 2021.

Figure 8 – Dementia, including Alzheimer's, as cause of death-an example of limited comparability (standardised death rate, 2018 per 100 000 inhabitants)



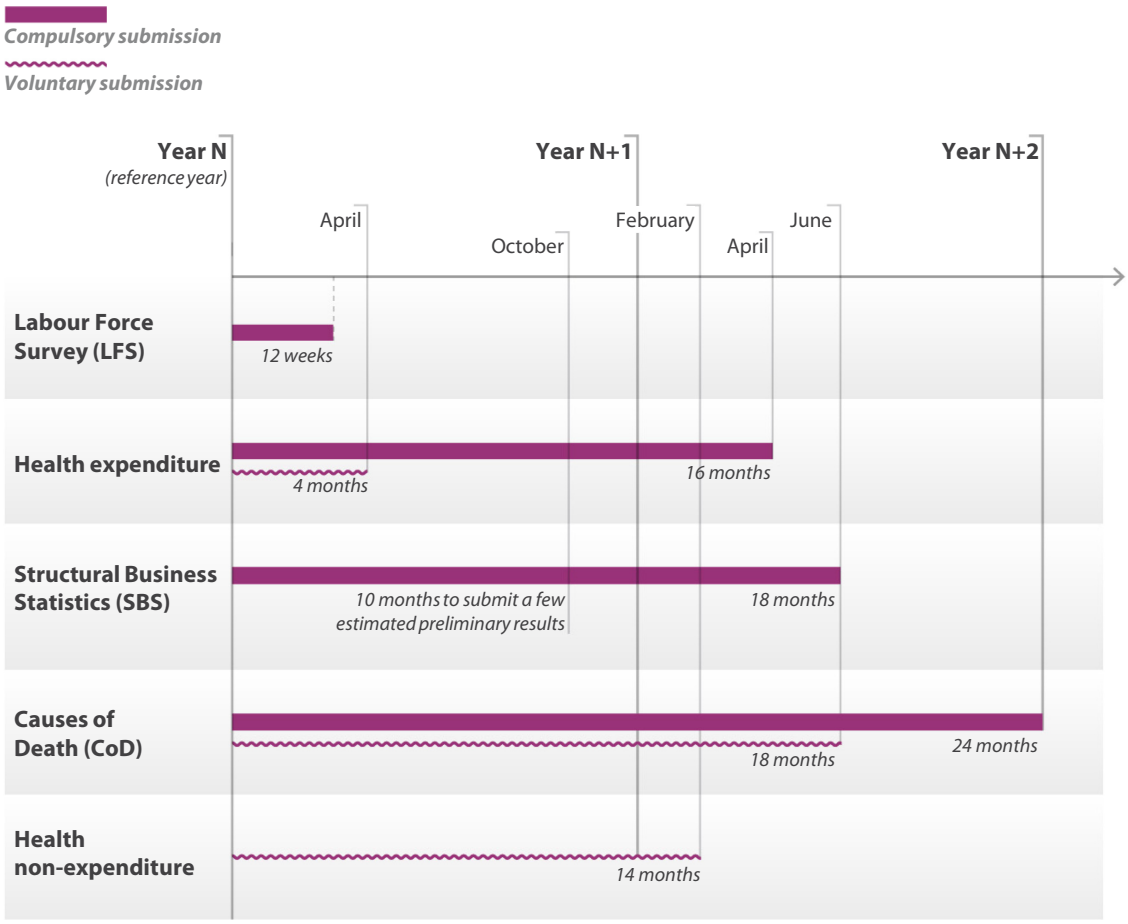
NB: Based on the International Classification of Diseases (ICD-10). The Alzheimer's disease and other dementias group includes G30 (Alzheimer) and F01-F03 (other dementias). France has not submitted data for 2018 (51 in 2017).

Source: ECA, based on Eurostat, CoD data.

52 Disparities in health outcomes can be attributed not only to differences in healthcare systems or population health conditions, but also to national and/or automated coding practices , which may lead to non-comparable data.

53 In statistics, **timeliness** and **punctuality** are important for effective decision-making. For the three audited areas, the sectoral regulations give reference periods and specific dates by which Member States must submit data and quality reports/metadata files to Eurostat (see ***Figure 9***). Most Member States only submit data if and as required by the regulations.

Figure 9 – Deadlines for the submission of Member State data



Source: ECA.

54 As shown in ***Figure 9***, statistics in some areas can be submitted up to 24 months after the reference period, which reduces their benefit for users. In 2018, 2019 and 2020, only six, nine and eight Member States respectively voluntarily sent health expenditure data within four months of the end of the reference year, corresponding to more timely data. Moreover, when new needs arise, the ESS does not have the necessary procedural flexibility to respond rapidly with new datasets. This has become particularly evident in connection with COVID-19, for which data was not promptly available for health and business statistics. With regard to causes of death data in particular, it was necessary to find alternative ways of calculating death rates, namely to organise a voluntary data collection on weekly deaths to allow for calculation of monthly excess mortality (see ***Annex V***).

55 We observed shortcomings in punctuality in all the statistical areas covered by our audit. Delays in delivering data that are already out of date render the entire process ineffective from the point of view of addressing user needs. The available information on the actual dates of Member State submissions provide evidence of delays in the LFS and health statistics in relation to the legal deadlines. Examples of

delays in health statistics are provided in ***Box 3***. No such information was available for the structural business statistics, so we were unable to assess the situation in that area.

Box 3

Examples of delays in the submission of data

Health expenditure

- In the 2018 and 2019 data collection rounds (reference years 2016 and 2017), one Member State sent the required information fully 44 days late. No other delays exceeded 17 days.
- The situation was worse in 2020, when eight Member States missed the submission deadline. The delay varied between 21 and 75 days.

Causes of death

- In 2018 (reference year 2016), three Member States sent the required data after the deadline. Metadata files were required, but three Member States submitted them late and seven did not send them at all.
- In 2019 and 2020 (reference years 2017 and 2018), 13 Member States were able to deliver data within 18 months. Three sent data after the deadline and did not send the required metadata files. France, notably, did not submit data for 2017 until September 2021 (a delay of 21 months), and has still not sent any data for 2018 and 2019. It was only after 12 and 14 months, respectively, that Eurostat sent letters to France for non-compliance with the regulation.

Health non-expenditure

- In 2018, ten Member States, including UK, delivered at least the first version of the data questionnaire after the agreed deadline, while four were only late with the final questionnaire.
- In 2019 and 2020, 19 and 11 Member States, respectively, submitted their data (at least one questionnaire) and metadata files after the deadline.

56 When compiling EU aggregates, Eurostat should estimate Member State data where necessary. We found that Member States often did not provide data for the three thematic areas in our audit, or that they reported late. Where this is the case (for example, health non-expenditure and structural business statistics), Eurostat has used estimates for the purpose of obtaining an EU aggregate. One exception was the 'causes of death' EU aggregate for 2018, which was not produced because Eurostat did not make an estimate for France (see ***Box 3***).

Harmonised information and monitoring indicators lacking in reporting to the Parliament and the Council

57 Finally, the Commission is required to report to the Parliament and the Council on the quality of the statistics it disseminates, every three years, with the exception of health statistics. We analysed the two most recent reports sent, which related to LFS and structural business statistics. We found that the level of detail was different in the two reports and the information was insufficient to obtain a clear picture of the existing weaknesses (see ***Box 4***).

Box 4

Weaknesses in reporting on quality to the Parliament and the Council

Labour force survey – 2019 report

- Information on some accuracy measures, but no comparative analysis for 2014-2017.
- There was a table showing the number of calendar days between the end of the reference year and Eurostat's dissemination of national data, but no indication of which Member States provided data when.
- No information on microdata access statistics, the clarity of websites, or which Member States had breaks in the time series.

Structural business statistics – 2021 report

- Member States are grouped into categories by degree of compliance, but there is no information on the grouping criteria, and the Member States in each category are not named.
- No information identifying Member States that reported late, or giving the length of delays.
- No reference to possible issues of comparability due to the introduction of the new statistical unit "enterprise".
- No information on the potential for efforts to improve user needs, such as more timely data and the availability of a dataset for SMEs as defined by the EU.

58 Neither report used detailed monitoring indicators to show the progress of the LFS and structural business statistics regulations. Appropriate indicators are needed for each statistical output to allow proper monitoring of the implementation of the regulations and the compilation of harmonised information on data quality.

Dissemination procedures are insufficiently harmonised

59 To ensure **accessibility** and **clarity** in the dissemination of statistics, Eurostat should among other things, have in place suitable written procedures, with a release policy and a release calendar[22]. The release policy should distinguish between different kinds of publications and breakdowns, and the release calendar and the revision policy and calendar should be made publicly available in advance.

60 The documents we examined demonstrate that Eurostat has established a set of tools and procedures, such as editorial rules, which it applies to the dissemination process. However, there are no rules establishing a timeframe from the collection to the publication of data by Eurostat, including setting a requirement to publish all Member State data on the same date. Since mid-2021, Eurostat has developed and published an annual release calendar for key products in accordance with the CoP.

61 We checked the publication dates of LFS and health expenditure data, which were the only files made available to us. During 2018-2020, not all Member States' LFS data were disseminated on the same date by Eurostat. The same applied to health expenditure data, because some Member States (see paragraph ***54*** and ***Box 3***) were late in submitting data and replying to Eurostat inquiries during the validation process. Delays in dissemination lengthened the period between the reference year and the publication date.

62 In accordance with the CoP, Eurostat developed and published an annual release calendar for key products for 2022. However, with regard to the three thematic areas in our audit, certain details (indicators, breakdown by classification level, reference periods, items undergoing revision, etc.) are not published.

63 One purpose of a revisions policy and calendar is to inform users about the foreseeable impact of planned changes on comparability, thus equipping them better to forecast and manage breaks in time series (see ***Annex III***). We found that Eurostat updated data as submissions came in and where revisions and corrections were

[22] As elaborated in the 2017 CoP.

required. Eurostat does not have a general revisions policy, but specific policies have been developed for areas such as business statistics. In other areas, such as 'health expenditure' and 'causes of death', data are revised but are not subject to a common policy; revisions depend on the policy of each Member State.

Pre-release access could compromise equality and allow information leaks

64 In order to build trust in official statistics, both the EU legal framework and international statistical principles stipulate that all users must be treated equally[23]. The relevant international guidelines are even more explicit, in that they also refer to simultaneous access (see ***Annex III***).

65 In the 2014 peer review, ESGAB considered that there was a strong case for a full ban on pre-release and recommended a full investigation into the impact of such action (see ***Annex VI***: 2014/11). Since then, ESGAB has formulated four other recommendations on, among other things, a reduction in the frequency and number of statistics subject to pre-release and on the harmonisation and transparency of pre-release practices among the ESS partners (2015/5, 2015/6, 2015/7, 2018/1[24]). We observed that Eurostat has made some progress in implementing these recommendations. In 2021, ESGAB requested that Eurostat conduct a critical review of its practice of pre-releasing statistics within the Commission (see ***Annex VI***: 2021/4). In response, Eurostat agreed to provide an overview of the current state of play in existing memorandums of understanding with the other Commission departments.

66 Pre-release access is justified at ESS level on the basis of the CoP[25]. Eurostat provides pre-release access for certain key data to its own top management, DG for Economic and Financial Affairs, DG EMPL and the ECB, as well as the media. Accredited news agencies receive news releases in advance under embargo through electronic

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[23] Articles 2 and 18(1) of Regulation 223/2009, as amended; Article 6(2) of the Commission's 2012 Decision on Eurostat and UN codified principles (UNFP and the Principles Governing International Statistical Activities).

[24] ESGAB's Annual Report 2015 and Opinion of the ESGAB concerning the implementation of the Commission's commitment on confidence (2018).

[25] Principle 6: "All users have equal access to statistical releases at the same time. Any privileged pre-release access to any outside user is limited, well-justified, controlled and publicised".

means[26]. By contrast, the Italian national statistical institute provides pre-release access only during a briefing for journalists with no outside contact (the 'lock-up' system)[27]. We consider that Eurostat's arrangement does not ensure the absence of data leaks.

67 Pre-release access to EU macroeconomic data poses the risk of economic profiteering by those who get early access (see ***Box 5***). The option of pre-release access could give rise to opportunities for economic benefit that may seriously distort markets.

Box 5

Research on the potential impact of pre-release on capital markets

An analysis carried out in **Sweden**, where there is no pre-release access, on trading data between January 2011 and March 2017 found that the Swedish krona did not show any fluctuations or signs of movement ahead of the release of official macroeconomic data.

In the **UK**, where there was broad pre-release access, an analysis of trading data between April 2011 and December 2016 showed that the pound moved sharply in the hour before the data was released. As a result, in July 2017 the UK national statistical institute decided to place greater restrictions on pre-release.

An analysis of trading data from 2012 to 2017 in **Germany**, where there was also widespread pre-release access, revealed that Euro currency futures moved more than usual in the thirty minutes before data was released. As a result, in December 2017 the German national statistical institute decided to restrict news agencies' pre-release access.

Lastly, in the **US**, where there is pre-release access, a 2016 analysis of trading data between January 2008 and March 2014 showed evidence of substantial informed trading before the official release time of US macroeconomic announcements.

Source: Kurov, A. et al., *Price drift before U.S. macroeconomic news: private information about public announcements?*, Working Paper Series No. 1901, ECB, 2016; Kurov, A. et al., *Drift Begone! Release Policies and Preannouncement Informed Trading*, 2021; Georgiou, A., *Prerelease access to official statistics is not consistent with professional ethics*, Statistical Journal of the IAOS, vol. 36, no. 2, p. 313-325, 2020; Georgiou, A., *Pre-release access to official statistics is not consistent with professional ethics: Some additional reflections*, Statistical Journal of the IAOS, vol. 38, no. 1, p. 321-329, 2022.

[26] Protocol on impartial access to Eurostat data for users, January 2014.

[27] ISTAT, Embargo: a policy for transmitting correct information.

68 For the purposes of transparency, international best practice recommends accompanying press releases with a pre-release access list. However, the Eurostat website does not provide comprehensive information on all users and designated posts benefitting from pre-release access.

69 In the ESS, at least ten countries (Czechia, Denmark, Croatia, Italy, Poland, Slovenia, Finland, Sweden, Iceland and Norway) have abolished the practice of providing pre-release access to governments and/or the media. Pre-release practices within the ESS therefore remain unharmonised (see paragraph ***65***).

The potential of peer reviews to deliver improvements has not been fully exploited

70 Peer reviews are used to assess overall compliance by Eurostat and national statistical systems with the principles of the CoP, which is the cornerstone of the common quality framework of the ESS. National statistical systems are peer-reviewed by a team of experts and ESGAB carries out the peer review of Eurostat. Since the CoP was first adopted in 2005, the ESS has organised three rounds of self-regulated peer reviews meaning that decisions concerning them are taken internally by the ESS Committee (see ***Figure 2***). In the following sections, we examine whether:

(a) the Commission has effectively implemented the second peer review recommendations;

(b) Eurostat's monitoring of the progress made by national statistical systems towards implementing the second peer review recommendations has been effective; and

(c) the design of the third round of peer reviews of national statistical systems is fit for purpose.

Commission has made good progress with most peer review recommendations

71 To ensure that ESGAB recommendations have maximum impact, it is important that the Commission implement them promptly and as fully as possible. If this is not done, it should provide proper justification in line with international statistical guidelines, recommendations and best practices.

72 In 2014, ESGAB conducted the second peer review of Eurostat and issued 16 recommendations addressing six main areas: the legislation underpinning procedures for the appointment and dismissal of senior management; the architecture of statistics legislation; the coherence of European statistics; dissemination; communication and users; and coordination (see ***Annex VI***). In response, Eurostat developed an implementation plan containing 20 improvement actions[28].

73 We found that the Commission made good progress on most of the peer review recommendations, particularly those relating to the legislative architecture, and communication and users. However, some key recommendations in the areas of independence and impartiality (legislation on the appointment and dismissal of senior management; and pre-release access – see paragraphs ***64***-***69***) were not accepted and/or were not effectively addressed[29].

74 In the 2014 peer review, ESGAB issued four recommendations addressing the full range of EU legislation on the recruitment, appointment and dismissal of Eurostat's senior management (see ***Annex VI***: 2014/1 - 2014/4). However, Eurostat did not accept these recommendations and propose any corresponding improvement actions. Eurostat stated that the recommendations either went beyond the CoP (2014/1, 2014/2 and 2014/4) or were sufficiently addressed in the EU legal framework (2014/3). In the next peer review (2021), ESGAB reiterated a number of its recommendations in this area (see ***Annex VI***: 2021/1 and 2021/2), which were still not accepted.

75 In 2012, we also recommended the following[30]: *"In order to achieve full implementation of the European Statistics Code of Practice the Commission should: […] (d) enhance the professional independence of the Chief Statistician of the European Union by appointing her/him for a fixed-term mandate after having received a favourable opinion from ESGAB and an endorsement by the European Parliament and the Council"*. Despite European Parliament's support, our recommendation was not implemented, as the Commission considered that the existing legal framework was appropriate and the necessary safeguards were already in place.

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[28] ESGAB's recommendations and Eurostat's improvement actions in response to the recommendations.

[29] ESGAB's Annual Report 2021.

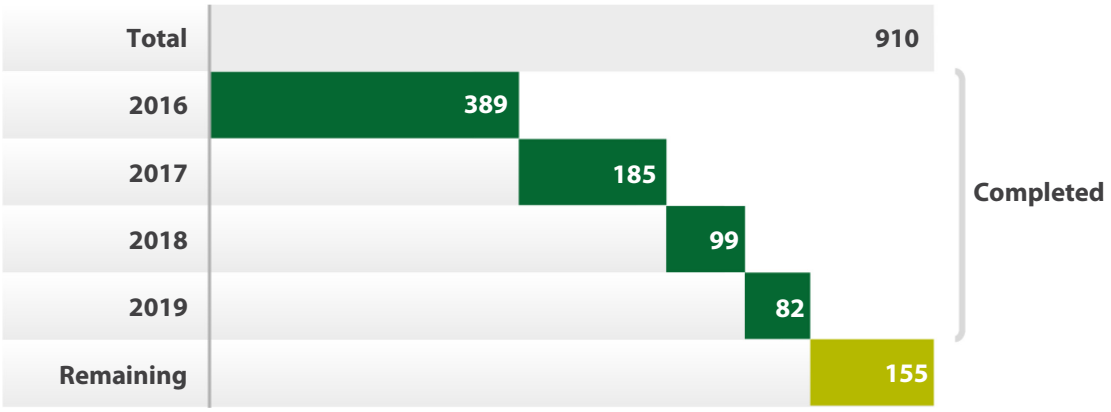
[30] ECA special report 12/2012.

Eurostat's assessment of Member States' implementation of peer review improvement actions is largely based on mutual trust among statistical authorities

76 Eurostat's coordination role includes the effective monitoring of recommendations made to Member States as a result of expert peer reviews. After the second peer review (2013-2015), Eurostat used annual questionnaires to monitor national statistical institutes' implementation of agreed improvement actions (2016-2019). As a general principle, the entire monitoring exercise was largely based on trust, since improvement actions were implemented under the responsibility of national statistical institutes, which had to ensure they were appropriate, complete and adequately documented. It was only for the last round of monitoring, in 2019, that Eurostat made an effort to verify reported progress by sending out clarification requests to Member States.

77 ***Figure 10*** shows national statistical institutes' progress over time towards completion of the improvement actions resulting from the second peer review. According to the most recently available monitoring report, 155 out of 910 actions identified (17 %) were still incomplete at the end of 2019 (see ***Annex VII*** for a detailed breakdown).

Figure 10 – Completion of improvement actions since 2016



NB. 2019 data includes 18 actions "closed" because no further work was planned. Of the 173 incomplete actions, 8 were in the UK and no further information was available on their status.

Source: ECA, based on Commission data.

78 We found that the implementation of improvement actions was hampered where they depended on bodies outside the national statistical institute, or where political will and/or support was lacking. Actions of this kind typically involved legislative changes (e.g. on the appointment and dismissal of heads of national statistical institutes, access to administrative data, creation of oversight bodies) but some concerned human or financial resources or even IT development.

79 In Italy and Finland the legislative process has stalled, with actions still not completed more than seven years after the second peer review. In Croatia and Cyprus, the necessary legislative changes were made after a considerable delay of around five years. Senior representatives of key stakeholders (ministries, parliament) were not involved in the peer review process early enough to facilitate the implementation of key actions on issues regarding institutional set-up and governance (professional independence).

80 In addition to professional independence, national statistical authorities need adequate human, financial and technical resources to implement their statistical programmes (see ***Annex III***). We examined ESGAB's annual reports, the peer reviews of Member States and information about resources, and asked the five countries in our sample and other stakeholders for their views on governance in national statistical systems.

81 We found that professional independence is still not always guaranteed, especially when it comes to the appointment and dismissal of heads of national statistical institutes. As other national authorities are usually part of a ministry, their independence is even more uncertain. Our observation corroborates Eurostat's finding that 25 out of 72 improvement actions (35 %) relating to professional independence had still not been completed as of December 2019 (see ***Annex VII***).

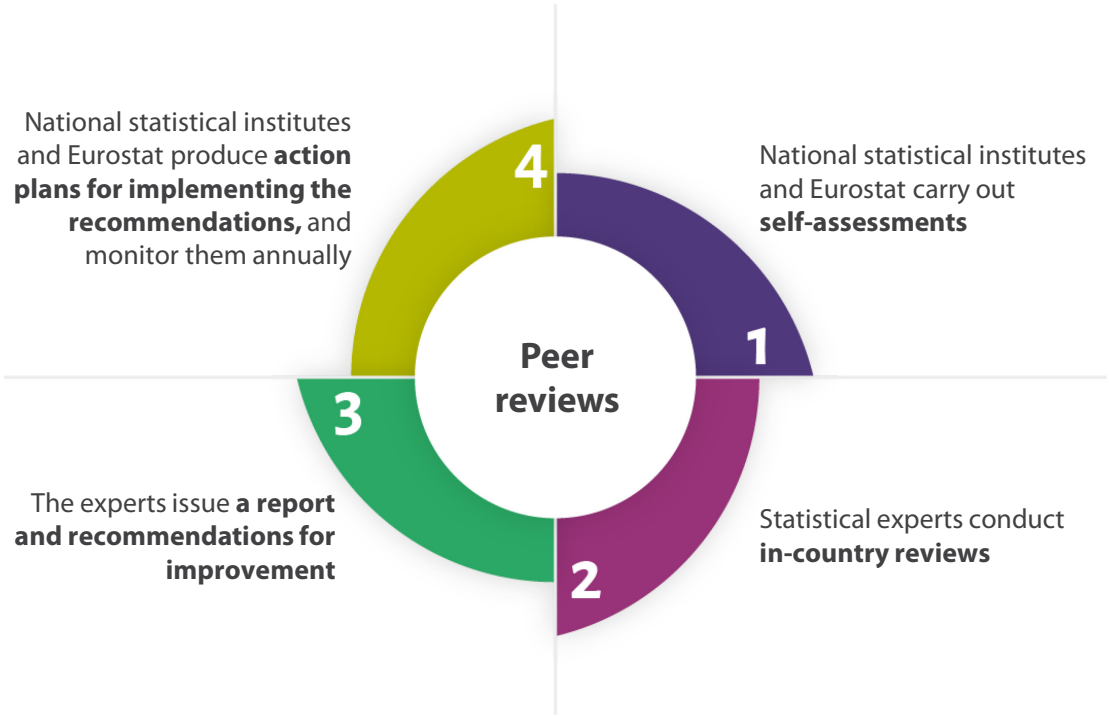
82 A few national statistical institutes also shared with us their concerns about their financial dependence, and mentioned the insufficiency of their resources in the light of the increasing demand for new statistics and the need for significant technological investment. In this regard, in November 2021 the Council recognised that both Eurostat and national systems must be granted adequate human and financial resources to allow them to work further with new data sources and digital technologies[31].

[31] Council Conclusions on EU statistics as approved by the ECOFIN Council, 9 November 2021.

The design of peer reviews has improved over time, but important shortcomings remain

83 The objective of the peer reviews is to assess compliance by ESS partners with the principles of the CoP, which is the cornerstone of the common quality framework established to ensure the quality of European statistics. In contrast, most advanced non-European statistical systems are only self-assessed. Beyond compliance, another purpose is to provide recommendations that help statistical authorities to improve and develop their statistical systems. ***Figure 11*** presents the key stages of peer reviews.

Figure 11 – Peer reviews at a glance



Source: ECA, based on Eurostat.

84 ***Table 2*** shows how key elements of the design of peer reviews have evolved over time. The first peer review (2005-2007) mainly sought to raise awareness of the CoP and was an introductory exercise for all participants. However, it had significant weaknesses[32]. The second round (2013-2015) was improved in terms of design, included external experts and achieved greater international recognition. The third round (2021-2023) also implemented some further ESGAB recommendations. The Member States in our sample were generally satisfied with Eurostat's input in the design process and stressed that they were involved from the start in drawing up the methodology.

[32] See ECA special report 12/2012: "Did the Commission and Eurostat improve the process for producing reliable and credible European statistics?" and ESGAB Annual Report 2011.

Table 2 – Key design aspects of the three rounds of peer reviews

	1st (2005-2007)	2nd (2013-2015)	3rd (2021-2023)
Approach	Peer review approach	Audit-like approach	Combination of both approaches
Coverage of CoP	Partial (6 principles)	Full (15 principles)*	Full (16 principles)*
Coverage of national statistical systems	NSI only	NSI and up to 3 ONAs	NSI and 3-6 ONAs
Peer reviewers	Representatives from other NSIs	Representatives from other NSIs and an external expert	Representatives from other NSIs, an external expert and a member of Eurostat

* N.B. since 2017 the CoP has had 16 principles.

Source: ECA.

85 We found during our meetings with stakeholders that there is consensus around the fact that peer reviews need to be conducted frequently enough to allow for continuous quality improvements in the ESS. The average period between the second and the third rounds will be seven and a half years, and it will be almost 10 years for Slovakia. With this time lag, it is not possible to properly capture the effects of changes such as technological advances and new data sources, to which the ESS needs to remain alert and adaptable.

86 For peer reviews to be comprehensive and fair to all countries, they also need to evaluate critical features of each national statistical system in its entirety. However, the 2020 methodology provided for a maximum of six participating other national authorities per country, an arbitrary threshold that does not take account of the degree to which the production of European statistics is decentralised within a country (see ***Annex VIII***). In addition, the recommended methodology was vague and subjective, and did not apply comparable selection criteria to all countries. Furthermore, participating other national authorities are selected by national statistical institutes rather than at EU level, as the credibility and consistency of the exercise would have required. Neither ESGAB nor any peer review experts had a say in selecting other national authorities.

87 Many national statistical institutes limited the number of other national authorities to three. This is another arbitrary threshold, which brings the risk of excluding key other national authorities for European statistics. A national statistical institute even stated explicitly that its starting point was to select only three other national authorities. By taking this approach, it did not include the other national authority responsible for 'causes of death' data – a body which in two consecutive years failed to submit the required data to Eurostat.

88 ESGAB was set up to improve the independence, integrity and accountability of Eurostat and the ESS[33] to respond to weaknesses in national systems[34]. However, ESGAB's role is limited to providing Parliament and the Council with an annual report that includes its independent assessment of the implementation of the CoP in the ESS as a whole, with an emphasis on Eurostat rather than national statistical systems. In 2012 we recommended developing a supervisory function by extending ESGAB's remit[35]. Although accepted, the recommendation was not effectively implemented.

89 Currently, the "self-regulated" nature of ESS peer reviews means that their design (timing, scope, approach, the selection procedure for other national authorities, and the composition and selection of expert teams) is agreed through consultation among partners representing a range of national rather than broader EU perspectives. Despite its independence from national interests, ESGAB does not decide on key design aspects.

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[33] Established by Decision No 235/2008/EC of the European Parliament and of the Council.

[34] COM(2005) 217 final and W. Radermacher (2011), European Statistics: People Count.

[35] ECA special report 12/2012: "Did the Commission and Eurostat improve the process for producing reliable and credible European statistics?"

Conclusions and recommendations

90 Our overall conclusion is that the Commission provides European statistics that are generally of sufficient quality for policy-makers, businesses and citizens. However, some weaknesses are still to be addressed.

91 Eurostat's strategic plans mainly reflect the institutional priorities set out in successive European statistical programmes. However, they fall short on measuring progress towards the achievement of objectives (see paragraphs ***22***-***23***).

92 In its current composition, European Statistical Advisory Committee, the main representative body for users, does not effectively represent all users, such as international organisations and the collective views of the academic and research community. In addition, the European Statistical Advisory Committee has not made significant progress in its relations with national user councils. User needs are not fully met, as there are data gaps in the audited areas. The European statistical programme has not always prioritised action to address these gaps in order to improve the relevance of European statistics and Eurostat does not apply the SME definition correctly (see paragraphs ***24***-***29***).

Recommendation 1 – Better meet user needs

In order to better meet user needs, the Commission should make the European Statistical Advisory Committee more inclusive, by a balanced and effective representation of all users, assisted by experts in specific domains.

Target implementation date: 2023

93 Despite increased funding through the European statistical programme, the production of European statistics still partially relies on financing by other Commission departments. The funding provided largely covers institutional needs. Although a few EU grants finance innovative projects, a significant number actually finance compulsory statistical activities; the added value that the European statistical programme could bring to facilitating innovative projects is therefore limited. Although individual grants were assessed, there was generally no justification of the qualitative assessment of the results, which risks limiting the scope for follow-up and diminishing the sustainability of results (see paragraphs ***30***-***34***).

Recommendation 2 – Aim to enhance the European statistical programme's financial independence and prioritise innovative projects

The Commission should:

(a) assess the feasibility of making the next European statistical programme less reliant on multiple sources of financing; and

(b) prioritise innovative projects with a clear EU added value.

Target implementation date: 2024

94 Eurostat has an appropriate quality management system in place. Its support for Member States is largely appropriate. However, there are no internal guidelines setting a framework for providing support, and complex methodological problems can take a long time to resolve, which affects several data quality dimensions, including comparability (see paragraphs ***35***-***39***).

95 We found that Member States' quality reports do not always comply with the guidelines, and are not harmonised between and within statistical processes. The level of detail varies between Member States, making it difficult to understand and assess data quality properly. The frequency of quality reporting varies between statistical activities, and reporting is not compulsory for all of them. These weaknesses result in incomplete information for users (see paragraphs ***40***-***43***).

96 Eurostat has not been empowered to perform verification work on-the-spot in the three areas we audited. It validates the data submitted by Member States, but does not always properly document the result of its assessments. It does not carry out in-depth assessments of all quality dimensions, such as comparability and coherence. (see paragraphs ***44***-***52***).

97 Timeliness is a concern for health and business statistics in particular, as some datasets can be submitted 14 to 24 months after the reference year. Owing to the lack of real-time data for 'causes of death', COVID-19 mortality rates are estimated by alternative means. Delays in delivering data render the entire process ineffective for users. Eurostat has guidelines for assessing compliance with the regulations, but these do not go as far as establishing a timeline. ESS does not have the flexibility to respond quickly. In a case of gaps in 'causes of death' data at national level, Eurostat has not made estimates, so no EU aggregates are available (see paragraphs ***53***-***56***).

98 Where required by the legislation, Commission submits reports to the European Parliament and the Council on the quality of statistics. However, these do not provide a clear picture of the existing weaknesses, and they lack detailed monitoring indicators with which to demonstrate progress in respect of the regulations. Some key sectoral regulations, for instance on health, do not require the submission of such reports (see paragraphs ***57***-***58***).

Recommendation 3 – Improve Member States' quality reports and the quality assessment of European statistics

The Commission should:

(a) ensure that the quality reports it receives from Member States are based on common standards and contain complete and comparable information; and

(b) perform more thorough and better documented assessments in the areas of labour, business and health statistics so as to enhance data accuracy, timeliness and punctuality, comparability and coherence.

Target implementation date: 2024

99 Although Eurostat has developed a release calendar for the dissemination of statistics, the calendar lacks certain details. In addition, Eurostat does not yet have a general revisions policy, and does not release all Member States' labour force survey and health expenditure data on the same date (see paragraphs ***59***-***63***).

100 Eurostat provides some Commission departments and media channels with pre-release access to data that could give rise to opportunities for economic benefit and leaks. The provisions for pre-release access are not described in full on Eurostat's website, and no list of all users with privileged access is made public (see paragraphs ***64***-***69***).

Recommendation 4 – Reconsider the current practice of pre-releasing statistics

The Commission should:

(a) carefully assess the necessity and the added value of granting pre-release access; and

(b) if maintained, publish comprehensive information on pre-release access and strengthen its safeguards against potential leaks.

Target implementation date: 2023

101 The Commission has made good progress with most peer review recommendations, such as those relating to legislative architecture, and communication and users. However, it has not taken up some key recommendations on independence and impartiality (see paragraphs ***70***-***75***).

102 Eurostat's assessment of Member States' implementation of peer review improvement actions is largely based on mutual trust among statistical authorities. The implementation of some improvement actions has been hampered because they depended on bodies outside the national statistical institute and political support was lacking. Key improvement actions, such as amending national statistical legislation, have been only partially implemented. Moreover, professional independence is still not a feature of all Member States, in particular at the level of other national authorities (see paragraphs ***76***-***82***).

103 The design of the peer review tool used to assess Eurostat and ESS compliance with the CoP has improved since it was first used. However, peer reviews are not frequent enough to allow for continuous quality improvements, and they are not always comprehensive in their coverage of national statistical systems. Despite its independence from national interests, European Statistical Governance Advisory Board has a limited role in the design of peer reviews (see paragraphs ***83***-***89***).

Recommendation 5 – Assess the feasibility of strengthening the mandate of the European Statistical Governance Advisory Board

The Commission should assess the feasibility and appropriateness of extending the European Statistical Governance Advisory Board's current mandate to include deciding on all the key design elements of the peer review exercise.

Target implementation date: 2023

This Report was adopted by Chamber IV, headed by Mr Mihails Kozlovs, Member of the Court of Auditors, in Luxembourg at its meeting of 26 October 2022.

For the Court of Auditors

Tony Murphy
President

Annexes

Annex I – Official statistics in the context of the COVID-19 crisis

COVID-19 has posed significant challenges to statistical systems, putting the authorities in charge of statistical operations under considerable strain. The challenge has been most acute to ensuring the timely delivery of public health statistics and providing adequate information on the "real sector" of the economy, specifically households and SMEs.

The pandemic initially disrupted data flows from businesses and households, causing problems for official statistics. Traditional face-to-face data collection methods were no longer feasible, and some surveys became impossible and had to be postponed. COVID-19 also posed a challenge to existing standards in terms of interpretation and adequacy. As a result, official statistics had to adjust quickly to the changing conditions. Alternative data collection methods, such as phone calls, internet applications, or big data have become widely used. However, this transition may affect the quality and comparability of data. Initially, policymakers and media primarily met the demand for almost real-time global epidemiological data through dashboards, such as that developed by Johns Hopkins University, which operated independently of official statistical systems. Later, the WHO and the ECDC created their own dashboards, thus bridging the gap but with comparability issues.

According to ESGAB, the ESS responded positively to the COVID-19 crisis. Even though several phases of statistical data production were severely impacted by the pandemic, the ESS countries and Eurostat managed to continue producing key indicators without interruption. In order to ensure continued quality and comparability of statistics in the changed environment, Eurostat published more than 30 guidelines addressing both general and sectoral methodological issues. Eurostat also created a dedicated section on its website to provide users with the latest information. It provided a list of COVID-19 datasets and launched the European statistical recovery dashboard, which currently includes 27 recovery-relevant indicators on health, social, economic, business and environmental topics. Lastly, Eurostat introduced several new crisis-specific indicators (e.g. weekly deaths and monthly excess mortality) in order to better assess the effects of the pandemic. In November 2020, the heads of NSIs and Eurostat agreed on a coordinated response to future crises affecting the ESS, known as the "Wiesbaden Memorandum", which could facilitate a joint approach to future crises.

Annex II – Selected statistical activities

Thematic area: Labour	
Statistical activity: Labour Force Survey (LFS)	
Description	Labour force status is the cornerstone concept for labour market statistics. The EU-LFS is the largest European household sample survey providing quarterly and annual results on labour participation by people aged 15 and over, as well as on persons outside the labour force. It covers residents in private households. Individuals are classified in three categories as employed, unemployed or outside the labour force (previously called economically inactive). Further breakdowns, such as by gender and age, are available. The EU-LFS is conducted by the NSIs, and the data are centrally processed by Eurostat. The NSIs are responsible for designing national questionnaires, drawing the sample, conducting interviews, and sending results to Eurostat in accordance with a common coding scheme. The definitions used in the EU-LFS follow the Resolution of the 13th International Conference of Labour Statisticians, convened in 1982 by the International Labour Organization (referred to as the 'ILO guidelines').
Responsibility for assessing data quality	Member States at national level; Eurostat for the data sent by all Member States.
Legal framework	The EU-LFS has been based on European legislation since 1973. Main regulation until 2020: — Regulation (EC) No 577/98 Main regulations in force since the 2021 data collection: — Regulation (EU) 2019/1700 (framework regulation), Commission Delegated Regulation (EU) 2020/256, Commission Delegated Regulation (EU) 2020/257, Commission Implementing Regulation (EU) 2019/2181, and Commission Implementing Regulation (EU) 2019/2240
— **Periodicity**	Quarterly, annual
— **Submission date**	For quarterly data: within 12 weeks of the end of the reference period. From 2021 until 2023, within ten weeks of the end of the reference period. Annual data is derived from the four quarters. Where administrative data is used to supply data on the 'wages from the main job' survey characteristic, this data may be forwarded to Eurostat within 21 months of the end of the reference period.
— **Publication date**	No reference in the legal framework.

Thematic area: Business statistics	
Statistical activity: Structural business statistics - SBS	
Description	SBS describes the structure, conduct and performance of economic activities, down to the most detailed activity level (several hundred economic sectors). SBS are, in a broad sense, the aggregated datasets developed, produced and disseminated to support the decision-making process for policies related to the business sector in the EU, and to monitor the impact of these policies, and to provide this information to the public, business and science.
Responsibility for assessing data quality	Member States at national level; Eurostat for the data sent by all Member States.
Legal framework:	SBS are submitted annually by the EU Member States, based on a legal obligation since 1995.
— **Periodicity**	Annual
— **Submission date**	Data should be sent no later than 18 months after the reference year. A small number of estimated preliminary results should be submitted no later than 10 months after the reference year.
— **Publication date**	No reference in the legal framework

Thematic area: Health	
Statistical activity: Health expenditure - HE	
Description	Healthcare expenditure quantifies the economic resources dedicated to healthcare functions, excluding capital investment. Healthcare expenditure concerns itself primarily with healthcare goods and services that are consumed by resident units, irrespective of where that consumption takes place (it may be in the rest of the world) or who is paying for it. As such, exports of healthcare goods and services (to non-resident units) are excluded, whereas imports of healthcare goods and services for final use are included. Healthcare expenditure data provides information on expenditure in the functionally defined area of health, distinguished by provider category (e.g. hospitals and general practitioners), function category (e.g. services of curative care, rehabilitative care, clinical laboratory, patient transport, and prescribed medicines) and financing scheme (e.g. social security, private insurance companies, and households). For the collection of data on health expenditure, the System of Health Accounts (SHA) and the related set International Classification for Health Accounts is used. The SHA sets out an integrated system of comprehensive and internationally comparable accounts, and provides a uniform framework of basic accounting rules and a set of standard tables for reporting health expenditure data. The System of Health Accounts – SHA 2011 is a statistical reference manual giving a comprehensive description of financial flows in healthcare.
Responsibility for assessing data quality	Member States at national level; Eurostat, the OECD and the WHO each assess different groups of Member States.
Legal framework:	Commission Regulation (EU) 2015/359 implementing Regulation (EC) No 1338/2008
— **Periodicity**	Annual; the reference period is the calendar year.
— **Submission date**	Data and reference metadata for reference year N must be submitted within 16 months after the reference year.
— **Publication date**	No reference in the legal framework.

Thematic area: Health	
Statistical activity: Health non-expenditure – HNE	
Description	The joint OECD/Eurostat/WHO data collection on healthcare non-expenditure complements the existing joint data collection on health expenditure. For that reason, hospitals and resources are defined under the System of Health Accounts (SHA). The healthcare resources covered are healthcare employment, physical resources, and health activities.
Responsibility for the assessment of data quality	Member States at national level; Eurostat, the OECD and the WHO each assess different groups of Member States.
Legal framework:	The Commission intends to adopt a legal basis for data collection in 2023. However, for the time being, data is collected on a voluntary basis.
— **Periodicity**	Annual
— **Submission date**	Data should be provided within 14 months after the end of the reference year.
— **Publication date**	No reference in the draft legal framework.

Thematic area: Health	
Statistical activity: Causes of death - CoD	
Description	CoD data provides information on mortality patterns and forms a major element of public health information. European statistics on 'causes of death' concern all registered deaths and stillbirths occurring in each Member State, distinguishing between residents and non-residents. CoD data refers to the underlying cause, which – according to the WHO – are "the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury". CoD data are classified by the 86 causes in the "European shortlist" of 'causes of death', based on the International Statistical Classification of Diseases and Related Health Problems (ICD). CoD data are derived from death certificates. The information provided in medical certificates specifying cause of death is mapped to the ICD.
Responsibility for assessing data quality	Member States at national level; Eurostat for the data sent by all Member States.
Legal Framework:	Commission Regulation (EU) 328/2011 implementing Regulation (EC) No 1338/2008.
— **Periodicity**	Annual
— **Submission date**	For each year, data should be provided within 24 months of the end of the reference year (by 31/12); voluntary data should be provided within T+18 months (by 30/06).
— **Publication date**	No reference in the legal framework

Source: ECA, based on information available on Eurostat's website.

Annex III – Examples of international statistical guidelines, recommendations and best practices

Topic and source	Description
Statistical office	
European Council (2010)	Statistical offices should be fully independent for data provision.
UNECE (2016)	The National Statistical Office is a professionally independent body organised under the authority of Prime Minister/President of the country or an autonomous state body with a State Statistical Board as the body of governance.
Resources	
UN (2015)	The head of the statistical agency is responsible for budget management and has a right to publicly comment on the budget allocated to the statistical agency.
OECD (2015)	National statistical authorities have sufficient funding for statistical production and dissemination, to support staff training, to develop computing resources, and to implement innovation. Resources are adequate in magnitude and in quality to meet statistical needs.
UNECE (2018)	The NSO budget needs to cover the overall production of statistics and staff costs, but also the necessary funds for investing in infrastructure, new technologies and new statistical methodologies, etc.
OECD (2015)	The producers of official statistics shall be granted adequate human, financial and technical resources necessary for the implementation of the statistical programmes.
OECD (2020)	National statistics offices need a certain level of functional and budgetary autonomy, and legal personality, to be able to manage and allocate their human, financial, and technical resources, within the overall limits prescribed either by the government or by the Parliament, to which national statisticians are supposed to be accountable (e.g. through a report on statistical activities and budgetary execution), to acquire rights or contract obligations with third parties under its own independent responsibility, to identify needs in human and technical resources, or to plan and prioritise activities and statistical operations according to annual and multi-annual plans.
Chief Statistician	
UNECE (2016)	The National Statistical Office is led by the Chief Statistician appointed by Prime Minister/President of the country on the proposal of the government for a fixed term of [X] years, on the basis of a publicly announced vacancy and an open competition based on the relevant professional competences only. The initial term of office may be renewed once.
	The Chief Statistician should not be part of regular mobility schemes in the public administration where such a system may be otherwise applicable at this level.
	The Chief Statistician should be appointed for a term of office fixed in the statistical law; for underlining professional independence the term of office should be different from the term of the government. The Law provides the possibility to renew the term of office once and an option for renewing it further exclusively on the basis of a new publicly announced vacancy and an open competition.
OECD (2020)	Different durations for the mandate of the National Statistician and for the political authorities could reinforce the professional independence of the producers of official statistics.

Topic and source	Description
UNECE (2016)	The term of office of the Chief Statistician cannot be terminated before its expiry for any reasons compromising statistical principles. The term of office may be terminated only for the following reasons: (a) Own resignation of the Chief Statistician; (b) Termination of citizenship; (c) A court decision declaring the Chief Statistician incapable or of limited capacity to work; (d) A lawful sentence of the court for intentional crime, or imprisonment according to the lawful sentence of the court; (e) Death of the Chief Statistician, in which case the duties shall be considered terminated.
OECD (2020)	The procedures for dismissal of the national statistician, including a list of conditions under which he/she can be dismissed, should be clearly set out in the law on statistics to ensure that they are independent from changes in government.
Quality assessment	
UNECE (2016)	Assessments of the institutional environment, processes and outputs of the National Statistical System may be carried out by internal and external experts. These assessments could focus especially on the principles of official statistics and application of international statistical standards and recommendations. They can be initiated by a Producer of Official Statistics, the Statistical Council or an international organization. Such assessments can use national (e.g. from the scientific community) or international experts. The results of such assessments should be made public. Moreover, the Chief Statistician has the responsibility to regularly assess whether the Other Producers of Official Statistics comply with the principles of official statistics.
	To ensure quality of statistics, the Producers of Official Statistics have the obligation and right to apply statistical methods, such as editing of individual data, record linking or other forms of combining data from different sources and using estimation techniques. This includes correct treatment of non-response, both for sample and more exhaustive surveys. The National Statistical Office must build up its methodological know-how, follow up with international developments and share this knowledge with Other Producers of Official Statistics.
Dissemination	
UN (2015)	Advance notice is given on changes to methods or classifications and revisions in general. Revision policy for those outputs that are subject to scheduled and non-scheduled revisions is publicised, errors discovered in published statistics are corrected at the earliest possible date and publicised. Internal procedures for error reporting and correcting are in place.
UNECE (2016)	Revisions are the result of a planned process when data accumulate or concepts, definitions and classifications used in official statistics change, for example because of changes to international standards. Producers of Official Statistics should inform users in time about planned changes and about the effect on comparability over time, such as breaks in time series. At the time of major revisions in statistics, the time series before the change must be recompiled using the new concepts, definitions and classifications to ensure a sufficient length of coherent time series before and after the change.
OECD (2015)	Equal access to official statistics for all users at the same time is guaranteed by law. If a public or private body has access to official statistics prior to their public release, this fact and subsequent arrangements are publicised and controlled. In the event that a leak occurs, pre-release arrangements are revised so as to ensure impartiality.

Topic and source	Description
UNECE (2016)	Strict policy of fully equal and simultaneous access to official statistics for all users, without any pre-release access. Where pre-release practice exists, it should be reviewed in order to discontinue the practice or reduce it.
OECD (2020)	Two indicators are recognised as relevant to measuring transparency and the perception of impartiality and independence of the producers of official statistics: first, standard release time and advance release calendars providing 12-month-ahead notice of the precise release dates (the Recommendation identified the rolling 12-month-ahead release calendar, where the release dates become gradually available, as a good practice). Second, procedures in place to ensure the equal access of all users to statistical release at the same time.
UNECE (2016)	All Producers of Official Statistics must establish a public, pre-announced release calendar with the planned dates and times for the releases of official statistics. This informs all users about when official statistics are released and ensures that statistics are disseminated irrespective of the reaction of the government or political actors.
	All releases of official statistics need to be accompanied by sufficient, up-to-date metadata and explanatory comments, written by the responsible producer, to enable users to understand the resulting statistics. Metadata may provide information on the attributes of the data, such as the length and consistency of time series, average revisions to be expected, etc. Expert users will need more detailed metadata to evaluate the statistical methods applied and the quality of the statistics.
UNECE (2016)	The main requirement related to dissemination is that official statistics shall be disseminated in a timely and punctual manner in full compliance with the principles of official statistics and the specific articles on dissemination. The protection of confidentiality and equal access to official statistics are the key principles pertaining to dissemination. The principle of equal and simultaneous access to statistics for all users, including governmental users, is central to the ethics of official statistics. Through dissemination on the web, this principle can today be implemented in a very rigorous way, by specifying an exact release time when new statistics will become available. The generic law imposes a strict policy of fully equal and simultaneous access to official statistics for all users, without any pre-release access. Equal access is also an important indicator of the professional independence of the Producers of Official Statistics. Where pre-release practice exists, it should be reviewed in order to discontinue the practice or reduce it. If a country chooses to deviate from the principle of equal and simultaneous access, an article needs to be added to the statistical law to regulate the pre-release access for selected authorities and selected statistics. Any user to whom pre-release access is granted must sign an embargo declaration. The public must be informed which authorities have pre-release access, to which data and at what time.
Peer reviews	
INTOSAI (2019)	The reviewed Supreme Audit Institution might also request the original peer review team to verify the extent to which recommendations have been followed after an agreed time (e.g. one, two or three years), depending on the level of importance and significance of the recommendation. After verification, the team may prepare a further report on the degree of implementation of the recommendations as well as on possible updates to the original recommendations. Especially in those cases in which the first peer review results had been published, it is good practice for the results of the follow up peer review to be also published, in the interest of transparency and accountability.

N.B. The list is non-exhaustive.

Annex IV – List of projects selected for the audit

	Project description	Country	Year	Beneficiary	Fund provider	Approved grant amount (in euros)
1	LFS 2016 ad hoc module on young people on the labour market	Finland	2015	Statistics Finland	DG EMPL	63 813
2	Quality improvements for the LFS*	Croatia	2016	Croatian Bureau of Statistics	ESP 2013-2020	28 424
3	LFS 2017 ad hoc module on self-employment	Cyprus	2016	Statistical Service of Cyprus	DG EMPL	25 773
4	Quality improvements for the LFS*	Italy	2016	Istituto Nazionale di Statistica (ISTAT)	ESP 2013-2020	29 000
5	LFS 2017 ad hoc module on self-employment	Italy	2016	Istituto Nazionale di Statistica (ISTAT)	DG EMPL	140 000
6	Quality improvements for the LFS*	Finland	2017	Statistics Finland	ESP 2013-2020	177 474
7	Preparation, collection and transmission of statistical data on ICT usage and e-commerce in enterprises and on ICT usage in households – 2014*	Cyprus	2013	Statistical Service of Cyprus	ESP 2013-2020	98 834
8	Microdata linking of structural business statistics and other business statistics	Finland	2015	Statistics Finland, Denmark, Norway, Sweden, Netherlands and Latvia, Multi-country project	ESP 2013-2020	185 467
9	Microdata linking of structural business statistics and other business statistics	Italy	2015	Istituto Nazionale di Statistica (ISTAT)	ESP 2013-2020	33 909
10	Structural business statistics development*	Lithuania	2018	Statistikos Departamentas Prie Liet	ESP 2013-2020	16 340
11	Health accounts (SHA 2011)*	Finland	2014	Institute for Health and Welfare (THL) Finland	DG SANTE	52 748
12	Morbidity statistics	Croatia	2019	Hrvatski Zavod Za Javno Zdravstvo	DG SANTE	52 748
13	Lithuanian diagnosis-based morbidity data calculation	Lithuania	2019	Higienos Institutas	DG SANTE	13 302

NB. Projects marked * refer to compulsory statistical activities

Annex V – Seeking alternatives for more timely data on COVID-19 deaths

Europe's first deaths from COVID-19 were confirmed in February 2020. However, there is no prospect of complete European 'causes of death' statistics for 2020 being published before 2023 (see ***Figure 10***). In order to address information needs during the pandemic, two sets of almost real-time data were collected: number of COVID-19 deaths on a daily basis, and deaths as demographic vital events on a weekly basis.

Number of COVID-19 deaths: The European Centre for Disease Prevention and Control (ECDC) has been publishing the number of COVID-19 deaths in Europe from sources such as ministries of health and public health institutes. The WHO and Johns Hopkins University have been publishing the same statistics globally. However, due to national differences in the classification of 'causes of death', as well as several issues of under- and over-coverage, the data may differ substantially and complicate country comparisons. For instance, at the start of the pandemic Belgium registered all deaths where COVID-19 was *possibly* involved as being *actually* due to COVID-19, without requiring laboratory tests. By contrast, Italy required a positive test result for deaths to be attributed to COVID-19, and Cyprus used a combination of the two approaches.

Deaths and excess mortality: This method, for which NSIs are responsible, is considered by experts to be a more appropriate measure of the pandemic's total impact on deaths, although it does not take account of recent demographic changes such as the ageing of populations. It captures COVID-19 deaths that were not correctly diagnosed and reported, as well as deaths from other causes that are attributable to the overall pandemic conditions. The ESS introduced the data collection of weekly deaths in April 2020 and started to publish excess mortality in December 2020. The NSIs have continued to send to Eurostat weekly deaths data on a voluntary basis.

The table below shows the data for 2020 and 2021 in EU and EFTA countries, calculated using both methodologies. The excess mortality death rate is around 34 % higher than the ECDC's figures for COVID-19 deaths.

	COVID-19 deaths (ECDC)	Excess mortality* (Eurostat)
2020	393 570	557 823
2021	519 136	667 599
Total	**912 706**	**1 225 422**

* Compares the number of deaths from all causes observed during the pandemic, and the number of deaths expected had the pandemic not occurred, using data from recent pre-pandemic years (2016-2019).

Source: Eurohealth 2020; 26(2); West, A., *Reporting of COVID-19 deaths in Austria, France, Germany, Italy, Portugal and the UK*, Social Policy Working Paper 10-20, London: LSE Department of Social Policy, 2020; ECDC for COVID-19 deaths; Eurostat on excess mortality.

Annex VI – ESGAB recommendations, 2014 and 2021

2014 (Eurostat's second peer review)	2021 (Eurostat's third peer review)
2014/1 Arrangements for future appointments of Directors-General of Eurostat should be specified in law, and based on open competition.	2021/1 ESGAB recommends that legislation should specify reasons for an early termination of the contract (dismissal) of the DG of Eurostat. These should not include reasons which compromise his/her professional or scientific independence.
2014/2 Key criteria for selection of a Director-General of Eurostat should be his/her professional reputation in the international statistical community and his/her management capacities.	2021/2 ESGAB recommends that the recruitment and dismissal of Eurostat senior management, other than the DG, should be public and transparent with strong emphasis on statistical qualifications.
2014/3 Legislation should specify reasons for an early dismissal of the Director-General of Eurostat. These should not include reasons which compromise his/her professional or scientific independence.	2021/3 ESGAB recommends Eurostat should ensure a systematic follow up of the implementation of the Reference Quality Framework applicable for other statistics, in cooperation with concerned European Commission DGs. This should include exploring the usefulness to set up a mutual peer review process in order to monitor and – if needed - strengthen compliance with the Reference Quality Framework.
2014/4 The recruitment and dismissal of Eurostat's senior management, other than the Director-General, should be public and transparent with strong emphasis on statistical qualifications.	2021/4 ESGAB recommends Eurostat should critically evaluate whether the current practice of pre-releasing statistics to other bodies of the European Commission, while respecting the ES CoP, is in conformity with Eurostat's position as standard bearer of the ESS.
2014/5 Future European statistical legislation should adhere to the legislative architecture adopted in 2013 with its three-layer approach, making in particular a distinction between the 'What' in framework regulations and the 'How' in delegated and implementing acts.	2021/5 ESGAB recommends that Eurostat should further develop its already strong safeguards for confidentiality by reviewing and, to the extent possible, further harmonising practices across statistical areas as regards procedures and tools for anonymisation and/or statistical disclosure control.
2014/6 Instances of cases where the implementation of legally stipulated and agreed methodologies or tools is being significantly delayed in some Member States should be reviewed and analysed with a view to identifying and implementing necessary systemic corrective measures.	2021/6 ESGAB recommends that Eurostat should develop a comprehensive strategy of cooperation with academia.
2014/7 Harmonisation of methodologies for data processing and for the calculation of quality indicators should be rigorously pursued in cooperation with Member States.	2021/7 ESGAB recommends that Eurostat further improves its communication and dissemination in light of the "new world of information overflow" where many providers fight for the limited attention of the users
2014/8 Assessments should be carried out regularly and systematically to ensure that consistency checking practices take place across statistical domains in a comparable way.	2021/8 ESGAB recommends that Eurostat finds, where appropriate, ways of establishing externally accessible vintage databases for relevant statistics in order to facilitate policy-relevant research.
2014/9 The quality management and assurance practice should be further harmonised and streamlined. The basic common standard for user and producer orientated quality reports should be used for every statistical operation and domain. This will ensure that these reports provide similar information and that quality can be equally appraised in the different domains.	2021/9 ESGAB recommends that Eurostat takes action to enhance research on microdata by developing appropriate modalities and agreeing with member countries on datasets where access to these might be feasible and by developing privacy-protecting techniques for access (such as metadata driven software), which could also be applied at country level.
2014/10 Eurostat should aim at publishing a full release calendar and at joint publication of Eurostat and NSI statistics.	2021/10 ESGAB recommends that Eurostat further develop its analytical frameworks with respect to revisions. Eurostat should publish its revision policy and regular analyses of revisions.
2014/11 Eurostat should fully investigate the potential impact of a full pre-release ban and ways to manage risks if a strongly limited pre-release is maintained for individual news agencies.	2021/11 ESGAB recommends to the co-legislators that the upcoming adoption of the EU Data Act should establish a permanent path for access to privately held data for Eurostat and all producers of European statistics.

2014 (Eurostat's second peer review)	2021 (Eurostat's third peer review)
2014/12 Eurostat should review and revise its communication strategy to ensure that it is effectively reaching its target audiences in today's media landscape and make optimal use of modern communication tools for different user segments.	2021/12 ESGAB recommends that Eurostat develops a comprehensive strategy for the use of new digital data sources which have the potential to contribute to the objectives of relevance, accuracy and timeliness, and may help to reduce the burden on respondents and increase cost-effectiveness.
2014/13 Eurostat should support the coordination role of the NSIs in relation to the ONAs by accepting only Code-compliant data transfers from an NSI or authorised ONA. The cut-off date for unauthorised data deliveries should be widely communicated one year in advance. Should unauthorised or non-Code-compliant data transfers to Eurostat continue after the announced date, Eurostat should reject the data.	2021/13 ESGAB recommends Eurostat and the ECB should build on the existing strong cooperation between the ESS and the ESCB to exploit the scope for better coordination and cooperation on data sharing and on dealing with complex statistical cases (like multinational enterprises), and evaluate the potential for common statistical infrastructures (like statistical business registers).
2014/14 Eurostat must establish clear mechanisms for its coordination role within the European Commission, and develop an inventory of existing statistical activities.	2021/14 ESGAB recommends that Eurostat undertakes an identification and mapping of the (future) required skills/competencies of staff. Based on this information, training offers for existing staff should be adjusted in order to allow for a successful up-skilling in the relevant new areas. At the same time, Eurostat should pro-actively use all the possibilities of the current recruitment system of the European Commission in order to be able to attract and retain staff with the necessary future-proof skills.
2014/15 The ESS and the ESCB should focus on working pragmatically within the given division of labour, and proceed with practical cooperation. It would be beneficial if the ESCB were to adopt verifiable quality assurance procedures similar to those of the ESS in order to enhance this mutual understanding.	2021/15 ESGAB recommends that EU policymakers back up all the ongoing innovation endeavours with appropriate funding, covering both financial as well as human resources. It also reiterates its recommendations (Recommendation 2020/6, and 2020/7) that the Commission proposes a significant investment in digital infrastructure for statistical purposes in order to enable innovation and experimentation. Recovery and Resilience Plans of the Member States and other relevant EU funds should support these actions on new European policy initiatives throughout the European Statistical System, covering both development as well as running costs.
2014/16 A principle and corresponding indicators addressing the need to coordinate the development, production and dissemination of European statistics should be drawn up during the next revision of the Code of Practice.	2021/16 ESGAB recommends that Eurostat and the ESS perform a thorough and complete assessment of the experience during the COVID-19 crisis. This review should cover the challenges, the reactions, the obstacles, the successes and draw concrete conclusions. In addition, an action plan should be prepared for resilience in future crisis situations.
	2021/17 ESGAB recommends Eurostat should jointly with NSIs set up procedures for proactively introducing rapid statistical innovation, which should include in particular experimental statistics. This should also prepare for times of crisis, and should further include proposals for how to ensure the visibility of such statistics, and devise processes for their eventual mainstreaming.
	2021/18 ESGAB recommends Eurostat to use, when necessary, the powers of Art 14.1 (b) and 2 of Regulation 223/2009 actively and to the fullest extent in order to be able to react quickly to unforeseen and urgent statistical demands for policymaking. For this it should analyse the potential and limits of these legal provisions. If they turn out to be inadequate, the issue should be considered in the context of an amendment of Regulation 223/2009.

Annex VII – Summary of national statistical institute improvement actions – status on 31 December 2019

Classification	All actions	Open actions 31/12/18	Completed	Closed	Progress depends on others	Delayed	Continuous	Open actions 31/12/19
1. Governance and legal aspects; coordination	**221**	**65**	**9**	**4**	**23**	**17**	**8**	**52**
1.1. Professional independence	72	26	1	0	15	6	2	25
1.2. Mandate for data collection	3	0	0	0	0	0	0	0
1.3. Legal aspects of confidentiality	2	1	0	1	0	0	0	0
1.4. Coordination	144	38	8	3	8	11	6	27
2. Adequacy of resources and cost effectiveness	**152**	**47**	**14**	**4**	**4**	**22**	**4**	**29**
2.1. Resources	57	14	5	0	3	2	3	9
2.2. Training	22	4	1	0	0	2	0	3
2.3. Cost-effectiveness	73	29	8	4	1	18	1	17
3. Quality and methodology	**231**	**60**	**26**	**1**	**2**	**21**	**7**	**33**
3.1. Quality commitment	102	33	17	1	1	10	3	15
3.2. Methodology and protection of confidentiality	46	9	2	0	0	3	2	7
3.3. Output quality and user interaction	83	18	7	0	1	8	2	11
4. Burden reduction and administrative data	**85**	**23**	**4**	**4**	**7**	**4**	**4**	**15**
4.1. Burden reduction	28	5	0	3	0	1	2	2
4.2. Administrative data	57	18	4	1	7	3	2	13
5. Impartiality and dissemination	**221**	**43**	**11**	**5**	**3**	**15**	**6**	**27**
5.1. Impartiality	46	6	3	1	1	0	1	2
5.2. Dissemination: accessibility and clarity	123	25	4	3	1	11	4	18
5.3. Dissemination of microdata	52	12	4	1	1	4	1	7
Grand Total	**910**	**237**	**64**	**18**	**39**	**79**	**29**	**155**

Source: ECA, based on Commission data.

Annex VIII – Coverage of National Statistical Systems in the third round of peer reviews

Country	Total number of ONAs	ONAs selected for peer review
Austria	7	Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)
		Federal Ministry of Agriculture, Regions and Tourism (BMLRT)
		Umweltbundesamt - Environment Agency Austria (UBA)
		Energie-Control Austria (E-Control)
Bulgaria	10	Agrostatistics Department in Directorate-General Agriculture and Regional Policy (Ministry of Agriculture, Food and Forestry)
		Analysis, Planning and Prognosis Directorate and Medical expertise of working capacity and accident at work Department at Directorate Insurance and Short-term Benefits to the National Social Security Institute)
		Monitoring and Assessments of Environment Directorate in Executive Environment Agency to the Ministry of Environment and Water
Belgium	15	FPS Home Affairs
		FPS Economy, SMEs, Self-employed and Energy – Energy DG
		National Accounts Institute
		Vlaamse Statistische Authoriteit (statistical authority of the Flemish Region)
Denmark	15	Danish Immigration Service
		Danish Energy Agency
		Danish Environmental Protection Agency
Estonia	1	---
Finland	6	Finnish Customs
		Natural Resources Institute Finland
		National Institute for Health and Welfare
		Finnish Immigration Service
France	12	Department of Statistics and Foresight Analysis (Ministry of Agriculture and Food)
		Data and Statistical Studies Department (Ministry for the Ecological Transition)
		Directorate of Research, Studies, Evaluation and Statistics (Ministry for Solidarity and Health, Ministry of the Economy, Finance and the Recovery and Ministry of Labour, Employment and Economic Inclusion)
Germany	30	Federal Office for Agriculture and Food
		Federal Employment Agency
		Statistical Offices of the Länder (14 in total)

Country	Total number of ONAs	ONAs selected for peer review
Greece	10	Ministry of Environment and Energy
		Ministry of Rural Development and Food
		National Documentation Centre (EKT)
Ireland	15	Environmental Protection Agency (EPA)
		Department of Justice (DoJ)
		Department of Health (DoH)
Italy	13	Ministry for ecological transition (MITE)
		Ministry of Health
		Italian Institute for Environmental Protection and Research (ISPRA)
		Energy Services Operator (GSE)
Lithuania	8	Environmental Protection Agency
		Institute of Hygiene
		State enterprise: Agricultural Information and Rural Business Centre
Luxembourg	11	General Inspectorate of Social Security - Inspection générale de la sécurité sociale (IGSS)
		Department of Rural Economy - Service d'économie rurale (SER)
		Directorate of Health - Direction de la Santé
Malta	1	Directorate for Health Information and Research
Netherlands	-	---
Norway	8	Norwegian Directorate of Fisheries
		Norwegian Directorate of Immigration (UDI)
		Norwegian Institute of Bioeconomy Research (NIBIO)
		Norwegian Institute of Public Health (FHI)
Poland	11	Ministry of Agriculture and Rural Development
		Ministry of Justice
		Ministry of Finance
Portugal	5	Directorate-General of Education and Science Statistics of the Ministry of Education and the Ministry of Science, Technology and Higher Education (DGEEC)
		Directorate-General for Energy and Geology of the Ministry of Environment and Climate Change (DGEG)
		Directorate-General for Justice Policy of the Ministry of Justice (DGPJ)
		Directorate-General of Natural Resources, Marine Resources and Safety Services of the Ministry of Sea (DGRM)
		Department for Strategic Planning of the Ministry of Labour, Solidarity and Social Security (GEP)

Country	Total number of ONAs	ONAs selected for peer review
Spain	17	Subdirectorate General for Analysis, Coordination and Statistics (Under-Secretariat for Agriculture, Fisheries and Food), Ministry of Agriculture, Fisheries and Food
		Subdirectorate General for Economic Studies and Statistics (Directorate General for Economic Planning and Budgets; Undersecretariat for Transport, Mobility and Urban Agenda) Ministry of Transport, Mobility and Urban Agenda
		Subdirectorate General for Foresight, Strategy and Energy Regulations (General Directorate for Energy Policy and Mines; Secretariat of State for Energy), Ministry for the Ecological Transition and the Demographic Challenge
Sweden	20	Swedish National Agency for Education
		Swedish National Financial Supervisory Authority
		Swedish Migration Agency
		Swedish Public Health Agency

Source: Eurostat's website.

(a) List of NSIs and ONAs responsible for the development, production and dissemination of European statistics as designated by Member States (updated 12 October 2021) and

(b) List of ONAs [last update May 2022] taking part in the third round of peer reviews 2021-2023

N.B.: Information about the ONAs participating in the peer reviews of the national statistical systems of Croatia, Cyprus, Czechia, Hungary, Iceland, Latvia, Liechtenstein, Romania, Slovakia, Slovenia and Switzerland will be available in November 2022.

Abbreviations

CoD: causes of death

CoP: European Statistics Code of Practice

DG EMPL: Commission Directorate-General for Employment, Social Affairs & Inclusion

DG GROW: Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

DG SANTE: Commission Directorate-General for Health and Food Safety

ECB: European Central Bank

ECDC: European Centre for Disease Prevention and Control

EFTA: European Free Trade Association

ESP: European statistical programme

ESS: European Statistical System

ILO: International Labour Organization

LFS: Labour force survey

NSI: national statistical institute

OECD: Organisation for Economic Cooperation and Development

ONA: other national authority

SBS: Structural Business Statistics

SMEs: small and medium-sized enterprises

WHO: World Health Organization

Glossary

Cause of death: The disease or injury which started the sequence of disease-related events leading directly to death, or the circumstances of the accident or violence producing a fatal injury.

Civil society: The part of society, distinct from government and business, that consists of associations and other groupings representing shared interests in the public domain.

Data: Set of values for qualitative or quantitative variables, such as facts or measurements, from which information can be generated.

Data gap: Unavailability of data required for a specific purpose.

Excess mortality: Number of deaths from all causes, measured during a crisis, in excess of those which could be observed under 'normal' conditions.

Impartiality: Principle whereby statistics must be developed, produced and disseminated in a neutral manner, and in such a way that all users are given equal treatment.

Institutional user of statistics: A national or international organisation, such as a national government or national central bank, or an EU institution, body or department.

Key performance indicator: A quantifiable measure showing performance against key objectives.

Metadata: Data that defines and describes other data.

Microdata: Data on an individual person, household, business or organisation.

Morbidity: The condition of being diseased.

Relative standard error: Measure of the statistical accuracy of an estimate. Smaller RSEs are indicative of more reliable results, and larger RSEs indicative of less reliable results.

Small and medium-sized enterprises: A size definition applied to companies and other organisations, based on the number of staff employed and certain financial criteria. Small enterprises have fewer than 50 staff, and turnover or a balance sheet total not exceeding €10 million. Medium-sized enterprises employ fewer than 250 staff, and have turnover up to €50 million or a balance sheet total up to €43 million.

Standardised death rate: The death rate of a population adjusted in line with a standard age distribution to improve comparability over time and between different communities.

System of Health Accounts: The standard economic framework for health accounting in ESS countries, using accounting rules that are methodologically compatible with the system of national accounts to produce comprehensive, consistent and internationally comparable accounts that meet key user needs.

Unemployed: An unemployed person aged 15 or 16 to 74, without work during the reference week, available to start work within the next two weeks (or who has already found a job starting within the next three months) and actively having sought employment at some time during the previous four weeks.

Replies of the Commission

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Timeline

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Audit team

The ECA's special reports set out the results of its audits of EU policies and programmes, or of management-related topics from specific budgetary areas. The ECA selects and designs these audit tasks to be of maximum impact by considering the risks to performance or compliance, the level of income or spending involved, forthcoming developments and political and public interest.

This performance audit was carried out by Audit Chamber IV Regulation of markets and competitive economy, headed by ECA Member Mihails Kozlovs. The audit was led by ECA Member Ildikó Gáll-Pelcz, supported by Claudia Kinga Bara, Head of Private Office and Zsolt Varga, Private Office Attaché; Sabine Hiernaux-Fritsch, Principal Manager; Athanasios Koustoulidis, Head of Task; Maria Isabel Quintela and Ezio Guglielmi, Auditors. Thomas Everett provided linguistic support.

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European statistics are a public good, and are essential to help policy-makers, businesses, and citizens reach evidence-based decisions. In 2012, we published a special report on the quality of European statistics, but in 2016 we found that some improvement actions had not been fully implemented. In this audit, we examined whether the Commission provides high-quality European statistics, and we conclude that their overall quality is sufficient for stakeholders. However, we have identified a number of weaknesses that still need to be addressed. We make several recommendations to improve the quality of European statistics. These include better meeting user needs, prioritising EU funding for innovative projects, improving the quality assessment of European statistics, and reconsidering the current practice of pre-releasing statistics.

ECA special report pursuant to Article 287(4), second subparagraph, TFEU.

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