

# Methodological manual on European Structural Business Statistics

2021 edition





**Methodological manual on  
European Structural  
Business Statistics** | 2021 edition

Manuscript completed in September 2021

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Luxembourg: Publications Office of the European Union, 2021

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Theme: Industry, trade and services

Collection: Manuals and guidelines

PDF: ISBN 978-92-76-41516-9

ISSN 2315-0815

doi: 10.2785/332431

KS-GQ-21-016-EN-N

## Foreword

This first release of a manual on European Structural Business Statistics is an important milestone for SBS compilers in the European Statistical System. It complements the legislative framework for European Business Statistics<sup>1</sup> with guidance on how to interpret it in a practical and ever-changing setting. While the essential concepts and definitions are laid down in law, the manual provides further guidance on how to turn theory into practice.

SBS are probably the “overlooked workhorse” in economic statistics. They give a comprehensive insight into the structure of the business sector providing many indicators and detailed breakdowns. The raw data collected from businesses and administrative registers provide an input to the compilation of National Accounts. However, SBS have their own *raison d’être* because it allows users to access significantly more detailed information on the business sector than National Accounts.

Member States have been producing SBS for many decades and the domain can generally be considered to be mature. Nevertheless, changes in the business sector, accounting rules, and newly available data sources require continued clarification, adaptation and development of the SBS methodological framework. This enables SBS compilers to produce SBS with increased efficiency and with the known high quality, also in today’s changing business environment. In particular, the manual contains guidance for producing comparable and harmonised data across the EU Member States and the other countries of the European Economic Area.

The manual covers a diverse set of topics ranging from the legal requirements to concepts, the data compilation process, metadata and the data transmission. It represents the experiences gained over many years and collects in one place the content of a number of documents of which most have been discussed in the SBS Working Group. It is a living reference document and it is expected that it will be updated regularly as new topics are discussed by the SBS Working Group and best practices are identified.

The work on the manual has involved many experts. I would like to thank the team within Eurostat/G2 “European businesses”: the work on the manual started with Tatiana Mrlianova who, together with Salah Ziade, launched the process within Eurostat. Gregor Kyi continued keeping the project on track and assisted with the consultation process. Much praise goes to the core team, Norbert Rainer, Peter Bøegh Nielsen, Virginia Balea and Hionia Vlachou, for their competent and tireless effort to produce a manual that is clear and well structured. I would like to thank them for always responding positively to our feedback. Finally, I would like to thank all members of the SBS Working Group that provided constructive feedback to several rounds of consultation during the drafting process as well as several of the examples mentioned in the text. The excellent co-operation of all contributors ensured the high quality of this manual.

In June 2021, the Working Group gave a positive feedback on the final draft of the document.

The proposal to produce a Eurostat manual on SBS has been circulating among compilers for many years - I am delighted that we now have a first release.



Carsten Olsson  
Head of Unit, Eurostat/G2 ‘European businesses’

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<sup>1</sup> Regulation (EU) N°2019/2152 (“EBS Regulation”) and Regulation (EU) N°2020/1197 (“General Implementing Act”).

## Abbreviations

<b>BD</b>	Business demography
<b>BR</b>	Business Register
<b>BSDG</b>	Business Statistics Directors Group
<b>CETO</b>	Contribution to EU Totals Only
<b>CODED</b>	Eurostat's Concepts and Definitions Database
<b>CPA</b>	Classification of Products by Activity
<b>CQF</b>	Common Quality Framework
<b>CV</b>	Coefficient of variation
<b>DADS</b>	Annual Declarations of Social Data
<b>DSI</b>	Data set identification
<b>EBITDA</b>	Earnings Before Interest, Taxes, Depreciation and Amortisation
<b>EBS</b>	European Business Statistics
<b>EC</b>	European Commission
<b>ECB</b>	European Central Bank
<b>eDAMIS</b>	electronic Dataflow Administration and Management Information System
<b>EDI</b>	SDMX-EDI using EDIFACT syntax
<b>EGR</b>	EuroGroups Register
<b>ESA</b>	European System of Accounts
<b>ESANE</b>	Production of Annual Statistics on Enterprises System
<b>ESCB</b>	European System of Central Banks
<b>ESQR</b>	ESS Standard for Quality Reports
<b>ESQRS</b>	ESS Standard for Quality Reports Structure
<b>ESS</b>	European Statistical System
<b>EU</b>	European Union
<b>EURATOM</b>	European Atomic Energy Community
<b>FATS</b>	Foreign Affiliates Statistics
<b>FTE</b>	Full-time equivalent
<b>GAMSO</b>	Generic Activity Model for Statistical Organisations
<b>GDP</b>	Gross Domestic Product
<b>GIA</b>	General Implementing Act
<b>GSBPM</b>	Generic Statistical Business Process Model
<b>GSIM</b>	Generic Statistical Information Model
<b>GVA</b>	Gross Value Added
<b>GVC</b>	Global Value Chains
<b>IAS</b>	International Accounting Standard
<b>ICT</b>	Information society statistics
<b>ID</b>	Identity number
<b>IES</b>	Simplified Business Information
<b>IFRS</b>	International Financial Reporting Standards
<b>IS</b>	Innovation Statistics
<b>ISIC</b>	International Standard Industrial Classification
<b>IT</b>	Information Technology
<b>ITGS</b>	International trade in goods statistics
<b>ITSS</b>	International trade in service statistics
<b>KAU</b>	Kind-of-activity unit
<b>LKAU</b>	Local kind-of-activity unit
<b>MDL</b>	Microdata linking
<b>MEETS</b>	Modernisation of European Enterprise and Trade Statistics

<b>MH</b>	Metadata handler
<b>MS</b>	Member States
<b>NA</b>	National Accounts
<b>NACE</b>	Statistical classification of economic activities in the European Community
<b>NSI</b>	National Statistical Institute
<b>NUTS</b>	Nomenclature of Territorial Units for Statistics
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PRODCOM</b>	Production of manufactured goods
<b>QAF</b>	Quality Assurance Framework
<b>R&amp;D</b>	Research and development
<b>RMAR</b>	Relative Mean Absolute Revisions
<b>SBR</b>	Statistical Business Register
<b>SBS</b>	Structural Business Statistics
<b>SDMX</b>	Statistical Data and Metadata eXchange
<b>SIMS</b>	Single Integrated Metadata Structure
<b>SME</b>	Small and medium-sized enterprises
<b>SPE</b>	Special-purpose entity
<b>STS</b>	Short-term business statistics
<b>SU</b>	Statistical Unit
<b>UN</b>	United Nations
<b>VAT</b>	Value Added Tax

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# 1

## Introduction

### 1.1. What are Structural Business Statistics?

Structural business statistics (SBS) cover the economic activities of market producers within the business economy (NACE Rev. 2 Sections B to N, P to R and Divisions S95 and S96). This includes mining and quarrying, industry, supply and sewerage, construction, trade, and most of the service activities. SBS do not cover agriculture, forestry and fishing, nor public administration and (largely) non-market services such as education and health.

SBS describe the activity structure, conduct and performance of businesses across the Member States of the European Union (EU). Given their coverage, SBS form the statistical source providing the most comprehensive picture of the European economy, both at national and at aggregated EU level. SBS can be broken down to a very detailed sectoral level, and many Member States publish data at the most disaggregated activity level (NACE Rev. 2 four-digit or even more detailed national activity levels). A subset of the SBS information is also available for European regions (NUTS Levels 1 and 2). SBS also offer the possibility of breaking down key variables such as employment, turnover and value added according to the size of enterprises (employment and turnover size classes). This type of information is especially valuable for purposes of shaping enterprise policy.

The variables included in SBS are generally collected and presented as monetary values, or as counts (for example, numbers of enterprises or numbers of persons employed), in contrast with short-term business statistics, where the data are presented as indices (mostly related to a base year).

Structural Business Statistics, in general, do not collect information on products (except for certain service products). SBS is an annual data collection. It thus does not deal with short-term indicators. External trade and the production of specific products are covered by external trade statistics and/or by PRODCOM. Further, there are some more domains of European business statistics that do not belong to the SBS domain, such as Information and Communication Technology (ICT) statistics, innovation statistics, Research and Development (R&D) statistics or Foreign Affiliates Statistics.

Business demography statistics are a further domain of European Business Statistics. The data requirements for business demography statistics were integrated as Annex IX into the 2008 SBS Regulation ((EC) No 295/2008 of the European Parliament and of the Council of 11 March 2008). and they are now integrated in the regulation on European Business Statistics ((EU) 2019/2152 of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing 10 legal acts in the field of business statistics). As a separate manual exists for business demography, however, this statistic is not dealt with in this manual.

SBS constitutes an important and integrated part of the new [European Business Statistics Regulation](#) (hereafter: EBS regulation). SBS data based on the EBS Regulation must be submitted from the reference year 2021 onwards. SBS are collected and published annually for nearly all variables. Final

and validated data must be transmitted to Eurostat 18 months after the reference period. Preliminary data are also requested, 10 months after the reference period for a few specific variables.

## 1.2. Use and importance of Structural Business Statistics

Due to their broad coverage in terms of activities and their detailed content, in terms of economic and employment variables, SBS have a huge potential for use for different purposes. SBS is the most important business statistics input into National Accounts (especially where the production approach for the calculation of GDP is concerned), and the value-added data of SBS are an input for the calculation of the weights for the activity aggregation of the STS indices.

In addition to those statistical uses of the SBS data, they are widely used for policy shaping and research purposes. SBS may be used to answer questions such as:

- How much value added is created in different activities, and how many persons are employed?
- Which countries are relatively specialised in the manufacture of a particular activity?
- How productive is a particular activity, and how does it fare in terms of operating profitability?
- In which activities does one find most small and medium-sized enterprises (SMEs), and how productive are they compared to large enterprises?

SBS is an especially important input into enterprise policy concerning SMEs and entrepreneurship, which are both key policy areas of the European enterprise policy. A [list of articles](#) <sup>(2)</sup> on the Eurostat website provides a large number of examples of how SBS statistics can be used to analyse the business economy.

An important and increasing use of SBS data is related to microdata linking (MDL) projects. By linking data of different statistical domains at enterprise level, additional statistical information can be achieved without increasing the burden to respondents. MDL is not a new method. It is for example applied in statistical business registers, but also in the compilation of SBS data, where administrative and financial reporting data are linked to the SBS units. Increasing use has been made of MDL between statistical data from different domains, at enterprise level, to create new statistical output. One example is the linking of units in the statistical business register with exporters and importers active in foreign trade, resulting in a new database 'Foreign trade by enterprise characteristics'. Another example is Foreign Affiliates Statistics (FATS), where information from SBS, mainly data on employment and value added, is linked to the foreign-controlled enterprises identified in FATS.

Last but not least, SBS data form a relevant input into various satellite data systems, either in close connection with national accounts or as part of an indicator system such as globalisation indicators and other specific topics of policy and research interest (e.g. [Industrial Ecosystems](#), [European Green Deal](#)).

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<sup>(2)</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Structural\\_business\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Structural_business_statistics)

## 1.3. Legal basis and the changes compared to the 2008 legal basis

The first European legal basis for Structural Business Statistics was [Council Regulation \(EC, Euratom\) No 58/97](#) of 20 December 1996. This Regulation established a common framework for the collection, compilation, transmission and evaluation of Community statistics on the structure, activity, competitiveness, and performance of businesses in the Community. The purpose was to analyse:

- (a) The structure and evolution of the activities of businesses;
- (b) The factors of production used and other elements allowing business activity, performance and competitiveness to be measured;
- (c) The regional, national, Community and international development of businesses and markets;
- (d) Business conduct;
- (e) Small and medium-sized enterprises;
- (f) Specific characteristics of enterprises related to particular groupings of activities.

That first Regulation covered a common module for annual statistics, a module for industry and one for construction. Over the years, it was recognised that the needs for harmonised European business statistics were steadily growing. There was an increasing need for data on services, in particular business services. Also, the need for harmonised statistics on business demography and its impact on employment was growing, in particular for supporting entrepreneurship policy.

A revised SBS Regulation was approved in 2008: [Regulation \(EC\) No 295/2008](#) of the European Parliament and of the Council of 11 March 2008. This Regulation introduced new modules, especially ones concerning services (insurance, credit institutions, pension funds, and business services) as well as one concerning business demography statistics. The activity coverage now ranged from NACE Rev. 2 Sections B to N and S95. The 2008 Regulation is applicable until replacement by the EBS Regulation, the first reference year of which is 2021 (preliminary data transmission deadline: October 2022, final data transmission deadline: June 2023).

The [Regulation \(EU\) 2019/2152](#) of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing 10 legal acts in the field of business statistics (hereafter: EBS Regulation) is quite different in its coverage and structure as it is the framework Regulation that covers, in an integrated manner, all domains of European business statistics. As was the case with SBS, the other domains of European business statistics previously also had their own legal basis, which had been developed and agreed over the years. Such a 'stovepipe' approach however had the disadvantage that concepts, definitions and methodology were not fully harmonised and that, due to resulting inconsistencies, data could not always be compared.

Before the new Regulation was developed and discussed in the European fora, a programme of analyses and studies was undertaken, together with the Member States, to identify those inconsistencies and to propose a new and improved data structure. The programme ran from 2009 to 2013, based on [Decision No 1297/2008/EC](#) of the European Parliament and of the Council of 16 December 2008 on a Programme for the Modernisation of European Enterprise and Trade Statistics (MEETS) <sup>(3)</sup>. The MEETS Programme had four main objectives:

- (a) to review priorities and develop target sets of indicators for new areas (Objective 1);
- (b) to achieve a streamlined framework for business-related statistics (Objective 2);
- (c) to support the implementation of a more efficient way of producing enterprise and trade statistics (Objective 3);

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<sup>(3)</sup> For more information on the MEETS programme see: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=MEETS\\_programme](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=MEETS_programme)

- (d) to modernise the data collection system on trade in goods between Member States (Objective 4, referred to as Intrastat).

The MEETS strategy was fully in line with the vision on European statistics for the next decade, inscribed in the Communication from the Commission to the European Parliament and to the Council, [COM \(2009\) 404 final](#). To quote: 'The main intention and strategic direction of this vision paper is to improve the efficiency of statistical production. Only a permanent adaptation of the portfolio of its products and services through innovation and new developments will guarantee that the European Statistical System (ESS) can continue to play a relevant role for decision making in the future. An efficiency policy will enable the ESS to cope with the conflict between increasing information needs on the one hand and resource constraints on the other' (op. cit. p. 8).

One of the main outcomes of these developments was the elaboration of the EBS Regulation, which now not only covers all current domains of European business statistics, together with a new domain on global value chains, but also the Statistical Business Register and the EuroGroups register. Several stakeholder consultations (with businesses, national statistical institutes and data users) were performed, in developing this framework regulation.

Due to the integrated approach of the new EBS Regulation, the statistical domains as previously known are no longer explicitly found there but can be identified at the level of topics and detailed topics, the levels below the new statistical domains. The EBS Regulation distinguishes four statistical domains:

- (a) Short-term statistics
- (b) Country-level business statistics
- (c) Regional business statistics
- (d) Statistics on international activities.

SBS is embedded in domain b.) 'Country-level business statistics' and in domain c.) 'Regional business statistics'. The EBS Regulation covers 13 topics. Some of these form part of the scope of SBS (see indication in the brackets below). (However, this does not mean that all aspects of a topic relevant to SBS are fully within the scope of SBS.). The topics covered by the EBS Regulation are:

- (a) Business population (SBS: yes)
- (b) Global value chains (SBS: yes)
- (c) ICT usage and e-commerce (SBS: no)
- (d) Innovation (SBS: no)
- (e) International trade in goods (SBS: no)
- (f) International trade in services (SBS: no)
- (g) Investment (SBS: yes)
- (h) Labour input (SBS: yes)
- (i) Output and performance (SBS: yes)
- (j) Prices (SBS: no)
- (k) Purchases (SBS: yes)
- (l) Real estate (SBS: no)
- (m) R&D inputs (SBS: no).

In five of these topics, data structures and variables are defined, which are counted to the traditional SBS domain. The scope of SBS is derived in this manual, based on the domains, topics and detailed topics of the EBS Regulation, in the traditional understanding. The latter covers the statistical modules of Annexes I – VIII of the SBS-Regulation 2008, thus excluding Annex IX which regulates business demography statistics. For more explanations on the derivation of the scope of SBS, see Section 2.2 (below).

Revisions of statistical regulations always have the goal of improving and of increasing the relevance of the respective statistical domain, and of adapting the statistics according to new or changed user needs. This was also the case with the revisions of the legal basis of SBS. Compared to the data requirements of the 2008 Regulation, the new EBS Regulation has incorporated the following changes (see *European Business Statistics Manual* (EBS Manual), Chapter 15):

- (a) Improve the coverage of the services sector by extending the NACE Rev. 2 activity breakdown to the following Sections: P (Education), Q (Human health and social work activities), R (Arts, entertainment and recreation), and S96 (Other personal service activities);
- (b) Extend the coverage of variables, by including: investment in machinery and equipment and hours worked for service sectors;
- (c) Provide provisional data on SMEs (i.e. by size class) for three key variables (number of active enterprises, turnover, persons employed) within 10 months after the reference period;
- (d) Restructure data requirements for the Financial and insurance activities sector, by introducing the standard variables of SBS, deleting the sector-specific variables and extending coverage to all subsectors, such as financial leasing, granting mortgage credit, granting consumer credit, and similar financial entities and auxiliary activities;
- (e) Introduce new triennial statistics on global value chains and international sourcing, covering information on the group structure of enterprises, employment by business function, domestic and international sourcing, motives for and barriers to sourcing, and the integration of domestic enterprises into global value chains. These statistics only incorporate enterprises with 50 or more persons employed. The data will be broken down by NACE and size class, in line with the other data sets on business performance.
- (f) Apply several simplifying measures:
  - Deletion of data on turnover breakdown by product for trade sector;
  - Deletion of data on environmental protection expenditure;
  - Decreasing the level of detail (NACE 2-digit) for variables specifically needed for national accounts;
  - Extension of the application of the 1 %-rule to specific data sets of SBS (except the ones on business demography), meaning that national data cells representing under 1 % of the EU-total, in terms of employment and turnover, will not have to be delivered to Eurostat.

In summary, two new regulations currently form the legal basis of SBS:

- [Regulation \(EU\) 2019/2152](#) of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing 10 legal acts in the field of business statistics (EBS Regulation), and
- [Commission Implementing Regulation \(EU\) 2020/1197](#) of 30 July 2020 laying down technical specifications and arrangements pursuant to Regulation (EU) 2019/2152 of the European Parliament and of the Council on European business statistics, repealing 10 legal acts in the field of business statistics (General Implementing Act – EBS GIA Regulation).

Various other legal requirements in the field of European business statistics are also relevant to SBS, in addition to those two core Regulations. Examples are the Regulation on statistical units, as well as various regulations on classifications and nomenclatures. For more information on the legal measures in force, in business statistics, see Chapter 3 of the [EBS Manual](#).

## 1.4. Scope, goals and structure of the SBS Manual

This *Methodological manual on European Structural Business Statistics* is the first manual to cover this statistical domain exhaustively. Guidelines and manuals are available for almost all business statistical domains, as well as for instruments of statistical infrastructure, such as for statistical business registers and business profiling. Further examples of such manuals are the Manual on Short-Term Statistics, the Manual on Foreign Affiliates Statistics and the Manual on Business Demography Statistics.

While data requirements for European statistics are usually laid down in legal acts, the technical issues are described in manuals, guidelines, or other supporting documents. These materials are usually jointly developed by Eurostat and the Member States (MS). It should help the MSs in the compilation of the statistical data required, and thus, to the extent possible, to ensure the harmonisation of the output. These manuals and guidelines have no legal status, through the detailed explanations, recommendations and good practices they contain, they aim to provide support to the data compilers.

Concerning SBS, technical guidance was previously spread over many documents, or it figured in related sources that were not readily available to the compilers. This first SBS Manual should, in the future, serve as the appropriate document to refer to, for compilers of SBS data. The changes induced by the new legal basis (EBS Regulation) and the implementing acts have increased the need for a single and up-to-date methodological manual for the compilation of SBS data.

There are more reasons, for which an SBS Manual was desirable, in addition to the changes in the legal basis. One important reason is the implementation of the statistical unit enterprise, based on the operational rules that were adopted by the Business Statistics Directors Group (BSDG) and the National Accounts (NA) Directors of the Member States, in June 2015. The implementation of the statistical unit enterprise raises some specific issues that need to be dealt with in the context of SBS. Further reasons for the current manual are the increased use of administrative data in SBS, the use of modelling approaches to reduce response burden, issues to ensure consistency between the statistical domains, or the use of SBS data for microdata linking. Describing national experiences and good practices, in these and other areas, will support harmonisation.

The SBS Manual belongs to a system of manuals and guidelines for the compilation of European business statistics. The European Business Statistics Manual, 2021 edition (EBS Manual) forms the core of this system, covering the concepts that are shared in common, across the business statistics domains. For more details on how the SBS Manual ties in with the EBS Manual, see Section 1.5 below.

The main objectives of the SBS Manual are:

- to elaborate a methodological document on the concepts, definitions and compilation methods, guiding the compilation of SBS data in the Member States;
- to explain the new legal basis and the differences to the former basis;
- to present information on selected national practices that could serve as good practices;
- to explain the validation and quality rules, and metadata reporting;
- to explain the concepts and methods of data transmission to Eurostat.

Given the aim it has, of providing methodological guidance to the compilers, this manual provides detailed information on how to compile the data, and what needs to be considered in this process. Therefore, to a certain extent, it has a 'recommendational character'. The methods described are of course not legally binding and they might not always be directly applicable in Member States, due to different databases, sources and methodology.

The scope of the manual focuses on the compilation of national SBS data, as required by the legal basis. National additions to the European requirements, national dissemination concepts and methods (including national confidentiality rules) as well as the compilation and publication of European

aggregates therefore do not form the object of the SBS Manual.

The group targeted by the manual are predominantly the compilers of SBS data in the Member States. As there are however conceptual relations with other domains of business statistics, the SBS Manual should also be of interest to the compilers of those statistics, as well as to the national accountants, to whom the SBS data represent one of the most important data sources. There is also a strong relationship to the statistical business registers. Finally, the SBS Manual will hopefully also be of interest to researchers and other qualified data users, who seek metadata information for the correct interpretation of the SBS data.

The manual will certainly need updating at regular intervals, due to changes in the data requirements, developments in methodology or other reasons. The SBS Manual is principally intended for online publication, both in a static PDF version as well as in dynamic form. The dynamic manual will be updated periodically and the changes introduced in a way so that they may be made visible to the readers.

The Manual consists of eight chapters as well as several annexes. Each chapter is structured into sections and subsections. In principle, each chapter can be read separately. Table 1.1 provides a synoptic overview of the SBS Manual's structure.

**Table 1.1: Structure of the SBS Manual**

Chapter	Main content
1. Introduction	Introduction to SBS, its use and importance, relations to other European business statistics, legal basis, goals and structure of the manual, relations to EBS Manual
2. Data requirements	Detailed description of the data requirements, in accordance with the new legal basis
3. Core concepts and principles	Description of the core concepts and principles of Structural Business Statistics
4. Variables	Description of all individual variables, their definitions and measurement
5. Compilation approaches	Description of the main approaches to the compilation of SBS data
6. Data compilation process	Main aspects of the compilation process of national SBS data
7. Metadata and quality	Metadata reporting and data quality
8. Data transmission	Validation rules, confidentiality flagging and data transmission rules
Annexes	Various technical annexes, such as structure of metadata report, validation rules, data transmission format, confidentiality and flagging rules

As can be seen, the content of the SBS Manual concentrates on the specific issues that concern the compilation of SBS data at national level, in accordance with the EU requirements, together with the transmission of the SBS data to Eurostat, for the compilation of European aggregates and the appropriate dissemination. A number of topics related to the compilation of business statistics are thus not covered, in this manual, as they are already dealt with in other European manuals and guidelines. Those topics include:

- Delineation of the statistical units – see: *European business statistics methodological manual for statistical business registers, 2021 edition*, Chapter 4
- Business profiling – see: *European business profiling recommendations manual, 2020 edition*
- Classification rules and coding – see: *NACE Manual*, Chapter 3
- Questionnaire design and management of data collections – see: *Handbook on methodology of modern business statistics – MEMOBUST, 2014*

- Sampling methods – see: *Handbook on methodology of modern business statistics – MEMOBUST, 2014*
- Methods of microdata linking – see: *Microdata linking, 2019 edition*
- Methods of statistical disclosure control – see: *EBS Manual, Chapter 17*
- Building of European aggregates – see: *EBS Manual, Chapter 16*
- Dissemination policy at national and European level.

## 1.5. Relationship to the EBS Manual and to other business statistics manuals and guidelines

As stated above, the SBS Manual forms part of a system of manuals, in the field of European business statistics that comprises:

- The EBS Manual itself, which provides an overview of cross-domain methodologies.
- EBS-domain sections, which provide an overview of the domain methodology.
- Manuals with the detailed domain methodologies.

The interlinking to the EBS Manual is described using appropriate cross-references. The appropriate sections in the EBS Manual, serve as a starting point for the more detailed explanations in the SBS Manual. Of course, the SBS Manual only focuses on the issues that are relevant to the SBS domain.

The content and the format of the EBS Manual are based on the international principles stipulated by the Common Metadata Framework (UN, 2009) and the Generic Statistical Business Process Model (UN 2013), and the focus is on the subsequent phases of the statistical production process. The 2021 edition of the EBS Manual contains 20 chapters: introduction to European business statistics, scope and main concepts, legal and non-legal measures, business registers, EuroGroups register, profiling, statistical units, classifications, data sources, processing methods at national level, data validation, reference metadata, data exchange (eDAMIS), data exchange (SDMX), data requirements, production of European aggregates, statistical disclosure control, dissemination, microdata service for researchers, detailed domain-specific methodologies, annexes on data requirements.

As mentioned in Section 1.4 various other manuals and guidelines are available, in the field of business statistics, that have been elaborated by Eurostat or by other international organisations. Some of these manuals are more important to the SBS domain than others. Appropriate reference is provided, in all cases, and a list of all references can be found at the end of the manual.



# 2

## Data requirements

### 2.1. Introduction

This chapter provides a detailed description of SBS data requirements. These are based on the EBS Regulation and the General Implementing Act (EBS GIA). Section 2.2 gives an overview of the scope of Structural Business Statistics (SBS), sets the relations to the overall system of European Business Statistics (EBS), and explains, which of the EBS topics and detailed topics are included in SBS.

Section 2.3 introduces the determinants of SBS data requirements: statistical units, statistical population, variables, classifications and breakdowns. The chapter's last section covers the detailed data transmission requirements, which are defined on the basis of 10 out of 38 tables for the entire EBS, in accordance with EBS GIA.

This chapter neither deals with the compilation of SBS data nor with data quality, nor with data transmission. Yet it strongly relates to the manual's other chapters. For instance, the statistical units are detailed in Chapter 3 on core concepts and principles, and the concepts and definitions of the variables are detailed in Chapter 4.

### 2.2. Scope of Structural Business Statistics

Until the EBS Regulation came into force, the various domains of European business statistics usually had their own legal basis and definitions and, in part, some concepts deviated. This had many disadvantages, most importantly a limited comparability between domains. The domains covered hitherto have been:

- Structural business statistics (SBS)
- Business demography (BD)
- Short-term business statistics (STS)
- Foreign affiliates statistics (FATS)
- Information society statistics (ICT)
- Research and development statistics (R&D)
- Innovation statistics (IS)
- International trade in goods statistics (ITGS)
- International trade in service statistics (ITSS)
- Production of industrial goods (ProdCom).

The new EBS Regulation has aimed at and achieved an integrated approach. It covers all the above-mentioned domains as well as the new domain of Global Value Chains (GVC). A number of adaptations and changes to the concepts and data requirements have been incorporated, in order to increase consistency and comparability, together with increasing the relevance of the data to users.

European Business Statistics are defined in the EBS Regulation (Article 3(1)) as covering statistics on:

- (a) the structure, economic activities and performance of the statistical units, their research and development and innovation activities, their ICT usage, e-commerce and global value chains
- (b) the production of manufactured goods and services and the international trade in goods and services.

Structural Business Statistics form a core of statistics, within the domains of EBS, as they cover nearly all economic activities that are performed on a market basis. They provide basic information on the output, costs, investment and employment of enterprises, irrespective of whether they are micro, small, or large and complex enterprises. The data collected derive from surveys, from the enterprises' annual financial accounts and from administrative sources. Certain data structures of the SBS domain are also used for the compilation of other domains. For example, data on output, employment and value added of the foreign controlled enterprises for Inward-FATS statistics are taken from SBS.

The EBS Regulation distinguishes four domains:

- Domain 1: Short-term business statistics
- Domain 2: Country-level business statistics
- Domain 3: Regional business statistics
- Domain 4: Statistics on international activities.

Each domain is subdivided into topics and detailed topics. Each detailed topic then includes one or more variables. Table 2.1 provides an overview of the EBS structure, its four domains and their respective topics and detailed topics. The table's final column indicates, whether the detailed topic belongs to Structural Business Statistics or not.

As SBS is an annual data collection, and it is not related to international activities, none of the topics of Domains 1 and 4 come within the scope of SBS. Thus, SBS is embedded in Domains 2 and 3 only. Both of those domains cover further specific topics that previously were the object of other domains of European business statistics. Examples are R&D, ICT and innovation. This also applies to certain detailed topics, the specific data structures of which do not form part of the SBS domain. Examples are specific business populations related to enterprise demography, activities of foreign-controlled enterprises, industrial production (detailed by manufactured goods), and exports by enterprises.

**Table 2.1: EBS Domains, Topics and Detailed topics**

## Domain 1: Short-term business statistics

Topic	Detailed topic	SBS
Business population	Business demographic events	No
Labour inputs	Employment	No
	Hours worked	No
	Labour costs	No
Prices	Import prices	No
	Producer prices	No
Outputs and performance	Production	No
	Volume of sales	No
	Net turnover	No
Real estate	Real estate	No

## Domain 2: Country-level business statistics

Topic	Detailed topic	SBS
Business population	Population of active enterprises	Yes
	Business-demographic events (births, deaths, survivals)	No
	Foreign-controlled enterprises	No
	Foreign-controlled enterprises and domestic affiliates	No
	Population of enterprises engaged in international trade	No
Labour inputs	Employment	Yes
	Employment linked to business-demographic events	No
	Employment in foreign-controlled enterprises	No
	Employment in foreign-controlled enterprises and domestic affiliates	No
	Hours worked	Yes
	Labour costs	Yes
	Labour costs in foreign-controlled enterprises	No
R&D inputs	R&D expenditure	No
	R&D employment	No
	R&D expenditure in foreign-controlled enterprises	No
	R&D employment in foreign-controlled enterprises	No
	Publicly funded R&D	No
Purchases	Purchases of goods and services	Yes
	Change in stocks of goods	Yes
	Purchases of goods and services of foreign-controlled enterprises	No
	Imports by enterprises	No

Topic	Detailed topic	SBS
Outputs and performance	Net turnover	Yes
	Gross margin on goods for resale	Yes
	Value of output	Yes
	Value added	Yes
	Gross operating surplus	Yes
	Net turnover of foreign-controlled enterprises	No
	Value of output of foreign-controlled enterprises	No
	Value added of foreign-controlled enterprises	No
	Net turnover of foreign-controlled enterprises and domestic affiliates	No
	Industrial production	No
	Exports by enterprises	No
Investment	Gross investment	Yes
	Gross investment by foreign-controlled enterprises	No
Innovation	Innovation	No
ICT usage and e-commerce	ICT usage and e-commerce	No

## Domain 3: Regional business statistics

Topic	Detailed topic	SBS
Business population	Population by region	Yes
	Business-demographic events by region (births, deaths, survivals)	No
Labour inputs	Employment by region	Yes
	Employment linked to business-demographic events by region	No
	Labour costs by region	Yes
R&D inputs	R&D expenditure by region	No
	R&D employment by region	No

## Domain 4: Statistics on international trade

Topic	Detailed topic	SBS
Business population	Population of enterprises abroad controlled by resident institutional units of the reporting country	No
Labour inputs	Employment in enterprises abroad controlled by resident institutional units of the reporting country	No
	Labour costs in enterprises abroad controlled by resident institutional units of the reporting country	No
Investment	Gross investment by enterprises abroad controlled by resident institutional units of the reporting country	No

Topic	Detailed topic	SBS
Output and performance	Net turnover of enterprises abroad controlled by resident institutional units of the reporting country	No
International trade in goods	Intra-Union trade in goods	No
	Extra-Union trade in goods	No
International trade in services	Imports of services	No
	Exports of services	No
	Net services	No
Global value chains	Global value chains	No

The relevant detailed topics of Domains 2 and 3 define the scope of SBS:

- Country-level data (based on enterprises):
  - Business population – Active enterprises;
  - Labour input – Employment, hours worked and labour costs;
  - Purchases – Purchases of goods and services, change in stocks of goods;
  - Output and performance – Net turnover, gross margin on goods for resale, value of output, value added, gross operating surplus;
  - Investment – Gross investment.
- Regional-level data (based on local units):
  - Business population: Active local units;
  - Labour inputs: Employment, labour costs.

Each detailed topic is operationalised by one or more variables (see Subsection 2.3.3). For instance, the topic ‘employment’ for the country-level data is operationalised by three variables: number of employees and self-employed persons, number of employees, and number of employees in full-time equivalent units.

Ten tables define the structure of the actual data requirements of SBS, both at the country level and at the regional level. These tables include all the relevant criteria, such as: the statistical population, the variables, the classifications and breakdowns, the statistical unit, the frequency, the transmission deadline, as well as a number of other criteria. An overview of those ten tables is given in Subsection 2.4. In respect of the EBS Regulation’s integrated approach, so as to achieve consistency between the different domains, data that are used in more than one domain should only be reported once.

## 2.3. Elements of data-transmission requirements

Article 7(1) of the EBS Regulation on the technical specifications of data requirements lists the following elements defining and describing the data requirements of each EBS domain:

- Variables;
- Measurement unit;
- Statistical population (including the requirements in terms of market/non-market activities or producers);

- Classification (including the product, countries and territories as well as nature of transaction lists) and breakdowns;
- Transmission of individual records of data on a voluntary basis;
- Use of approximations and quality requirements;
- Data transmission deadlines;
- First reference period;
- Weighting and change of base year for the domain short-term business statistics;
- Further specifications, including the reference period, related to the topic of international trade in goods.

While the detailed topics of the EBS are laid down in Annex 1 of the EBS Regulation, the Commission may adopt implementing acts further specifying the data elements that are to be transmitted under the EBS Regulation, their technical definitions and simplifications. The current EBS GIA covers the specifications of the detailed topics. The specifications that are relevant to SBS are introduced and detailed in the subsections below.

For the so-called stable parts of the SBS, including the SBS-related topics, the EBS Regulation only allows for few changes to the content of the topics and detailed topics. Concerning the detailed topics related to Innovation, ICT usage, e-commerce and Global Value Chains, which constitute the so-called dynamic part of the EBS, the contents of each data collection round are decided by a Commission Regulation (see Articles 6(4–6) of the EBS Regulation).

### 2.3.1. Statistical units

The most basic element of a data specification is the choice of the statistical unit. A statistical unit is the entity for which statistical information is sought and for which statistics are compiled. It is an analytical unit. In most cases, a statistical unit is also an observation unit (i.e. a unit about which data are obtained in the process of data collection) and a reporting unit (i.e. a unit from which data are obtained). The differentiation between a statistical unit and an observation unit is of particular relevance, in the case of SBS. The statistical unit ‘enterprise’ may, for example, consist of more than one legal unit, and the legal units are normally the observation units. In order to achieve data for the unit enterprise, the data observed for the underlying legal units will need to be combined. This is no problem in the case of additive variables, such as hours worked by employees, but specific consolidation measures are required, in the case of non-additive variables such as turnover (see Sections 4.3 and 6.6).

The importance of the choice of the statistical unit can be illustrated by the following three observations:

- Whether applying a classification by activity, by region or by size-class, the resulting data will differ, depending on the statistical unit applied.
- The coverage of the statistical populations is usually defined, based on the activity classification. They thus depend on the choice of the statistical unit.
- The choice of the variables and the data for those variables also depend on the choice of the statistical unit.

For SBS two statistical units are relevant:

- Enterprise – for country-level business statistics
- Local unit – for regional business statistics.

The following relation is given between those two kinds of units: an enterprise can have one or more local units. Local units can either be in the same region or in different regions. In case an enterprise only has one location, the two units coincide. This is more likely the case for smaller enterprises. Large ones will be more likely to have more than one location. An enterprise with more than one location will

need to be attributed to that region, where the enterprise has the highest production value, or where the headquarters is located. A regional breakdown of enterprise data is thus not reasonable — as the enterprise can only be attributed to one region, even if it is also active in other regions. The local-unit level is thus more adequate for regional statistics.

Financial reporting data are however usually not available at the local-unit level. The full range of relevant SBS data can only be achieved by taking the enterprise as the statistical unit. The enterprise, in turn, is based on the legal units. The enterprise is therefore taken as the central and core statistical unit in EBS. The relations between the SBS topics and the statistical unit are illustrated in Table 2.2.

**Table 2.2:** Periodicity, reference period and statistical unit of the SBS topics

Ex domain 2: Country-level business statistics

Topic	Periodicity	Reference period	Statistical unit
Business population	Annual	Calendar year	Enterprise
Labour inputs	Annual	Calendar year	Enterprise
Purchases	Annual, with the following exception: - Payments to subcontractors - 3-yearly (triennial)	Calendar year	Enterprise
Outputs and performance	Annual, with the following exceptions: - Product and residence of client breakdown of net turnover for NACE 69.1, 69.2, 70.2, 71.1, 71.2 – 2-yearly; - Net turnover from agriculture, forestry, fishing and industrial activities, Net turnover from industrial services, Net turnover from industrial activities excluding construction, Net turnover from construction, Net turnover from service activities, Net turnover from trading activities of purchase and resale and from intermediary activities, Net turnover from building and Net turnover from civil engineering – 5-yearly; - Income from subcontracting – 3-yearly	Calendar year	Enterprise
Investments	Annual, with the following exception: - Investment in intangible assets – 3-yearly	Calendar year	Enterprise

Ex domain 3: Regional business statistics

Topic	Periodicity	Reference period	Statistical unit
Business population	Annual	Calendar year	Local unit
Labour inputs	Annual	Calendar year	Local unit

While, at enterprise level, all SBS topics are covered (business population, labour input, purchases, output and performance, and investment), data at local-unit level are restricted to business population and labour inputs.

Both of SBS's statistical units are covered by the national Statistical Business Register (SBR). The SBR also provides the information on which legal units belong to which enterprise, as well as which local units belong to which enterprise. For more information on the concepts, definitions and implementational aspects applying to the statistical units enterprise and local unit, see Chapter 4 of the [European business statistics methodological manual for statistical business registers, 2021 edition](#).

Table 2.2 further indicates the periodicity and reference period of the SBS data. For all data, the reference period is the calendar year. With some exceptions, the periodicity is annual. For more details see Section 2.4.

### 2.3.2. Statistical population

The data requirement element 'statistical population' sets the coverage of the statistical units and stipulates, for which statistical units the data should be compiled and submitted. The statistical population is defined by the market production criterion and by the economic activities of the units, based on the activity classification NACE Rev. 2.

With a few exceptions (in domains other than SBS), EBS describe the economic activities of market producers only. The distinction between market and non-market producers is made, based on the definitions of the European System of Accounts 2010 (ESA 2010). For more detail, see Subsection 3.3.4. below.

In accordance with the legal basis, each institutional unit in the SBR must also be classified according to the classification by institutional sectors provided by the ESA 2010. The distinction between market and non-market producers can thus be taken directly from the SBR.

This also applies for the second element of the definition of the SBS's statistical population: the classification of economic activities according to NACE Rev. 2. NACE is a classification of economic activities which does not differentiate between market and non-market activities, mainly because (with a few exceptions) that distinction cannot be made, based on economic activity alone. As explained above, in addition to the definition of the economic activities, a second criterion - market producers - is necessary to define the SBS population.

Most of the economic activities making up our economies are covered by SBS. They are classified according to NACE Rev. 2, under either of the following:

- Section B Mining and quarrying
- Section C Manufacturing
- Section D Electricity, gas, steam and air conditioning supply
- Section E Water supply; sewerage, waste management and remediation activities
- Section F Construction
- Section G Wholesale and retail trade; repair of motor vehicles and motorcycles
- Section H Transportation and storage



- Section I Accommodation and food service activities
- Section J Information and communication
- Section K Financial and insurance activities
- Section L Real estate activities
- Section M Professional, scientific and technical activities
- Section N Administrative and support service activities
- Section P Education
- Section Q Human health and social work activities
- Section R Arts, entertainment and recreation
- Division S 95 Repair of computers and personal and household goods
- Division S 96 Other personal service activities.

Thus, the following are excluded from SBS:

- Section A Agriculture, forestry and fishing
- Section O Public administration and defence; compulsory social security
- Division S 94 Activities of membership organisations
- Section T Activities of private households as employers of domestic personnel; undifferentiated goods- and services-producing activities of households for own use
- Section U Activities of extraterritorial organisations and bodies.

Traditionally, the activities of Section A have been excluded from business statistics, even if the enterprises classified in this section are usually market-producers. Units in Section O Public administration and defence, compulsory social security, in Division S 94 Activities of membership organisations, and in Section U Activities of extraterritorial organisation and bodies are, by definition, non-market producers. Section T covers those households that employ domestic personnel and/or produce goods or services for their own use, and that do not supply goods or services on the market.

### 2.3.3. Variables

As described in Section 2.2 each detailed topic of SBS corresponds to one or more variables. Table 2.3 provides an overview of all SBS variables. A 6-digit code is attributed to each. It serves as the variable identifier, in the data requirements tables and in the data transmission files. The definition and measurement of each variable is detailed in Chapter 4.

The table's final column also indicates, in which of the 10 SBS tables the respective variable is to be found. Some variables appear in more than one table. For example, variable 210101 Number of active enterprises, is a variable that belongs to both the main Table 10 and to Table 11 on size-class data. Some variables refer to the total data category, others only to a specific part thereof. A good example is variable 250101 Net turnover. In addition to this total of net turnover, 11 other variables refer to specific turnover categories, such as variable 250102 Net turnover from agriculture, forestry, fishing and industrial activities, or variable 250103 Net turnover from industrial activities. There are furthermore turnover variables that do not refer to revenues from specific economic activity categories, rather detailing turnover by other categories such as variable 250112 Net turnover by residence of client.

**Table 2.3: Variables of SBS**

Ex Domain 2. Country-level business statistics

Topic	Detailed topic	Variables	Table
Business population	Population of active enterprises	210101 Number of active enterprises	10 & 11
Labour inputs	Employment	220101 Number of employees and self-employed persons	10 & 11
		220102 Number of employees	10 & 11
		220103 Number of employees in full-time equivalent units	10
	Hours worked	220201 Hours worked by employees	10 & 11
	Labour costs	220301 Employee benefits expense	10 & 11
		220302 Wages and salaries	10 & 11
220303 Social security costs		10 & 11	
Purchases	Purchases of goods and services	240101 Total purchases of goods and services	10 & 11
		240102 Purchases of goods and services for resale	21
		240103 Expenses on services provided through agency workers	21
		240104 Expenses of long-term rental and operating lease	21
		240105 Purchases of energy products	21
		240106 Payments to subcontractors	21
	Change in stock of goods	240201 Change in stock of goods	22
		240202 Change in stock of finished goods and work-in-progress	22
		240203 Change in stock of goods for resale	22
Outputs and performance	Net turnover	250101 Net turnover	10 & 11
		250102 Net turnover from agriculture, forestry, fishing and industrial activities	24
		250103 Net turnover from industrial activities	24
		250104 Net turnover from industrial activities excluding construction	24
		250105 Net turnover from construction	24
		250106 Net turnover from service activities	24
		250107 Net turnover from trading activities of purchase and resale and from intermediary activities	24
		250108 Net turnover from building	24

Topic	Detailed topic	Variables	Table
		250109 Net turnover from civil engineering	24
		250110 Net turnover from the principal activity at the NACE three-digit level	25
		250111 Net turnover from subcontracting	25
		250112 Net turnover by residence of client	23
		250113 Net turnover by product	23
	Gross margin on goods for resale	250201 Gross margin on goods for resale	10
	Value of output	250301 Value of output	10 & 11
	Value added	250401 Value added	10 & 11
	Gross operating surplus	250501 Gross operating surplus	10 & 11
Investments	Gross investment by active enterprises	260101 Gross investment in tangible non-current assets	10
		260102 Gross investment in land	27
		260103 Gross investment in the acquisition of existing buildings	27
		260104 Gross investment in construction and improvement of buildings	27
		260105 Gross investment in machinery and equipment	27
		260106 Gross investment in intangible non-current assets other than goodwill	10
		260107 Investment in purchased software	28
		260108 Sales proceeds of tangible investments	10

Ex Domain 3. Regional business statistics

Topic	Detailed topic	Variable	Table
Business population	Population by region	310101 Number of local units	29
Labour inputs	Employment in active enterprises by region	320101 Number of employees and self-employed persons in local units	29
	Labour costs by region	320301 Wages and salaries in local units	29

### 2.3.4. Classifications and breakdowns

Five different kinds of classifications and breakdowns are used in SBS:

- NACE Rev. 2 activity classification
- Special aggregates of NACE Rev. 2

- CPA product classification
- Size classes
- Regional classifications.

Table 2.4 to Table 2.10 present those classifications/breakdowns. Which should be used, and at which level of detail, is described in the element of the respective data requirements table. The most important classification is certainly the NACE activity classification. The current version in force is NACE Rev. 2, which is based on ISIC Rev. 4. At the level of groups and classes, NACE is more detailed than ISIC. The NACE classification is applied in all enterprise-, local unit- and KAU-based domains of European business statistics. This enables comparison between the data of the different domains at the respective unit level. Unlike in other domains, the SBS data must be provided at the lowest level of the classification, which is the class level. Data at the higher hierarchical levels (groups, divisions, sections) can thus be calculated by simple aggregation, as can special aggregates outside the hierarchical structure. As already mentioned, the Statistical Business Register bears the task of classifying all statistical units according to NACE Rev. 2. Due to the high importance of the NACE classification in European business statistics, the attribution of the NACE codes to each unit should be of high quality. The rules for classifying the statistical units can be found in the [NACE Rev. 2 manual](#). SBS data collections can help with checking and improving the NACE coding, through their collection of the data and their contact with the enterprises.

'Special aggregates', the second kind of classification, is also based on NACE Rev. 2. It refers to aggregations of elements outside the classification's given hierarchical structure (Table 2.5). These aggregations yield synthetic categories of economic activities, which are either more analytically oriented (for example 'ICT services') or which reflect more traditional categories (for example 'Industry'). For example, 'ICT services' are defined as being the sum of G465 Wholesale trade with information and communication equipment, J582 Software publishing, J61 Telecommunication, J62 Computer programming consultancy and related activities J631 Information service activities, and S951 Repair of computers and communication equipment. The special aggregate 'Industry' is defined as being the sum of Section B Mining and quarrying, Section C Manufacturing, Section D Electricity, gas, steam and air conditioning supply, and Section E Water supply; sewerage, waste management and remediation activities.

It should be noted that SBS data on the special aggregates do not always provide a complete picture of the intended aggregate as certain NACE activities are not included in SBS. This refers to special aggregates that include activities classified in Sections A, O, T or U and in division S94.

The [Classification of Products by Activity \(CPA\)](#) is the central statistical product classification in European business statistics. The current version of the CPA classification is CPA Vers.2.1. The CPA is related to the NACE classification as the single products are classified according to the industrial origin criterion. However, the CPA is only partially used, in the context of SBS. Only for a few service activities are (aggregated) product data requested (Table 2.6).

**Table 2.4:** Elements of the NACE Rev. 2 activity classification relevant to SBS

NACE Rev. 2 Level	NACE Rev. 2 components
Section	B to N & P to R & Divisions S95 & S96
Division	05 to 82, 85 to 93, 95 & 96
Group	05.1 to 82.9, 85.1 to 93.2 & 95.1 to 96.0
Class	05.10 to 82.99, 85.10 to 93.29 & 95.11 to 96.09

**Table 2.5: Special aggregates of NACE Rev. 2 relevant to SBS**

Special aggregate	NACE Rev. 2 components
Industry, construction and services (except public administration, defence, compulsory social security, activities of households as employers and extra-territorial organisations and bodies)	B+C+D+E+F+G+H+I+J+K+L+M+N+P+Q+R+S
Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies)	B+C+D+E+F+G+H+I+J+K+L+M+N+P+Q+R+95+96
Business economy	B+C+D+E+F+G+H+I+J+K+L+M+N+95
Non-financial business economy	B+C+D+E+F+G+H+I+J+L+M+N+95
Industry and construction	B+C+D+E+F
Industry	B+C+D+E
ICT total	C261+C262+C263+C264+C268+G465+J582+J61+J62+J63.1+S951 = ICT manufacturing + ICT services
ICT manufacturing	C261+C262+C263+C264+C268
ICT services	G465+J582+J61+J62+J631+S951
Information sector	J581+J591+J592+J60+J639
Computer related services	J582+J62+J631
High and medium-high technology manufacturing	C20+C21+C254+C26+C27+C28+C29+C30-C301+C325
High technology manufacturing	C21+C26+C303
Medium-high technology manufacturing	C20+C254+C27+C28+C29+C30-C301-C303+C325
Low and medium-low technology manufacturing	C10+C11+C12+C13+C14+C15+C16+C17+C18+C19+C22+C23+C24+C25-C254+C301+C31+C32-C325+C33
Medium-low technology manufacturing	C182+C19+C22+C23+C24+C25-C254+C301+C33
Low technology manufacturing	C10+C11+C12+C13+C14+C15+C16+C17+C18-C182+C31+C32-C325
Services	G+H+I+J+K+L+M+N+O+P+Q+R+S+T+U
Services (except public administration, defence, compulsory social security, activities of households as employers and extra-territorial organisations and bodies)	G+H+I+J+K+L+M+N+P+Q+R+S
Services (except public administration, defence, compulsory social security, activities of membership organisations, households as employers and extra-territorial organisations and bodies)	G+H+I+J+K+L+M+N+P+Q+R+95+96
Total knowledge-intensive services	H50+H51+J58+J59+J60+J61+J62+J63+K64+K65+K66+M69+M70+M71+M72+M73+M74+M75+N78+N80+O84+P85+Q86+Q87+Q88+R90+R91+R92+R93
Knowledge-intensive high technology services	J59+J60+J61+J62+J63+M72
Knowledge-intensive market services	H50+H51+M69+M70+M71+M73+M74+N78+N80
Knowledge-intensive financial services	K64+K65+K66
Other knowledge-intensive services	J58+M75+O84+P85+Q86+Q87+Q88+R90+R91+R92+R93
Knowledge-intensive activities - Business industries	B09+C19+C21+C26+H51+J58+J59+J60+J61+J62+J63+K64+K65+K66+M69+M70+M71+M72+M73+M74+M75+N78+N79+R90

Special aggregate	NACE Rev. 2 components
Knowledge-intensive activities	B09+C19+C21+C26+H51+J58+J59+J60+J61+J62+J63+K64+K65+K66+M69+M70+M71+M72+M73+M74+M75+N78+N79+O84+P85+P86+R90+R91+S94+U99
Tourism industries - Total)	H491+H4932+H4939+H501+H503+H511+I551+I552+I553+I561+I563+N771+N772+N79
Tourism industries - Mainly tourism	H511+I551+I552+I553+N791
Tourism industries - Partially tourism	H491+H4932+H4939+H501+H503+I561+I563+N771+N772+N799
Tourism industries - Transport (total)	H491+H4932+H4939+H501+H503+H511
Tourism industries - Land transport	H491+H4932+H4939
Tourism industries - Water transport	H501+H503
Tourism industries - Accommodation (scope of Reg. 692/2011)	I551+I552+I553
Tourism industries - Food and beverage (total)	I561+I563
Tourism industries - Car and other rental (total)	N771+N7721
Cultural and creative sectors - Total	C18+C3212+C322+G4761+G4762+G4763+J5811+J5813+J5814+J5821+J59+J60+J6391+M7111+M741+M742+M743+N7722+P8552+R90+R91
Cultural and creative sectors - Services	J5811+J5813+J5814+J5821+J59+J60+J6391+M7111+M741+M742+M743+N7722+P8552+R90+R91
Activities other than industry and trade	A+F+H+I+J+K+L+M+N+O+P+Q+R+S+T+U

**Table 2.6:** Elements of the CPA classification relevant to SBS

NACE Rev. 2 activities	CPA version 2.1 codes
Division 62 & Groups 58.2 & 63.1 (Computer services)	Total, 58.21, 58.29, 58.29.1+58.29.2, 58.29.3+58.29.4, 58.29.5, 62.01, 62.02, 62.03, 62.09, 63.11, 63.12, 95.11, Resale (should include all resale - wholesale and retail - of software which is not developed by the enterprise as well as the resale of hardware which is not manufactured by the enterprise)
Group 69.1 (Legal services)	Total, 69.10.11, 69.10.12, 69.10.13, 69.10.14, 69.10.15, 69.10.16, 69.10.17, 69.10.18, 69.10.19
Group 69.2 (Accounting, bookkeeping and auditing activities, tax consultancy)	Total, 69.20.1, 69.20.2, 69.20.21+22+23, 69.20.24, 69.20.29, 69.20.3, 69.20.4
Group 70.2 (Management consultancy activities)	Total, 70.21.1, 70.22.1, 70.22.11, 70.22.12, 70.22.13, 70.22.14, 70.22.15, 70.22.16, 70.22.17, 70.22.2, 70.22.3
Class 71.11 (Architectural activities)	Total, 71.11.1, 71.11.2, 71.11.21+22, 71.11.23, 71.11.24, 71.11.3, 71.11.4
Class 71.12 (Engineering services and related technical consulting services)	Total, 71.12.1, 71.12.11, 71.12.12, 71.12.13, 71.12.14, 71.12.15, 71.12.16, 71.12.17, 71.12.18, 71.12.19, 71.12.2, 71.12.3

NACE Rev. 2 activities	CPA version 2.1 codes
Group 71.2 (Technical testing and analysis)	Total, 71.20.1, 71.20.11, 71.20.12, 71.20.13, 71.20.14, 71.20.19
Group 73.1 (Advertising)	Total, 73.11.1, 73.11.11, 73.11.12, 73.11.13, 73.11.19, 73.12.1, 73.12.11, 73.12.12, 73.12.13, 73.12.14, 73.12.19
Group 73.2 (Market research and public opinion polling)	Total, 73.20.1, 73.20.11, 73.20.12, 73.20.13, 73.20.14+19, 73.20.2
Division 78 (Employment activities)	Total, 78.10.1, 78.10.11, 78.10.12, 78.20.1, 78.20.11, 78.20.12, 78.20.13, 78.20.14, 78.20.15, 78.20.16, 78.20.19, 78.30.1

Three different kinds of size breakdowns are relevant in SBS. Two of them detail classes of numbers in employment (Table 2.7) and one details classes of turnover size (Table 2.8). The employment size-class breakdowns are based on the total number of employees and self-employed persons. In one version, the smallest size class is more detailed than in the other, as it splits the size class 0–9 persons employed, into two, more detailed classes, 0–1 and 2–9 persons employed.

The breakdown by turnover size is based on the annual turnover of the unit. It is defined on the basis of the Euro currency and, in the case that a country has a different currency, the data are to be converted into Euro. The conversion to Euro should be done using the exchange rates provided by Eurostat.

**Table 2.7:** Employment size classes

Size class of number of employees and self-employed persons (detailed version)	Size class of number of employees and self-employed persons
Total	Total
0–1	
2–9	0–9
10–19	10–19
20–49	20–49
50–249	50–249
250 and more	250 and more

**Table 2.8:** Turnover size classes

Size class of turnover breakdown (annual turnover in million Euro)
Total
0 to less than 1
1 to less than 2
2 to less than 5
5 to less than 10
10 to less than 20
20 to less than 50
50 to less than 200
200 and more

The main regional classification in European statistics is the NUTS classification, which has three hierarchical levels (NUTS 1 to NUTS 3). The NUTS Level 0 is equivalent to the entire country (Member State). Only NUTS Levels 1 and 2 are relevant, in the context of SBS (Table 2.9).

The other 'regional' breakdown details turnover by the residence of the client. It distinguishes between turnover from those clients residing in the same Member State, from non-resident clients intra-EU and non-resident clients extra-EU (Table 2.10).

**Table 2.9: Regional classifications**

NUTS Level	Entity
NUTS Level 0	EU Member State
NUTS Level 1	Major socio-economic region
NUTS Level 2	Basic region for the application of regional policies

**Table 2.10: Breakdown by residence of client**

Breakdown by residence of client
Total
Resident
Non-resident - intra-EU
Non-resident - extra-EU

### 2.3.5. Use of approximations

Under this data requirement element, it is noted whether specific data (variables and NACE categories) might not be delivered under certain circumstances. These are usually quite exceptional cases. In general, any unavoidable deviation from the quality requirements needs to be documented in the national metadata report.

However, a further kind of approximation can be found for all tables and this refers to the problem of fiscal years that are deviating from the calendar year. In principle, all data should refer to calendar years. In cases, in which the source data used for compiling the data of the variable are only available for the fiscal year, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for those statistical units (see also Subsection 3.3.5).

### 2.3.6. Data transmission deadlines

There are two data transmission deadlines for SBS:

- 10 months after the end of the reference period for preliminary data;
- 18 months after the end of the reference period for final and validated data.

Preliminary data are only to be compiled for three variables (number of active enterprises, number of employees and self-employed persons, and net turnover) according to Tables 10 and 11. The level of breakdown by activity is less detailed than for the final data transmission.

### 2.3.7. Frequency

With a few exceptions of bi- or multi-annual frequency (Table 2.2) all data requirements of SBS have



an annual frequency. No data are requested at a sub-annual level.

### 2.3.8. First reference period

For most of the data requirements the first reference period is the calendar year 2021. This is the case for all data of Tables 10, 11, 22, 27, 28 and 29. For the other tables, for some of the variables or some of the NACE activities, the first reference years are 2022 (Tables 23 and 24), 2023 (Tables 21, 24 and 25) and 2025 (Table 24).

## 2.4. Detailed table structure of the data transmission requirements

This section describes all of the 10 tables that, in total, define the scope of the SBS domain. Data in Tables 10, 11, 21, 22, 23, 24, 25, 27 and 28 have the enterprise as their statistical unit. Regional data in Table 29 are based on the local unit as the statistical unit. The reference period is the calendar year. Most of the tables have to be compiled with an annual frequency. For monetary values, the measurement unit should be the national currency and, for all other variables, the absolute value.

Table 2.11 provides an overview of these 10 tables, which can be grouped into the following categories:

- Table 10: Activities of enterprises covering variables of all topics and all activities at the class level of NACE;
- Table 11: Activities of enterprises broken down by size classes and legal form (only selected variables and less details, compared to Table 10);
- Table 21: Data on purchases of goods and services of enterprises;
- Table 22: Data on changes in stocks of enterprises;
- Tables 23 to 25: Data on various details of turnover of enterprises;
- Tables 27 and 28: Data on investment of enterprises;
- Table 29: Regional data based on local units.

**Table 2.11: GIA Tables and their main characteristics defining the scope of the SBS**

Table number	Title	Main characteristics
10	Country-level business statistics on activities of enterprises	Activities of enterprises: Main table covering variables of all topics and all activities at the class level of NACE
11	Country-level business statistics on activities of enterprises broken down by size class or broken down by legal form	Activities of enterprises broken down by size classes but with slightly less variables and at a higher level of NACE activities
21	Country-level business statistics on purchases by enterprises	On enterprises' purchases of goods and services for intermediate consumption, by kinds of purchases
22	Country-level business statistics on changes in stocks of enterprises	On changes in enterprises' stocks, by kinds of stocks
23	Country-level business statistics on products and residence of client breakdown of net turnover of enterprises	On certain activities of enterprises, covering breakdown of net turnover by product type and by residence of client

Table number	Title	Main characteristics
24	Country-level business statistics on broad activity regroupings breakdown of net turnover of enterprises	On broad activity regroupings type of net turnover breakdown of enterprises
25	Country-level business statistics on type of turnover breakdown of enterprises	On type of turnover breakdown of enterprises, covering data of net turnover from principal activity
27	Country-level business statistics on investment in tangible non-current assets by enterprises	On investment in tangible non-current assets by enterprises, covering gross investment in land, in the acquisition of existing buildings and structures, in construction and alterations to improve buildings, and in machinery and equipment
28	Country-level business statistics on investment in intangible non-current assets	On investment in intangible non-current assets by enterprises, notably investment through purchasing software
29	Regional business statistics on local units	On number of local units, their number of employees and self-employed persons, and wages and salaries by NUTS 0 to 2 regions

Each table also indicates, whether certain variables do not need to be compiled and submitted. This refers to the so-called '1 % rule according to Annex III A of the EBS GIA Regulation. According to this rule, Member States are exempted from the requirement to compile these variables if, for a related indicator (e.g. value added, turnover or number of employees and self-employed persons), in a specific NACE activity, the contribution of the Member State is less than 1 % of the EU total.

The data structure in each of the tables is quite complex as, in addition to the main data structures, certain exemptions or specifications are to be considered. For instance, certain variables are only to be compiled for certain NACE activities, or breakdown categories differ between certain variables.

### 2.4.1. GIA Table 10: Country-level business statistics on activities of enterprises

As already mentioned, Table 10 can be viewed as the main output table. It includes variables from a number of detailed topics (population, labour input, turnover and output, gross investment) and should be compiled at the lowest level of the NACE classification. For selected important indicators (variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons and 250101 Net turnover), preliminary data should be submitted 10 months after the end of the reference period. For all data, the first reference period is 2021.

**Table 2.12: Country-level business statistics on activities of enterprises (GIA Table 10)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 210101 Number of active enterprises</li> <li>• 220101 Number of employees and self-employed persons</li> <li>• 220102 Number of employees</li> <li>• 220103 Number of employees in full-time equivalent units</li> <li>• 220201 Hours worked by employees</li> <li>• 220301 Employee benefits expense</li> <li>• 220302 Wages and salaries</li> <li>• 220303 Social security costs</li> <li>• 240101 Total purchases of goods and services</li> <li>• 250101 Net turnover</li> <li>• 250201 Gross margin on goods for resale (the 1 % rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees' and self-employed persons' at NACE division level may be applied)</li> <li>• 250301 Value of output</li> <li>• 250401 Value added</li> <li>• 250501 Gross operating surplus</li> <li>• 260101 Gross investment in tangible non-current assets</li> <li>• 260106 Gross investment in intangible non-current assets, other than goodwill (the 1 % rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied)</li> <li>• 260108 Sales proceeds of tangible investments (the 1 % rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied).</li> </ul>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands) except for variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 220102 Number of employees, 220103 Number of employees in full-time equivalent units, and 220201 Hours worked by employees, where it is absolute value.
<b>Periodicity</b>	Annual
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	<p>For variables other than 250201 Gross margin on goods for resale, 260106 Gross investment in intangible non-current assets, other than goodwill, and 260108 Sales proceeds of tangible investments: Market producers of NACE Sections B to N and P to R and divisions S95 and S96;</p> <p>For variables 250201 Gross margin on goods for resale and 260108 Sales proceeds of tangible investments: Market producers of NACE Sections B to G;</p> <p>For variable 260106 Gross investment in intangible non-current assets, other than goodwill: Market producers of NACE Sections B to E.</p>
<b>Breakdowns</b>	<u>1. Breakdown by activity</u> (CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied)

**For all variables (except for variables 260106 Gross investment in intangible non-current assets, other than goodwill, 260108 Sales proceeds of tangible investments, and 250201 Gross margin on goods for resale: NACE Sections B to G only):**

- For NACE Sections B to J, L to N and P to R: Sections, divisions, groups and classes;
  - For NACE Section K: sections, divisions, groups 64.1, 64.2, 64.3, 64.9, 65.1, 65.2 and 65.3, classes 64.11, 64.19, 64.20, 64.30, 65.11, 65.12, 65.20 and 65.30;
  - For divisions 95 and 96: divisions, groups and classes;
  - Special aggregates as defined in Annex II.B to the Regulation for:
    - Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies)
    - ICT total
    - ICT manufacturing
    - ICT services
    - High and medium-high technology manufacturing (optional)
    - High technology manufacturing
    - Medium-high technology manufacturing
    - Low and medium-low technology manufacturing (optional)
    - Medium-low technology manufacturing
    - Low technology manufacturing
    - Information sector
    - Computer related services
    - Total knowledge-intensive services (optional)
    - Knowledge-intensive high technology services
    - Knowledge-intensive market services
    - Knowledge-intensive financial services
    - Other knowledge-intensive services (optional)
    - Knowledge-intensive activities - Business industries,
    - Knowledge-intensive activities (optional)
    - Tourism industries - Total (optional)
    - Tourism industries - Mainly tourism (optional)
    - Tourism industries - Partially tourism (optional)
    - Tourism industries - Transport, Total (optional)
    - Tourism industries - Land transport (optional)
    - Tourism industries - Water transport (optional)
    - Tourism industries - Accommodation (optional)
    - Tourism industries - Food and beverage, Total (optional)
    - Tourism industries - Car and other rental, Total (optional)
-

- Services (except public administration, defence, compulsory social security, activities of membership organisations, households as employers and extra-territorial organisations and bodies).

**For variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 220102 Number of employees, 220302 Wages and salaries, 250101 Net turnover, and 250401 Value added, in addition:**

- Special aggregates as defined in Annex II.B of the EBS GIA Regulation for:
  - Cultural and creative sectors - Total
  - Cultural and creative sectors - Services.

**For variables 260106 Gross investment in intangible non-current assets, other than goodwill and 260108 Sales proceeds of tangible investments:**

- NACE Sections and divisions.

<b>Use of approximations and quality requirements</b>	<p>For activities of NACE 642, 643 and 653, which are economically much less significant, in terms of value added, and number of employees and self-employed persons, 0 values may be provided except for variables 210101 Number of active enterprises, and 220101 Number of employees and self-employed persons. If 220102 Number of employees is not 0, the value should also be provided.</p> <p>In cases in which the source data used for compiling the data of the variable are available for the fiscal year for some statistical units, and these data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.</p>
<b>Data transmission deadline</b>	<p><b>Preliminary data:</b> T+10M for NACE Sections, divisions and groups, for variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, and 250101 Net turnover.</p> <p><b>Final and validated data:</b> T+18M for all variables</p>
<b>First reference period</b>	2021

## 2.4.2. GIA Table 11: Country-level business statistics on activities of enterprises broken down by size class or broken down by legal form

Data on most of the variables in Table 10 are broken down by size classes and by legal form, in Table 11. In order to avoid too many confidential data cells, the activity breakdown stops at the group level (3-digits). The special aggregations are made at high levels of the classification. As data need to be provided as a combination of the activity and of the size-class or the legal-form breakdowns, Table 11 is split into four subsidiary tables:

- Breakdown by activity and size class of number of employees and self-employed persons
- Breakdown by activity and size class of number of employees
- Breakdown by activity and legal form
- Breakdown by activity and size class of turnover.

It should be noted that the data requirement for the breakdown by activity and size-class of number of employees and the breakdown by activity and legal form belong to the topic on business demography statistics rather than to the SBS domain. The GIA takes an integrated approach to structuring the tables and aims at the consistency of the data relating to variables that may be required to be reported in a different topic. In the case of SBS and business demography, this refers to data on the number of active enterprises and the number of persons employed. In transmitting these data in the two topics, it needs to be assured that confidentiality flags are set consistently.

The specifications for each breakdown structure may differ. The data structure of the breakdown by size class of number of employees and self-employed persons is more detailed than it is for the other breakdown categories. The breakdown by turnover size, for instance, should only be compiled for the enterprises classified under trade (Section G). In addition to the final data, preliminary data on selected variables are also requested. The first reference period for all data is 2021.

**Table 2.13: Country-level business statistics on activities of enterprises broken down by size class or broken down by legal form (GIA Table 11)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 210101 Number of active enterprises</li> <li>• 220101 Number of employees and self-employed persons</li> <li>• 220102 Number of employees</li> <li>• 220201 Hours worked by employees</li> <li>• 220301 Employee benefits expense</li> <li>• 220302 Wages and salaries</li> <li>• 220303 Social security costs</li> <li>• 240101 Total purchases of goods and services</li> <li>• 250101 Net turnover</li> <li>• 250301 Value of output</li> <li>• 250401 Value added</li> <li>• 250501 Gross operating surplus</li> </ul>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands) except for variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 220102 Number of employees, and 220201 Hours worked by employees: absolute value.
<b>Periodicity</b>	Annual
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	<p>For breakdown by activity and size class of number of employees and self-employed persons of variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 250101 Net turnover, and 250401 Value added; for breakdown by activity and legal form and for breakdown by activity and size class of number of employees of variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, and 220102 Number of employees: Market producers of NACE Sections B to N and P to R and divisions S95 and S96.</p> <p>For breakdown by activity and size class of turnover of variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 250101 Net turnover, and 250401 Value added: Market producers of NACE Section G.</p> <p>For breakdown by activity and size class of number of employees and self-employed persons of variables other than 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, 250101 Net turnover, and 250401 Value added: Market producers of NACE Sections B to F.</p>

**Breakdowns**

**1. Breakdown by activity and size class of number of employees and self-employed persons** . The CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied.

Data must be provided as a combination of all breakdowns listed below:

*Activity breakdown:*

- For NACE Sections B to J, L to N and P to R: Sections, divisions and groups;
- For NACE Section K: Section, divisions, groups 64.1, 64.2, 64.3, 64.9, 65.1, 65.2 and 65.3;
- For divisions 95 and 96: divisions and groups;
- Special aggregate as defined in Annex II to the Regulation:
  - Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies).

*Size class of number of employees and self-employed persons:*

- For NACE Sections F to J, L to N and P to R and divisions S95 and S96 only for variables 210101 Number of active enterprises and 220101 Number of employees and self-employed persons: Total, 0-1 employees and self-employed persons, 2-9 employees and self-employed persons, 10-19 employees and self-employed persons, 20-49 employees and self-employed persons, 50-249 employees and self-employed persons, 250 and more employees and self-employed persons;
- For NACE Sections F to J, L to N and P to R and divisions S95 and S96, for variables other than 210101 Number of active enterprises and 220101 Number of employees and self-employed persons: Total, 0-9 employees and self-employed persons, 10-19 employees and self-employed persons, 20-49 employees and self-employed persons, 50-249 employees and self-employed persons, 250 and more employees and self-employed persons;
- For NACE Sections B to E and K: Total, 0-9 employees and self-employed persons, 10-19 employees and self-employed persons, 20-49 employees and self-employed persons, 50-249 employees and self-employed persons, 250 and more employees and self-employed persons

**2. Breakdown by activity and size class of number of employees <sup>(4)</sup>**

(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied.)

**For variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, and 220102 Number of employees only,**

data have to be provided as a combination of all breakdowns listed below:

*Activity breakdown:*

- NACE Sections;
- Aggregates of NACE divisions: C10+C11+C12, C13+C14, C17+C18, C24+C25, C29+C30, C31+C32;
- Aggregates of NACE divisions: C15, C16, C19, C20, C21, C22, C23, C26, C27, C28, C33, S95, S96, and all divisions of NACE Sections G, H, I, J, K, L, M, N, P, Q and R;

<sup>(4)</sup> The breakdown by activity and size class of number of employees is only relevant to business demography.

- Groups of NACE divisions G47 and J62, and of NACE Sections L, M and N;
- Classes of NACE division J62;
- Special aggregates as defined in Annex II.B to the Regulation:
  - Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies);
  - Services (except public administration, defence, compulsory social security, activities of membership organisations, households as employers and extra-territorial organisations and bodies);
  - ICT total;
  - ICT manufacturing;
  - ICT services.

*Size class of number of employees breakdown:*

Total, 0 employees, 1-4 employees, 5-9 employees, 10 and more employees.

### **3. Breakdown by activity and legal form <sup>(5)</sup>**

(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied.)

**For variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, and 220102 Number of employees only,**

data have to be provided as a combination of all breakdowns listed below:

*Activity breakdown:*

- same activity breakdown as in Breakdown 2.

*Legal-form breakdown:*

- Total;
- Personally owned and no limit to personal liability;
- Private or publicly quoted joint stock companies with limited liability for those owning shares;
- Personally owned limited and unlimited liability partnerships (also included are other legal forms such as co-operatives, associations, etc.)

### **4. Breakdown by activity and size class of turnover**

(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied; 1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied.)

**For NACE Section G only,**

data have to be provided as a combination of all breakdowns listed below:

*Activity breakdown:*

- NACE Section, divisions and groups.

*Size class of turnover breakdown:*

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<sup>(5)</sup> The breakdown by activity and legal form is only relevant to business demography.



	<ul style="list-style-type: none"> <li>Annual turnover in million euro: Total, 0 to less than 1, 1 to less than 2, 2 to less than 5, 5 to less than 10, 10 to less than 20, 20 to less than 50, 50 to less than 200, 200 and more.</li> </ul>
<b>Use of approximations and quality requirements</b>	<p>For activities of NACE 642, 643 and 653, which are economically not significant in terms of value added, and number of employees and self-employed persons, 0 values may be provided except for variables 210101 Number of active enterprises and 220101 Number of employees and self-employed persons. If 220102 Number of employees is not 0, the value should also be provided.</p> <p>In cases, in which the source data used for compiling the data of the variable are available for the fiscal year for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.</p>
<b>Data transmission deadline</b>	<p><b>Preliminary data:</b> T+10M breakdown by activity and size class of number of employees and self-employed persons for variables 210101 Number of active enterprises, 220101 Number of employees and self-employed persons, and 250101 Net turnover;</p> <p><b>Final and validated data:</b> T+18M for all variables.</p>
<b>First reference period</b>	2021

### 2.4.3. GIA Table 21: Country-level business statistics on purchases by enterprise

GIA Table 21 shows data on different kinds of purchases and expenses by enterprises: purchases of goods and services for resale, on services provided through agency workers, on long-term rental and operating leasing, on energy products, and on payments to subcontractors. The table does not include data on variable 240101 Total purchases of goods and services, which is covered in Tables 10 and 11 only. As there are further categories of purchases, which are not separated as own variables, the sum of those variables does not result in figures on total purchases. Purchases of goods and services are an important variable for the delineation of value added.

Certain variables on purchases are only requested for certain NACE activities. For example, Expenses of long-term rental and operating leasing and Purchases of energy need only be compiled for the Sections B to F of NACE. The first reference period is 2021 with the exception of variable 240106 Payments to subcontractors, for which the first reference year is 2023, as this variable is only to be compiled every three years.

**Table 2.14: Country-level business statistics on purchases by enterprises (GIA Table 21)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 240102 Purchases of goods and services for resale</li> <li>• 240103 Expenses on services provided through agency workers</li> <li>• 240104 Expenses of long-term rental and operating leases (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied)</li> <li>• 240105 Purchases of energy products (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied for Sections D, E and F.)</li> <li>• 240106 Payments to subcontractors (1 %-rule as defined in Annex III.A.1 based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied.)</li> </ul>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Annual, with the following exceptions: <ul style="list-style-type: none"> <li>• Variable 240106 Payments to subcontractors: every three years.</li> </ul>
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	<p>For variable 240102 Purchases of goods and services for resale: Market producers of NACE Sections B to J, L to N and P to R and divisions S95 and S96.</p> <p>For variable 240103 Expenses on services provided through agency workers: Market producers of NACE Sections B to N and P to R and divisions S95 and S96.</p> <p>For variables 240104 Expenses of long-term rental and operating leases and 240106 Payments to subcontractors: Market producers of NACE Sections B to F.</p> <p>For variable 240105 Purchases of energy: Market producers of NACE Sections B to F.</p>
<b>Breakdowns</b>	<p><b>Breakdown by activity</b></p> <p>(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied)</p> <p><b>For variables 240102 Purchases of goods and services for resale and 240103 Expenses on services provided through agency workers:</b></p> <ul style="list-style-type: none"> <li>• For NACE Sections B to J, L to N and P to R: Sections, divisions, groups and classes;</li> <li>• Only for variable 240103, for NACE Section K: Section, divisions, groups 64.1, 64.2, 64.3, 64.9, 65.1, 65.2, and 65.3, and classes 64.11, 64.19, 65.11, 65.12, 65.20 and 65.30;</li> <li>• For divisions 95 and 96: divisions, groups and classes;</li> <li>• Special aggregates as defined in Annex II.B of the EBS GIA Regulation (for variable 240102, the special aggregates will exclude Section K):</li> </ul>

- 
- Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies)
  - ICT total
  - ICT manufacturing
  - ICT services
  - High and medium-high technology manufacturing (optional)
  - High technology manufacturing
  - Medium-high technology manufacturing
  - Low and medium-low technology manufacturing (optional)
  - Medium-low technology manufacturing
  - Low technology manufacturing
  - Information sector
  - Computer related services
  - Total knowledge-intensive services (optional)
  - Knowledge-intensive high technology services
  - Knowledge-intensive market services
  - Knowledge-intensive financial services
  - Other knowledge-intensive services (optional)
  - Knowledge-intensive activities - Business industries
  - Knowledge-intensive activities (optional)
  - Tourism industries (total) (optional)
  - Tourism industries (mainly tourism) (optional)
  - Tourism industries (partially tourism) (optional)
  - Tourism industries - Transport (total) (optional)
  - Tourism industries - Land transport (optional)
  - Tourism industries - Water transport (optional)
  - Tourism industries - Accommodation (optional)
  - Tourism industries - Food and beverage (total) (optional)
  - Tourism industries - Car and other rental (total) (optional)
  - Services (except public administration, defence, compulsory social security, activities of membership organisations, households as employers and extra-territorial organisations and bodies).

**For variables 240104 Expenses of long-term rental and operating leases and 240106 Payments to subcontractors (NACE Sections B to F):**

- NACE Sections and divisions.

**For variable 240105 Purchases of energy products:**

- For NACE Sections B, C and F: Sections, divisions, groups and classes;
-

	<ul style="list-style-type: none"> <li>For NACE Sections D and E: sections and divisions.</li> </ul>
<b>Use of approximations and quality requirements</b>	<p>For activities of NACE 642, 643 and 653 that are economically not significant in terms of value added, and number of employees and self-employed persons, 0 values may be provided.</p> <p>For activities of NACE Section K, it can be assumed that the value of variable 240102 Purchases of goods and services for resale is economically non-significant, therefore 0 values may be provided for variable 240102.</p> <p>In cases, in which the source data used for compiling the data of the variable are available for the fiscal year for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.</p>
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2023 for variable 240106 Payment to subcontractors 2021 for all other variables

#### 2.4.4. GIA Table 22: Country-level business statistics on changes in stocks of enterprises

GIA Table 22 shows data on changes in stocks of enterprises: variable 240201 Total change in stocks of goods, variable 240202 Change in stocks of finished goods and work in progress, and variable 240203 Changes in stocks for resale. Change in stocks of finished goods and work in progress should be compiled of NACE Sections B to F and change in stocks of goods for resale only for section G (market producers in trade). The variables have to be compiled annually; the first reference year is 2021.

**Table 2.15: Country-level business statistics on changes in stocks of enterprises (GIA Table 22)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>240201 Change in stock of goods (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied.)</li> <li>240202 Change in stock of finished goods and work-in-progress</li> <li>240203 Change in stock of goods for resale (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied.)</li> </ul>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Annual
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	<p>For variable 240202 Change in stock of finished goods and work-in-progress: Market producers of NACE Sections B to F;</p> <p>For variables 240201 Change in stock of goods and 240203 Change in stocks of goods for resale: Market producers of NACE Section G.</p>

<b>Breakdowns</b>	<p>Breakdown by activity</p> <p>(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied.)</p> <p><b>For variable 240202 Change in stock of finished goods and work-in-progress (NACE Sections B to F):</b></p> <ul style="list-style-type: none"> <li>NACE Sections, divisions, groups and classes.</li> </ul> <p><b>For variables 240201 Change in stock of goods and 240203 Change in stocks of goods for resale (NACE Section G):</b></p> <ul style="list-style-type: none"> <li>NACE Section and divisions</li> </ul>
<b>Use of approximations and quality requirements</b>	In cases, in which the source data used for compiling the data of the detailed topic are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.
<b>Data transmission deadline</b>	T+18M
<b>Frequency</b>	Annual
<b>First reference period</b>	2021

### 2.4.5. GIA Table 23: Country-level business statistics on products and residence of client breakdown of net turnover of enterprises

GIA Tables 23 to 25 show turnover data in different breakdowns. Table 23 includes only two very different variables: 250112 Net turnover by residence of the client and 250113 Net turnover by product. The statistical population is restricted to certain NACE activities in the service sector and to enterprises with more than 20 employees and self-employed persons.

The first variable shows the structure of net turnover originated by sales to resident units and to non-resident units, for which a further split between sales to intra- and extra-EU is requested. The other variable shows the structure of turnover by products defined on the basis of CPA, for selected service activities. For certain NACE activities, those two variables must be compiled every second year. For some NACE activities, the first reference year is 2022.

**Table 2.16:** Country-level business statistics on products and residence of client breakdown of net turnover of enterprises (GIA Table 23)

<b>Variables</b>	<ul style="list-style-type: none"> <li>250112 Net turnover by residence of client (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied; for groups and classes the 1 %-rule shall be applied at the corresponding division level.)</li> <li>250113 Net turnover by product (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied; for groups and classes the 1 %-rule shall be applied at the corresponding division level.)</li> </ul>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)

<b>Periodicity</b>	Annual, with the following exceptions: <ul style="list-style-type: none"> <li>- Variables 250112 Net turnover by residence of client and 250113 Net turnover by product, for NACE 69.1, 69.2, 70.2, 71.1, 71.2, and 73.2: biennial.</li> </ul>
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	Activity coverage: Market producers of NACE divisions 62, 78, and groups 58.2, 63.1, 69.1, 69.2, 70.2, 71.1, 71.2, 73.1, and 73.2 Size-class coverage: Enterprises with more than 20 employees and self-employed persons only.
<b>Breakdowns</b>	<p>CETO-flag as defined in Annex III.B may be applied</p> <p><b>For variable 250113 Net turnover by product</b></p> <p><b>1. Breakdown by product</b></p> <ul style="list-style-type: none"> <li>• CPA for NACE division 62, and groups 58.2 and 63.1 (Computer services): Total, 58.21, 58.29, 58.29.1+58.29.2, 58.29.3+58.29.4, 58.29.5, 62.01, 62.02, 62.03, 62.09, 63.11, 63.12, 95.11, Resale (should include all resale (wholesale and retail) of software which is not developed by the enterprise as well as the resale of hardware which is not manufactured by the enterprise)</li> <li>• CPA for NACE group 69.1 (Legal services): Total, 69.10.11, 69.10.12, 69.10.13, 69.10.14, 69.10.15, 69.10.16, 69.10.17, 69.10.18, 69.10.19</li> <li>• CPA for NACE group 69.2 (Accounting, bookkeeping and auditing activities; tax consultancy): Total, 69.20.1, 69.20.2, 69.20.21+22+23, 69.20.24, 69.20.29, 69.20.3, 69.20.4</li> <li>• CPA for NACE group 70.2 (Management consultancy activities): Total, 70.21.1, 70.22.1, 70.22.11, 70.22.12, 70.22.13, 70.22.14, 70.22.15, 70.22.16, 70.22.17, 70.22.2, 70.22.3</li> <li>• CPA for NACE class 71.11 (Architectural activities): Total, 71.11.1, 71.11.2, 71.11.21+22, 71.11.23, 71.11.24, 71.11.3, 71.11.4</li> <li>• CPA for NACE class 71.12 (Engineering services and related technical consulting services): Total, 71.12.1, 71.12.11, 71.12.12, 71.12.13, 71.12.14, 71.12.15, 71.12.16, 71.12.17, 71.12.18, 71.12.19, 71.12.2, 71.12.3.</li> <li>• CPA for NACE group 71.2 (Technical testing and analysis): Total, 71.20.1, 71.20.11, 71.20.12, 71.20.13, 71.20.14, 71.20.19</li> <li>• CPA for NACE group 73.1 (Advertising): Total, 73.11.1, 73.11.11, 73.11.12, 73.11.13, 73.11.19, 73.12.1, 73.12.11, 73.12.12, 73.12.13, 73.12.14, 73.12.19</li> <li>• CPA for NACE group 73.2 (Market research and public opinion polling): Total, 73.20.1, 73.20.11, 73.20.12, 73.20.13, 73.20.14+19, 73.20.2</li> <li>• CPA for NACE division 78 (Employment activities): Total, 78.10.1, 78.10.11, 78.10.12, 78.20.1, 78.20.11, 78.20.12, 78.20.13, 78.20.14, 78.20.15, 78.20.16, 78.20.19, 78.30.1</li> </ul> <p><b>For variable 250112 Net turnover by residence of client</b></p> <p><b>2. Breakdown by residence of client</b></p> <ul style="list-style-type: none"> <li>• Total</li> <li>• Resident (as defined in ESA 2010, par. 1.62)</li> </ul>

	<ul style="list-style-type: none"> <li>• Non-resident, <ul style="list-style-type: none"> <li>◦ intra-EU</li> <li>◦ extra-EU.</li> </ul> </li> </ul>
<b>Use of approximations and quality requirements</b>	In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2021 for NACE divisions 62 and 78, and groups 58.2, 63.1, 71.1, 71.2, 73.1 and 73.2.  2022 for NACE groups 69.1, 69.2 and 70.2.

## 2.4.6. GIA Table 24: Country-level business statistics on broad activity regroupings breakdown of net turnover of enterprises

The second table on turnover structure is GIA Table 24. This table shows turnover by certain kinds of activities. In total eight different kinds are distinguished: Net turnover from agriculture, forestry and fishing; from industrial activities; from industrial activities excluding construction; from construction; from service activities; from trading; from building; and from civil engineering.

The statistical populations differ between those kinds of turnover variables. The first reference periods are 2022, 2023 and 2025, depending on the NACE activities covered. These variables are only requested every five years.

**Table 2.17: Country-level business statistics on broad activity regroupings breakdown of net turnover of enterprises (GIA Table 24)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 250102 Net turnover from agriculture, forestry, fishing and industrial activities</li> <li>• 250103 Net turnover from industrial activities</li> <li>• 250104 Net turnover from industrial activities excluding construction</li> <li>• 250105 Net turnover from construction</li> <li>• 250106 Net turnover from service activities</li> <li>• 250107 Net turnover from trading activities of purchase and resale and from intermediary activities</li> <li>• 250108 Net turnover from building</li> <li>• 250109 Net turnover from civil engineering</li> </ul> <p>(1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'Net turnover' and 'Number of employees and self-employed persons' at NACE division level may be applied for all variables.)</p>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Every five years
<b>Reference period</b>	Calendar year

<b>Statistical population</b>	<p>For variable 250102 Net turnover from agriculture, forestry, fishing and industrial activities: Market producers of NACE Section G;</p> <p>For variables 250104 Net turnover from industrial activities excluding construction, 250105 Net turnover from construction, 250108 Net turnover from building, and 250109 Net turnover from civil engineering: Market producers of NACE Section F;</p> <p>For variable 250103 Net turnover from industrial activities: Market producers of NACE Sections B to E;</p> <p>For variables 250106 Net turnover from service activities and 250107 Net turnover from trading activities of purchase and resale and from intermediary activities: Market producers of NACE Sections B to G.</p>
<b>Breakdowns</b>	<p>Breakdown by activity</p> <p><i>Activity breakdown:</i></p> <ul style="list-style-type: none"> <li>• NACE Sections and divisions.</li> </ul>
<b>Use of approximations and quality requirements</b>	<p>In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.</p>
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	<p>2022 for NACE 2 division 47</p> <p>2025 for NACE division 45</p> <p>2023 for all other activities</p>

### 2.4.7. GIA Table 25: Country-level business statistics on type of turnover breakdown of enterprises

The third table on turnover data includes two quite different variables that are not related to each other: 250110 Net turnover from the principal activity at the NACE three-digit level, and variable 250111 Net turnover from subcontracting. The statistical population for variable 250110 are market producers of NACE Sections B to F, and for variable 250111 only market producers of NACE Section F (construction).

As enterprises can be engaged in more than one economic activity in quite different NACE categories, variable 250110 should show how much of the net turnover generated is based on the principal activity. This should be measured at the three-digit level (group level). So, for each NACE group the data show how much of the turnover generated originated from sales of goods and services of the same product group.

While the variable 250101 Net turnover from the principal activity has an annual periodicity, the other variable 250111 Net turnover from subcontracting is to be submitted every three years. The first reference years are 2021 for the annual variable and 2023 for the three-yearly variable.



**Table 2.18: Country-level business statistics on type of turnover breakdown of enterprises (GIA Table 25)**

<b>Variables</b>	250110 Net turnover from the principal activity at the NACE three-digit level 250111 Net turnover from subcontracting  (1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied for all variables.)
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Variable 250110 Net turnover from the principal activity at the NACE three-digit level: annual;  Variable 250111 Net turnover from subcontracting: every three years.
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	For variable 250110 (Net turnover from the principal activity at the NACE three-digit level):  Market producers of NACE Sections B to F  For variable 250111 (Net turnover from subcontracting):  Market producers of NACE Section F
<b>Breakdowns</b>	Breakdown by activity  <b>For variable 250111 Net turnover from subcontracting:</b>  <ul style="list-style-type: none"> <li>• NACE Sections and divisions</li> </ul> <b>For variable 250110 Net turnover from the principal activity at the NACE three-digit level:</b>  <ul style="list-style-type: none"> <li>• NACE Groups</li> </ul>
<b>Use of approximations and quality requirements</b>	In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2021 for variable 250110 Net turnover from the principal activity at the NACE three-digit level;  2023 for variable 250111 Net turnover from subcontracting.

## 2.4.8. GIA Table 27: Country-level business statistics on investment in tangible noncurrent assets by enterprises

GIA Tables 27 and 28 contain data on gross investment: Table 27 on tangible investment and table 28 on intangible investment. Four categories of tangible investment are distinguished: land, acquisition of existing buildings, construction, and machinery and equipment. Only variable 260105 Gross investment in machinery and equipment has to be compiled for all NACE activities in the scope of SBS, and data have to be submitted at the lowest level of NACE (classes). The other variables only need to

be compiled for NACE activities B to G. The first reference year for all variables is 2021 and the periodicity is annual.

**Table 2.19: Country-level business statistics on investment in tangible non-current assets by enterprises (GIA Table 27)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 260102 Gross investment in land</li> <li>• 260103 Gross investment in the acquisition of existing buildings</li> <li>• 260104 Gross investment in construction and improvement of buildings</li> <li>• 260105 Gross investment in machinery and equipment</li> </ul> <p>(1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied for all variables except for variable 260105 Gross investment in machinery and equipment.)</p>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Annual
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	<p>For variable 260105 Gross investment in machinery and equipment: Market producers of NACE Sections B to N and P to R and divisions S95 and S96;</p> <p>For variables 260102 Gross investment in land, 260103 Gross investment in the acquisition of existing buildings, and 260104 Gross investment in construction and improvement of buildings: Market producers of NACE Sections B to G.</p>
<b>Breakdowns</b>	<p>Breakdown by activity:</p> <p>(CETO-flag as defined in Annex III.B of the EBS GIA Regulation may be applied)</p> <p><b>For variable 260105 Gross investment in machinery and equipment (NACE Sections B to N and P to R, and divisions S95 and S96)</b></p> <ul style="list-style-type: none"> <li>• For NACE Sections B to J, L to N, and P to R: NACE Sections, divisions, groups and classes;</li> <li>• For NACE Section K: NACE Sections, divisions, groups 64.1, 64.2, 64.3, 64.9, 65.1, 65.2, and 65.3, and classes 64.11, 64.19, 64.20, 64.30, 65.11, 65.12, 65.20, and 65.30;</li> <li>• For divisions S95 and S96: NACE divisions, groups and classes;</li> <li>• Special aggregates as defined in Annex II.B of the EBS GIA Regulation: <ul style="list-style-type: none"> <li>○ Industry, construction and services (except public administration, defence, compulsory social security, activities of membership organisations, activities of households as employers and extra-territorial organisations and bodies)</li> <li>○ ICT total</li> <li>○ ICT manufacturing</li> <li>○ ICT services</li> <li>○ High and medium-high technology manufacturing (optional)</li> </ul> </li> </ul>

- High technology manufacturing
- Medium-high technology manufacturing
- Low and medium-low technology manufacturing (optional)
- Medium-low technology manufacturing
- Low technology manufacturing
- Information sector
- Computer related services
- Total knowledge-intensive services (optional)
- Knowledge-intensive high technology services
- Knowledge-intensive market services
- Knowledge-intensive financial services
- Other knowledge-intensive services (optional)
- Knowledge-intensive activities - Business industries
- Knowledge-intensive activities (optional)
- Tourism industries (total) (optional)
- Tourism industries (mainly tourism) (optional)
- Tourism industries (partially tourism) (optional)
- Tourism industries - Transport (total) (optional)
- Tourism industries - Land transport (optional)
- Tourism industries - Water transport (optional)
- Tourism industries - Accommodation (optional)
- Tourism industries - Food and beverage (total) (optional)
- Tourism industries - Car and other rental (total) (optional).

**For variables 260102 Gross investment in land, 260103 Gross investment in the acquisition of existing buildings and structures, and 260104 Gross investment in construction and improvement of buildings (NACE Sections B to G only):**

- NACE Sections and divisions.

<b>Use of approximations and quality requirements</b>	<p>For activities of NACE 642, 643 and 653, which are economically not significant in terms of value added, and number of employees and self-employed persons, 0 values may be provided.</p> <p>In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.</p>
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2021

## 2.4.9. GIA Table 28: Country-level business statistics on investment in intangible non-current assets

Within the categories of intangible assets, only 260107 Investment in purchased software is requested, in GIA Table 28, and that only for NACE Sections B to F. Activity is not broken down to a high level of detail: Sections and divisions. Data must only be submitted every three years.

**Table 2.20: Country-level business statistics on investment in intangible non-current assets (GIA Table 28)**

<b>Variable</b>	<ul style="list-style-type: none"> <li>260107 Investment in purchased software</li> </ul> <p>(1 %-rule as defined in Annex III.A.1 of the EBS GIA Regulation based on 'net turnover' and 'number of employees and self-employed persons' at NACE division level may be applied.)</p>
<b>Statistical unit</b>	Enterprise
<b>Measurement unit</b>	National currency (thousands)
<b>Periodicity</b>	Every three years
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	Market producers of NACE Sections B to F
<b>Breakdowns</b>	<p>Breakdown by activity</p> <ul style="list-style-type: none"> <li>NACE Sections and divisions.</li> </ul>
<b>Use of approximations and quality requirements</b>	In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2021

## 2.4.10. GIA Table 29: Regional business statistics on local units

The last table contains regional data. These should be compiled on the basis of local units. They comprise only three variables: number of local units, number of employees and self-employed persons, and wages and salaries. The data should be compiled for all NACE activities in the scope of SBS (Sections B to N and P to R, and divisions S95 and S96). The activity breakdown required is Sections and divisions. The regional breakdown is described by NUTS Levels 1 and 2. Data must be submitted annually, starting with 2021 as the first reference year. For the definition of the population of local units, see Subsection 3.3.4.

**Table 2.21: Regional business statistics on local units (GIA Table 29)**

<b>Variables</b>	<ul style="list-style-type: none"> <li>• 310101 Number of local units (optional for NACE Section K)</li> <li>• 320101 Number of employees and self-employed persons in local units</li> <li>• 320301 Wages and salaries in local units</li> </ul>
<b>Statistical unit</b>	Local unit
<b>Measurement unit</b>	National currency for variable 320301 Wages and salaries in local units; absolute figures for the other variables
<b>Periodicity</b>	Annual
<b>Reference period</b>	Calendar year
<b>Statistical population</b>	Local units of market producers of NACE Sections B to N and P to R, and divisions S95 and S96 (optional for NACE Section K, for variable 310101 Number of local units)
<b>Breakdowns</b>	<p>Breakdown by region and activity</p> <p>Data are required to be provided as a combination of all of these breakdowns:</p> <p><i>Regional breakdown:</i></p> <ul style="list-style-type: none"> <li>• NUTS levels 0 to 2<sup>(6)</sup>.</li> </ul> <p><i>Activity breakdown:</i></p> <ul style="list-style-type: none"> <li>• NACE Sections and divisions.</li> </ul>
<b>Use of approximations and quality requirements</b>	In cases, in which the source data used for compiling the data of the variable are available for the fiscal year, for some statistical units, and those data cannot be recalculated to cover the calendar year, the calendar year data may be approximated by data on the fiscal year for these statistical units.
<b>Data transmission deadline</b>	T+18M
<b>First reference period</b>	2021

<sup>(6)</sup> Regional data according to the NUTS classification applicable at the time when the transmission of the data is required by this Regulation; revisions of data regarding previous reference years should use the NUTS classification applicable at the time of their legal transmission deadline.

# 3

## Core principles and concepts

### 3.1. Introduction

This chapter 3 concerns the principles and basic concepts of European business statistics with a special focus on SBS. Section 3.2 presents the European principles that are stipulated in the European statistics regulation: professional independence, impartiality, objectivity, reliability, statistical confidentiality, and cost-effectiveness. Whereas Subsection 3.2.1 presents these principles, Subsection 3.2.2 discusses them in the context of SBS.

Section 3.3 covers the core concepts of SBS: the statistical units enterprise and local unit, residency, the activity status of the units, the target population, and the calendar and fiscal year.

### 3.2. Principles of European Business Statistics

#### 3.2.1. General principles

Chapter 2 of the EBS Manual introduces the general principles of European statistics as laid down in the European Statistics Regulation of 2009: professional independence, impartiality, objectivity, reliability, statistical confidentiality, and cost-effectiveness. These principles are further developed in the [European Statistics Code of Practice](#), which also covers the quality criteria: relevance (Principle 11), accuracy and reliability (Principle 12), timeliness and punctuality (Principle 13), coherence and comparability (Principle 14), and accessibility and clarity (Principle 15).

##### 3.2.1.1. COST-EFFECTIVENESS

Producing statistics should be as efficient as possible, both for the compilers and for the respondents. Costs should thus be as low as possible. The main measures supporting this principle are the best selection of data sources and processing methods and/or the reuse of already existing data, including the use of administrative data.

Effectiveness also means that user needs should be fulfilled. The focus must be on the high quality of the output and on ensuring cross-consistency.

### 3.2.1.2. SUBSIDIARITY IN TERMS OF DATA SOURCES AND NATIONAL PROCESSING

It is up to the national data compilers to select and choose the possible data sources and the processing methodology. This subsidiarity principle is fundamental as the national statistical authorities best know the national situation and circumstances. The national data compilers must ensure and document that, based on the data and methods used, the European data requirements are fulfilled in high data quality.

The national input variables selected for the collection of the basic data may, for instance, be more detailed or even defined slightly differently from the required output variables, provided that inputs are correctly transformed into EU output variables and that they comply with the EU quality requirements.

### 3.2.1.3. MEASURES TO AVOID UNNECESSARY BURDEN ON RESPONDENTS

The burden on respondents mainly depends on how the statistical production process is organised at the national level, for a given type of EU data-transmission requirements. The burden on respondents will be smaller, the less compulsory data reporting is directly imposed by the national statistical authorities.

Response burden is determined by various factors, such as the number of variables requested, sample sizes and the frequency of data reporting. The clarity of the data requests and the means of reporting the data also influence the perceived burden. Measures to reduce the response burden could thus be: smaller sample sizes, the replacement of surveys by administrative information, the reuse of already existing statistical data, and the use of estimation and modelling methods.

### 3.2.1.4. GUARANTEEING OUTPUT QUALITY

The achievement of the output quality of the statistical data that are produced is measured by the dimensions of quality: relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, and accessibility and clarity. Member States must report on the quality indicators in the annual reference metadata.

Quality checks and an active quality policy are on-going tasks, in all statistical domains. For more information on the EBS Quality Framework, see Subsection 7.3.1.

### 3.2.1.5. CROSS-DOMAIN CONSISTENCY MEASURES

Coherence and comparability between statistical domains allow users to analyse data from different domains on a common basis. This increases the usability of the statistical data. Even if European business statistics are regulated by one basic act, the various domains of business statistics implicitly focus on different aspects of a country's economic activities, such as the short-term development of economic activities, births and survivals of enterprises, innovation performance, foreign affiliates, international trade, etc. Even if those domains have a different focus, and different approaches and variables are used, many aspects are shared: statistical units, statistical population, activity classification, and of course some variables too, such as the number of employees and self-employed persons.

In order to achieve cross-consistency, it is best for these common aspects and methods to be the same: a uniform definition of cross-domain variables, the coordinating role of the statistical registers, uniform rules on statistical units, and uniform rules on the market/non-market scope. Cross-domain consistency is also supported by various measures contained in the data compilation process: the reuse of microdata across domains, microdata integration, and cross-domain validation checks.

### 3.2.2. Relevance to SBS

All of the above principles also have their validity and importance in SBS. They should deserve high attention, given the character of SBS as a core business statistics domain with broad coverage and variables covering the most important structural information, a high potential for analysis and policy use, and as one of the main data sources for national accounts.

Article 4 of the EBS Regulation stipulates that, in producing European statistics, Member States may use any relevant data sources while avoiding excessive burden on respondents and taking due account of the cost-effectiveness of the national statistical authority. Furthermore, Article 5 states that the national statistical authorities shall have the right to access and use, promptly and free of charge, all administrative records, and to integrate those records with other data sources, so as to meet the statistical requirements of the EBS Regulation. Both articles are central as they set the basis for supporting cost-effectiveness and reducing unnecessary burden on respondents.

SBS is a statistical domain that has a relatively low response burden. It is an annual data collection, administrative data are widely used, and various variables can directly be taken from the annual company reports. Of course, this favourable situation may not be given for all companies and for all variables, and some data may not be available in due time. Variables that are not covered by administrative sources, are directly collected from the enterprises, usually on a sample basis.

Not only the choice of the input data for SBS, but also that of the processing methodology are to be decided by the Member States, based on the subsidiarity principle. The central EU requirement is that the data compiled under European legislation fulfil the output and quality criteria. This includes all aspects of the data requirements as listed and described in Section 2.3. Thus, not only do the variables and their definitions matter, but also the coverage and completeness, the implementation of the statistical units and their classifications, etc. The SBS data compiled in all the Member States should be harmonised and thus be comparable between countries, in general and in all details (by classifications, variables, size classes, coverage, etc.)

Cross-domain consistency within the domains of European business statistics is today viewed as being very important, certainly much more so than it was in the past. This is because of the increased and more specific user needs, and due to the increased interdependence between the economies. As the term already explains, cross-domain consistency allows the linking of statistical data originating from different statistical domains. This opens the way to new kinds of analysis and enlarges the data's potential, while neither increasing costs nor burden. As it follows an integrated approach, one of the main goals of the new legal basis enshrined in the EBS Regulation is to achieve comparability between the business statistics domains. In the past, separate legal acts for the different domains, that had been developed over the years, hindered comparability, which was thus not always given as an explicit goal. The setting of the new legal basis now strongly supports the goal of cross-domain consistency. One specific element of cross-domain consistency regarding SBS is the harmonisation, between SBS and business demography statistics, of the variables on business population and the number of employees and self-employed persons.

The criteria for achieving cross-domain consistency are listed in subsection 3.2.1.5. Most of these criteria are prescribed in European legal acts, and only their accurate national implementation represents an issue as to whether consistency is given or not. However, there is one area in which concrete legal prescription is missing: that of the coordinated use of master frames derived from the statistical business registers. This is often called the 'backbone' role of the register.

Master frames are derived from the 'live register' and they allow the SBR to fulfil this 'backbone' role in the production of business statistics. Master frames build the input for the selection of survey frames. A master frame contains the set of statistical units that is valid for a specific reference period and hence represents a coordinated population of statistical units in space and time. A master frame contains all active statistical units for the specific reference period, as well as the legal units and the links between statistical and administrative units. Master frames may refer to time periods of a month, a quarter or a year (see [European business statistics methodological manual for statistical business registers](#), 2021 edition, Section 2.3).



Cross-domain consistency cannot be achieved if individual master frames are used for each domain, that have been taken at different points in time. Instead, a shared master frame for a reference year T is selected and made available at an appropriate and agreed moment. This is required to ensure the consistency of the statistics, as far as it depends on the composition and structure of the population. For more information on the concept, timing and use of master frames, see Chapter 10 of op. cit. as well as Chapter 6 of this manual.

## 3.3. Core concepts of Structural Business Statistics

### 3.3.1. Statistical unit enterprise and local unit

Only two statistical units apply, in SBS: the enterprise for the country-level business statistics data and the local unit for the regional business data. An overview of all the statistical units that are relevant in European business statistics is provided in Chapter 7 of the EBS Manual. More detailed information on the statistical units can be found in the [European business statistics methodological manual for statistical business register](#), 2021 edition, Chapter 4. For details concerning the practical delineation of the unit enterprise, please see the European business profiling recommendations manual, 2020 edition.

The definitions of the statistical units are laid down in the Statistical Unit Regulation of 1993 ([Council Regulation \(EEC\) No 696/93](#)). To support the harmonised implementation of the statistical units in European statistics, operational rules were elaborated and adopted by the Business Statistics Directors Group and the Directors of Macroeconomic Statistics, in 2015. Implementing the unit enterprise can become quite complex, in cases in which enterprise groups are composed of many legal units and have many different activities.

#### 3.3.1.1. STATISTICAL UNIT ENTERPRISE

The enterprise is the most important statistical unit in European business statistics. The enterprise concept is applied in almost all domains of business statistics. It is also the core unit, given that the other statistical units, such as the kind-of-activity unit (KAU), the local kind-of-activity unit (LKAU) and the local unit are defined in relation to the enterprise.

An enterprise may carry out one or more economic activities at one or more locations. The enterprise is thus not a homogeneous unit, neither with respect to the activity nor to the geographical location. However, in most enterprises, the principal activity accounts for quite a large share of the value added generated, and thus these enterprises come closer to the homogeneity of the economic activity. Also, most of the enterprises only have one location, which means that, for those enterprises, the regional attribution would be close to correct. The larger enterprises however perform various activities and have more than one location.

In business statistics, the term enterprise should always be used in the sense of a 'statistical enterprise'. This means, through definition, one aims to create a statistical unit that would allow one to compile harmonised data, irrespective of the actual organisational and legal structures of the economic agents. The criteria that a statistical enterprise should satisfy are: operating the necessary factors of production, an organisational and managerial structure, autonomy of decision-making, and producing and selling goods and service on the market (see [European business statistics methodological manual for statistical business registers](#), 2021 edition, Subsection 4.5.2).

The definition of an enterprise is provided by the Statistical Unit Regulation 1993 as follows.

### Box 3.1: Definition of an enterprise

The enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit.

*Source:* Council Regulation (EEC) No 696/1993 of 15 March 1993 on the statistical units for the observation and analysis of the production system of within the Community

The relationship between an enterprise and a legal unit is defined through: 'The enterprise corresponds either to a legal unit or to a combination of legal units, provided that the result is an organisational unit with a certain degree of autonomy.' It should be noted that it should be the 'smallest combination of legal units', sufficient to achieving an organisational structure which has a certain degree of autonomy. Due to the resulting data and consistency problems, it is not recommended to split legal units and to spread them over two or more enterprises.

Legal units are a construct of law and administration and they may thus not always be the adequate units, from an economic point of view. There may be legal or fiscal advantages to separating production factors into two or more different legal units. In the economic view, these individual legal units cannot act without the others if the production of goods and services is distributed over two or more legal units.

Based on this definition and the operational rules for its implementation, the rules can be summarised as follows (see [European business statistics methodological manual for statistical business registers](#), 2021 edition, Subsection 4.5.6):

- If a separate legal unit exists for a single factor of production, this legal unit should be combined with the other legal unit(s) it serves to form an enterprise.
- If a separate legal unit exists for an ancillary activity (including holding company activities) connected to just one enterprise, the legal unit should be combined with that enterprise.
- If a legal unit provides services to several enterprises within an enterprise group, it may be considered to be a (quasi) enterprise. If it provides staffing services to several other legal units within an enterprise group, there may be a case for combining all the affected units or for splitting the legal unit.
- If a legal unit provides ancillary services solely to enterprises of the same group, but they are non-resident in the country of the ancillary unit, the ancillary legal unit is to be considered as an enterprise.
- A legal unit providing ancillary services partly and regularly to enterprises outside the group may be treated as an enterprise.
- Holding companies that hold the assets of more than one enterprise are deemed to be (quasi) enterprises.
- A holding company/head office/special purpose entity owned by a non-resident parent is, by convention, to be considered as a separate enterprise.
- A holding company/head office/special purpose entity, owned by multiple owners and not controlled by any other legal unit, should be considered as a separate enterprise.
- Legal units carrying out vertically or horizontally integrated activities under a common management should be combined to form a single enterprise.
- Franchisers and franchisees are considered to be separate enterprises.

The practical delineation of the unit enterprise is a quite complex process, especially in the case of units that belong to a national or global enterprise group, and that have a large and complex structure,

in terms of numbers of legal units and/or economic activities. A special method has been developed and tested in recent years for the delineation of the unit enterprise within an enterprise group with a large and complex structure: business profiling.

### Box 3.2: Definition of profiling

Profiling is a method of analysing the legal, operational and accounting structure of an enterprise group at a national level and, in the case of global enterprise groups, at European level, in order to establish the statistical units within that group, their links and the most efficient structures for the collection of statistical data. The types of statistical units (output units) to be included in profiling processes are described in the regulations on the different business statistics or statistical domains. The core statistical unit is the 'enterprise'.

*Source:* European business profiling recommendations manual, 2020 edition; European business statistics methodological manual for statistical business registers, 2021 edition, Chapter 9.

There are different kinds of profiling (for more details see [European business profiling recommendations manual](#) and [European business statistics manual, 2021 edition](#), Section 6.6):

- **Manual intensive profiling:** The profiling process starts by analysing a group's legal, operational, organisational and accounting structure, based on annual reports, website, and data provided by statistical surveys and administrative sources. This step is followed by defining a proposal for the statistical unit structure, on the basis of operational rules for the delineation of statistical units. The feasibility of providing data accordingly is checked with the group's headquarters and an agreement is reached with the group, on the statistical units and appropriate reporting structures for the different statistical domains (annual as well as sub-annual statistics). This kind of profiling is applied to the most complex and statistically most relevant enterprise groups.
- **Manual light profiling:** This is generally applied to (medium-sized) groups that have a simpler legal, operational and organisational structure. This type of profiling is mainly based on desk analysis of the legal, operational and accounting structures of small or medium-sized groups, using information provided by administrative sources, annual reports, websites, and statistical surveys. Light profiling can incidentally include the involvement of the group, in delineating the statistical unit and reporting structure. Generally, no intensive interaction is needed with groups nor with statistical domains.
- **Automatic profiling:** The maintenance of statistical unit structures of groups that are not subject to intensive nor light profiling, takes place via business profiling rules that are integrated in software procedures.

Profiling is directed at the delineation and maintenance of statistical unit structures, which is traditionally mainly a task of the Statistical Business Register (SBR). However, the need for 'linkable' and consistent microdata across statistical domains, and the overarching need for efficient statistical production processes from data collection to the production of national accounts, avoiding unnecessary time-consuming process feedback loops (internally as well as with enterprise groups) have led to other organisational solutions. In those, the maintenance of statistical unit structures via profiling is combined with other tasks belonging to the statistical production processes. This is achieved through the establishment of so-called Large Case Units (LCUs). These may be organised as a separate dedicated unit or just as a group of experts. LCUs may be set up in different organisational structures; however, a close relation to organisational units dealing with business statistics is essential. (Concerning organisational models for profiling, see Section 6.B of the *European business profiling recommendations manual*).

### 3.3.1.2. STATISTICAL UNIT LOCAL UNIT

Since their first legal establishment in 1993, the European legal acts pertaining to the national statistical business registers have included the requirement to integrate and maintain the local units. In the current legal basis, the following variables are required to be maintained in the register: name and address, geographical location code, date of commencement and date of cessation of the activities of the local unit, NACE code of principal and secondary activity, indication whether the local unit performs ancillary activities, number of employees, number of self-employed persons, number of employees in full-time equivalents, identity number of the enterprise to which the local unit belongs, and the reference number of the register containing the information on the local unit. The SBR should therefore be able to provide all the data necessary for the compilation of the regional SBS data, except the data on wages and salaries.

The concept of a local unit refers to one dimension only, namely the geographical location. Local units are thus homogeneous with respect to their geography and they are the adequate unit for regional statistics. The definition of local units does not refer to the kind of activities that is carried out. More than one activity of an enterprise may thus take place at a given local unit. A local unit may also only perform ancillary activities.

The local unit is defined in the Statistical Unit Regulation 1993 as follows:

#### Box 3.3: Definition of a local unit

The local unit is an enterprises or part thereof (e.g., a workshop, factory, warehouse, office, mine or deport) situated in a geographical identified place. At or from this place economic activity is carried out for which – save for certain exceptions – one or more persons work (even if only part time) for one and the same enterprise.

*Source:* Council Regulation (EEC) No 696/1993 of 15 March 1993 on the statistical units for the observation and analysis of the production system of within the Community

The main criterion for the delineation of a local unit is its geographical location. This should be interpreted in a strict sense. The (postal) address of a location is thus a strong indicator for the determination of a local unit. Several physical locations of the same enterprise within the same community or within the same region are to be treated as several local units of that enterprise.

Each enterprise has at least one local unit, namely the location, where the enterprise is registered as legal unit. If an enterprise is registered at an address that is different from the addresses of the other local units, the registered address forms yet another separate local unit, even if there is no one working there.

In the practical implementation of local units, specific situations do occur, which also require harmonised treatment. Some examples are:

- Physical geographic location: A local unit may be situated within a building. It may correspond to one building or it may comprise more than one building. If those buildings are physically close together and share a common postal address, they together form one local unit.
- Local units without postal address: A local unit may not be situated in a building, such as in the case of quarrying sites, and it may thus not have a postal address; the geographical location could be represented by geographical coordinates.
- Activities may be performed outside the own physical location, for example at the customer's address, at fairs, etc. These types of locations are not considered to be local units of the enterprise.

- In the case that the economic activities are performed at the entrepreneur's private residence, that address is also the address of the local unit of the enterprise.
- Localities without staff: In case of seasonal activities, premises that are unstaffed at a certain time of the year, should nevertheless be viewed as a local unit.
- In the case that an activity of an enterprise takes place at the premises of the customer under a long-term contract, the decision on the place of work should be based on the general criteria for the delineation of a local unit (permanent structure, possibility to identify the physical allocation, etc.) So, for example, in usual cases, the place of work of an office-cleaning enterprise will not be viewed as being a separate local unit of that enterprise.
- However, in cases of outsourced activities performed in the premises of the customer, in which a location can be identified separately (for instance, an office canteen outsourced under a long-term contract), the place of work may be viewed as an own local unit within the local unit of the customer.
- Similarly, major long-term sites (for instance in construction) should be treated as a separate local unit.

For more information on the definition of local units see Section 4.6 of the Methodological manual on statistical business registers, especially Annex C, which provides further guidance on the identification of local units according to the various economic activities, such as 'shops in shops' locations in the trade or tourism industries, local units in rail transportation, operating staff leased in IT activities, etc.

### 3.3.2. Resident enterprises

As is the case with national accounts statistics, also in SBS the residence principle is applied to define the units which constitute the economy of a country. Each enterprise should be a resident of one and only one territory. According to Article 2 of the EBS Regulation, the national SBRs shall comprise all enterprises carrying out economic activities contributing to gross domestic product (GDP). Enterprises contributing to GDP are thus resident enterprises which have their centre of predominant economic interest in that country, irrespective of nationality, legal form or presence; that is when a location exists within the economic territory and it engages in economic activities on that territory for an extended period (one or more than one year). The ownership of land and buildings within the economic territory is deemed to be sufficient for the owner to have a centre of predominant economic interest there (ESA 2010, par. 2.07). In the absence of any physical dimension to an enterprise, its residence is determined according to the economic territory under whose laws the enterprise is incorporated or registered.

A resident institutional unit may be a notional resident unit, in respect of the activity conducted in the country for a year or more by a unit that is resident in another country. When the activity is carried out for less than a year, the activity remains part of the activities of the producer institutional unit and no separate institutional unit is recognised. When the activity is insignificant, even though lasting longer than a year, and for the installation of equipment abroad, no separate unit is recognised as that of the producing institutional unit (ESA 2010, par. 2.9).

The economic territory is the geographical territory under the effective control of a single government and includes the land area, airspace, territorial waters, as well as jurisdiction concerning fishing rights and rights to fuel or minerals. The economic territory also includes free zones and territorial enclaves. It excludes extraterritorial enclaves (ESA 2010, par. 2.05f).

The coverage of SBS must include all (market) enterprises carrying out economic activities in the respective country. Activities performed abroad should be excluded, especially when a separate affiliate is registered there. However, the other activities of resident market enterprises performed abroad should be included in the scope of SBS, such as transportation services abroad, repair, maintenance and installation services abroad, subcontracting work done for non-resident customers, imports and exports of goods and services, etc. In general, activities abroad through movement of natural persons in their capacity as an employee of a service provider or as an independent supplier

(e.g. consultancy firm) belong to the activities of resident enterprises. However, the commercial presence abroad of locally established affiliates, subsidiaries, or representative offices is beyond the scope of SBS.

In the case that a resident enterprise conducts cross-border activities, it is also equally important to correctly attribute 'purchases, outputs and performance' and 'investments' to the countries according to the principle of economic ownership as applied in the context of national accounts and balance of payments. In ESA 2010 (par. 1.90), the criterion for recording the transfer of goods from one unit to another is that the economic ownership passes from one unit to the other. The acceptance of the risks and the receiving of the benefits from the use of the asset is the crucial indicator, whether there is a transfer of economic ownership or not. In some cases, the transfer of goods from a domestic unit to a unit in another country does not coincide with the transfer of risks and rewards, as in the cases of goods sent for processing abroad and merchanting. As long as the domestic unit retains economic ownership of the goods produced or merchanted abroad, the values of the sales and costs of the goods return to the domestic unit. In the example of goods sent for processing abroad, the sales of the goods produced abroad will be registered in the net turnover and value of output of the resident principal. In addition, the costs of the goods and services used for producing them (goods and services including the processing fee for the foreign supplier) will be registered in the total purchases of goods and services of the same unit. The foreign supplier will record the processing fee received.

### 3.3.3. Activity status of the statistical units

The statistical business register should cover all enterprises that were, at any point in time, even if partly, active in the reference period. Most of the enterprises are active over the entire reference year. However, there are enterprises that usually perform activities during a part of the year (e.g. seasonal work) as well as enterprises, that:

- started their activity during the reference period only;
- ceased their activity before the end of the reference period;
- that both started their activity during the reference period and ceased their activity before the end of the reference period.

This third category of enterprises consists of enterprises, which were only active for a few months during the reference period. In principle, these enterprises should also be covered in SBS. However, there might be problems in identifying and catching those units in the data collection process. Whichever way it is possible to include those units in the SBS population (through surveys, administrative data or by estimates), cross-domain consistency should be aimed at, especially in relation to business demography statistics.

An enterprise is deemed to be active during a certain period if:

- it generates turnover.
- it employs staff.
- or it makes investments during the period.
- Holding assets and/or liabilities may also be considered to be an activity <sup>(7)</sup>.

It is sufficient for one of these criteria to be fulfilled. Usually, data on turnover or employment are available from administrative sources. However, this might not be the case with initial investment, which usually takes place before any economic activity starts. Not considering those enterprises in SBS would result in incomplete aggregate investment data.

The definition of the population of active enterprises in SBS is the same as in the other enterprise-based domains of European business statistics. Inactive enterprises should not be included as well as

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<sup>(7)</sup> See Notice of intention of the Business Statistics Directors and the Directors of Macroeconomic Statistics on the consistent implementation of Council Regulation (EC) No 696/93 on statistical units, 2015, operational rules for the enterprises.

temporarily inactive enterprises (dormant units) which do not perform economic activities for a period of maximum of 24 months.

### 3.3.4. Target population

The target population of SBS is defined by a combination of two criteria, that are applied to the activities of enterprises:

- Activities performed are classified in defined Sections and divisions of the European activity classification NACE Rev. 2.
- Activities are carried out under market conditions.

#### 3.3.4.1. ACTIVITY COVERAGE

The activity coverage of SBS is defined on the basis of the activity classification NACE Rev. 2. Enterprises classified in the following Sections and divisions belong to the scope of SBS:

- from Sections B Mining and quarrying to Section N Administrative and support service activities
- from Section P Education to Section R Arts, entertainment and recreation
- Division S 95 Repair of computers and personal and household goods
- Division S 96 Other personal service activities.

Units may perform a variety of activities, yet their classification code is derived on the basis of the principal activity. Secondary activities are noted in the SBR but they are not detailed in the SBS data. (For the rules concerning classification according to activity, see NACE Rev. 2 Manual, Chapter 3.)

Enterprises may also perform activities that are outside the activity scope of SBS. The data on these activities are therefore included in the SBS data. As the activity scope of SBS is quite large, and it comprises almost all market activities, the proportion of activities performed outside SBS's NACE Sections and divisions will be quite small. On the other hand, activities within the scope of SBS, that are performed by enterprises whose main activity is not within the scope of SBS, shall not be covered in the SBS.

For the regional data, the local units serve as the statistical units. The population of the local units will be all the local units that belong to the enterprises that are within the SBS scope. This ensures consistency for all additive variables, between the country-level data and the regional data. Of course, distribution over the NACE activities will be different. Local units may have their principal activity outside the SBS scope, yet their activity will be covered, if they belong to enterprises that are within SBS scope. On the other hand, local units belonging to enterprises outside the scope of SBS, yet themselves having their main activities within the SBS scope, will not be covered in SBS.

#### 3.3.4.2. MARKET PRODUCERS

Only market producers that are included in the NACE activities of SBS, belong to the coverage of SBS (see also [EBS Manual](#), Section 2.4). Usually, only market producers are active, in most of the NACE activities covered by SBS. However, both market and non-market producers can be found in certain service sectors (for example in education and in health), and only those acting under market conditions are to be covered in SBS.

The distinction between market and non-market producers is based on the ESA 2010. Market producers are institutional units that are allocated to one of the following institutional sectors:

- S 11: Non-financial corporations
- S 12: Financial corporations
- S 14.1: Households as employers

- S 14.2: Own-account household producers.

Non-market producers are classified in the following institutional sectors:

- S 13: General government
- S 15: Non-profit institutions serving households.

The definitions and basic rules for classifying an institutional unit can also be found in ESA 2010, Chapter 2. The main differentiation between market and non-market producers is explained in ESA 2010, par. 1.37. An activity shall be considered as a market activity when the corresponding goods and services are traded under the following conditions:

- Sellers act to maximize their profits in the long term, and do so by selling goods and services freely on the market to whoever is prepared to pay the asking price;
- Buyers act to maximise their utility given their limited resources, by buying according to which products best meet their needs at the offered price;
- Effective markets exist where sellers and buyers have access to, and information on, the market. An effective market can operate even if these conditions are not met perfectly.

Market producers are enterprises that sell all or most of their output at prices that are economically significant. Prices are said to be economically significant if they have a significant effect on the amount that producers are willing to supply and the amounts purchasers wish to buy. Market producers make decisions about what to produce and how much to produce in response to expected levels of demand and expected costs of supply, and exposed to the risk associated with this production. They adjust supply either with the goal of making profit in the long run or, at a minimum, covering capital and other costs (ESA 2010, par. 3.19). Whether an economically significant price is given, may be checked by the 50 % criterion: a unit shall cover at least 50 % of its costs by its sales over a sustained multi-year period.

If, according to these rules, an enterprise is classified as a market producer, all of its legal units, as well as all of its local units, are treated as being market producers.

### 3.3.5. Calendar year versus fiscal year

SBS are annual statistics, and the reference period should be the calendar year. Most of the variables in the SBS topics, however, are data that are based on the book-keeping of the companies, and that are aggregated and presented in their annual financial reports. It can be the case that the fiscal year in the financial reports deviates from the calendar year. Should the fiscal year data be entered into the SBS database, or should the data be recalculated to approximate the calendar year.

As the fiscal years are different between the single companies, any recalculation would have to be done at the level of the individual companies. Additional information would be required from the companies for this purpose. Nevertheless, such recalculations would always have a modelling character. Yet, the fiscal year data are proven and have thus a higher quality.

In the usual case, it can be expected that a recalculation – unless perhaps performed by the company itself – does not improve the overall data quality of the statistical results. Of course, the main part of the fiscal year should fall within the reference calendar year. Any switch from a calendar year to a fiscal year and vice versa, is problematic, as are changes in the fiscal year itself. This has an impact on time series and might need specific attention in the data compilation process.

Under the conditions described, it is therefore acceptable that, for those statistical units where the source data used for compiling the data of the variable are available for the fiscal year and these data cannot be recalculated to cover the respective calendar year, the calendar year data may be approximated by fiscal-year data, for these statistical units.

For consistency reasons, all variables of the companies whose fiscal year deviates from the calendar year should refer to the same deviating fiscal year, even if those variables are derived from other sources and may be available for the calendar year.



Lastly, it should also be noted that, even if all legal units involved share the same definition of the fiscal year, any recalculation is further impeded, in cases in which the enterprise consists of more than one legal unit, as this fact already calls for specific methods in identifying non-additive transactions and their consolidation.

# 4 Variables

## 4.1. Introduction

As mentioned in Chapter 2, the part of the European Business Statistics Regulation that replaces [Regulation \(EC\) No 295/2008](#) concerning Structural Business Statistics relates to the following two domains within EBS: Country-level business statistics and Regional business statistics. The 45 variables constituting the SBS part of the EBS Regulation can be allocated to 5 topics: Business population, Labour inputs, Purchases, Outputs and performance and Investments. These topics are further subdivided into 15 detailed topics (see also Table 2.3). In the following tables, the variables are presented in accordance with EBS Tables 10, 11, 21, 22, 23, 24, 25, 27, 28 and 29. Given that the SBS variables defined belong to the ‘stable part’ of EBS, only few changes are expected to the list, in the coming years (see also Section 2.3).

This chapter presents and describes the definition of each variable, the links to other variables, the links to the EBS tables and the consolidation status. Comparisons are also made with the definitions made by Regulation (EC) No 295/2008 concerning Structural Business Statistics.

Consolidation status relates to the situation, in which several legal units (observation units) are combined to form a complex enterprise. In such a case, the following definitions apply:

- **Additive variables** are those for which the simple sum of the amounts of the legal units yields the consolidated amount for the enterprise. This must be the case for all enterprises, regardless of the way in which the legal units are combined to form the enterprise.
- **Non-additive variables** are those that cannot be simply added up, to calculate the total amount at enterprise level, if the enterprise consists of several legal units, but a consolidation of the amounts of the variable in question (e.g. turnover) of the underlying legal units must be carried out, involving the elimination of values that are related to internal flows.

The additivity of variables is defined at the level of the unit enterprise (as further explained in section 4.3). That is, in fact, the level at which SBS variables must be calculated. In particular, if an enterprise group is delineated into several enterprises, each of those delineated enterprises has its own perimeter of legal units, and its own SBS variables.

It is important to note that the phrasing “consolidated” is not included in the official heading of the variables laid down in section 4.2, but the definitions of these variables have to be understood as being consolidated at enterprise level if a given enterprise consists of two or more legal units. The consolidation status is explicitly mentioned under each variable.

## 4.2. Topics and related variables

The EBS GIA contains 45 SBS-related variables (Table 4.1).

**Table 4.1:** List of SBS-related variables

<b>Topic Business Population</b>	
210101	Number of active enterprises
310101	Number of local units
<b>Topic Labour Inputs</b>	
220101	Number of employees and self-employed persons
220102	Number of employees
220103	Number of employees in full-time equivalent units
220201	Hours worked by employees
220301	Employee benefits expense
220302	Wages and salaries
220303	Social security costs
320101	Number of employees and self-employed persons in local units
320301	Wages and salaries in local units
<b>Topic Purchases</b>	
240101	Total purchases of goods and services
240102	Purchases of goods and services for resale
240103	Expenses on services provided through agency workers
240104	Expenses of long-term rental and operating leases
240105	Purchases of energy products
240106	Payments to subcontractors
240201	Change in stock of goods
240202	Change in stock of finished goods and work-in-progress
240203	Change in stock of goods for resale
<b>Topic Outputs and performance</b>	
250101	Net Turnover
250102	Net turnover from agriculture, forestry, fishing and industrial activities
250103	Net turnover from industrial activities
250104	Net turnover from industrial activities excluding construction
250105	Net turnover from construction
250106	Net turnover from service activities
250107	Net turnover from trading activities of purchase and resale and from intermediary activities
250108	Net turnover from building
250109	Net turnover from civil engineering
250110	Net turnover from the principal activity at the NACE three-digit level
250111	Net turnover from subcontracting
250112	Net turnover by residence of client
250113	Net turnover by product
250201	Gross margin on goods for resale

<b>250301</b>	Value of output
<b>250401</b>	Value added
<b>250501</b>	Gross operating surplus
<b>Topic Investments</b>	
<b>260101</b>	Gross investment in tangible non-current assets
<b>260102</b>	Gross investment in land
<b>260103</b>	Gross investment in the acquisition of existing buildings
<b>260104</b>	Gross investment in construction and improvement of buildings
<b>260105</b>	Gross investment in machinery and equipment
<b>260106</b>	Gross investment in intangible non-current assets, other than goodwill
<b>260107</b>	Investment in purchased software
<b>260108</b>	Sales proceeds of tangible investments

## 4.2.1. Topic Business Population

The topic Business population includes one detailed topic, Population of active enterprises, and it comprises two variables, of which one refers to the domain Regional business statistics. The variables are presented in Tables 10, 11 and 29.

### 4.2.1.1. VARIABLE 210101: NUMBER OF ACTIVE ENTERPRISES

**Definition:** The Number of active enterprises is the number of all statistical units that at any time during the reference period were 'enterprises', as defined in [Council Regulation \(EEC\) No 696/93](#), and that were also active during the same reference period.

A statistical unit is considered to have been active during the reference period if, in said period, it either realized positive net turnover or produced outputs or had employees or performed investments.

**Further explanations to the definition:** The term 'employee' has the same meaning as in the further explanations given to the definition of the variable Average number of employees. See also 3.3.1.1.

Being active is related to either:

- the realized Net turnover or
- the incurred Wages and salaries or
- the performed Gross investment in tangible non-current assets or
- the performed Gross investment in intangible non-current assets other than goodwill during the reference period.

The primary reference in identifying the type of statistical unit and its activity status is the business register.

**Link to other variables:** The variable is part of the detailed topic Population of active enterprises. See also variable 310101.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 11 110 Number of enterprises, which in fact is the sum of all enterprises that were active during the reference period. There is no conceptual change, only rephrasing of the variable heading.

#### 4.2.1.2. VARIABLE 310101: NUMBER OF LOCAL UNITS

**Definition:** A count of the number of local units as defined in Regulation (EEC) No 696/93 registered to the population concerned in the business register corrected for errors, in particular frame errors. Local units must be included even if they have no paid employees. This statistic should include all units active during at least a part of the reference period. See also 3.3.1.2.

**Link to other variables:** The variable is part of the detailed topic Population by region. See also variable 220101.

**Tables:** The variable is included in Table 29.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 11 210 Number of local units. There is no conceptual change nor rephrasing of the variable heading.

### 4.2.2. Topic Labour Inputs

The topic Labour inputs covers three detailed topics: Employment, Hours worked and Labour costs. The topic consists of nine variables, of which two refer to the domain Regional business statistics. The variables are presented in Tables 10, 11 and 29.

#### 4.2.2.1. VARIABLE 220101: NUMBER OF EMPLOYEES AND SELF-EMPLOYED PERSONS

**Definition:** The Number of employees and self-employed persons is the sum of the Number of employees and the Number of self-employed persons. The Number of employees is defined as for variable 220102. The Number of self-employed persons is the average number of persons who were, at some time during the reference period, the sole owners or joint owners of the statistical unit in which they work. Family workers and outworkers, whose income is a function of the value of the outputs of the statistical unit, are also included.

**Further explanations to the definition:** Number of employees and self-employed persons is measured as an annual average using data for at least each quarter or month of the year covering the number of persons who work during part of or during the entire reference period in the statistical unit and are paid by it, as well as those persons working outside of the unit but belonging to it and who are paid by the statistical unit.

The variable Number of employees and self-employed persons includes all paid employees, unpaid working owners and partners. Persons absent for a short period and persons on strike are part of the total number.

Included are persons working from home/teleworkers, sales representatives and delivery staff that are on the payroll of the statistical unit.

Persons who are working in the statistical unit during the reference period, that perform repair or maintenance work on behalf of another unit and persons/staff supplied by or borrowed from another statistical unit and/or agency workers should not be included in the total number.

**Link to other variables:** The variable is part of the detailed topic Employment. See also variables 220102, 220103 and 320101.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable, unless the same employee is part-time employed by different legal units belonging to the same enterprise.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 16 110 Number of persons employed. There is no conceptual change only rephrasing of the variable

heading. The change was done for purposes of clarification.

#### 4.2.2.2. VARIABLE 220102: NUMBER OF EMPLOYEES

**Definition:** The Number of employees represents the average number of persons who were, at some time during the reference period, employees of the statistical unit.

Explanatory note: The average should be calculated as the arithmetic mean of the number of employees over the shortest time periods of equal length fitting into the reference period, for which regular observations are practicable (e.g. daily, weekly, monthly, quarterly, etc.)

**Further explanations to the definition:** While the employment relationship, which qualifies the parties (into employee and employer), is defined in specific legislation or contracts, the term 'employee' usually means a person hired by the statistical unit to provide services to it on a regular basis in exchange for benefits and where the services provided are not part of an independent business. For the sake of clarity, apprentices hired under such conditions, are considered employees.

**Link to other variables:** The variable is part of the detailed topic Employment. See also variables 220101, 220103 and 320101.

**Tables:** This variable is included in Tables 10 and 11.

**Link to financial statements:** The variable Number of employees cannot be found in the financial statements.

**Consolidation status:** Additive variable as the number of employees is a headcount; unless the same employee is part-time employed by different legal units belonging to the same enterprise.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 16 130 Number of employees. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.2.3. VARIABLE 220103: NUMBER OF EMPLOYEES IN FULL-TIME EQUIVALENT UNITS

**Definition:** The number of employees converted into full-time equivalents (FTE).

Figures for the number of persons working less than the standard working time of a full-year full-time worker should be converted into full-time equivalents, with regard to the working time of a full-time full-year employee in the unit. It is the total number of hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory. Since the length of a full-time job has changed through time and differs between industries, methods that establish the average proportion and average hours of less-than-full-time jobs in each job group have to be used. A normal full-time week must first be estimated in each job group. If possible, a job group can be defined, inside an industry, according to sex and (or) kind of work of people. Hours contractually agreed upon can, for employee jobs, constitute the appropriate criteria for determining those figures. The full-time equivalent is calculated separately in each job group, then summed.

Included in this category are people working less than a standard working day, less than the standard number of working days in the week, or less than the standard number of weeks/months in the year. The conversion should be carried out on the basis of the number of hours, days, weeks or months worked.

**Link to financial statements:** The variable Number of employees in full-time equivalent units is disclosed in the financial statements as the annual average full-time number of employees, not as the total number of employees in full-time equivalent.

**Link to other variables:** The variable is part of the detailed topic Employment. See also variables 220101, 220102 and 320101.

**Tables:** This variable is included in Table 10.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable

16 140 Number of employees in full-time equivalent units. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.2.4. VARIABLE 220201: HOURS WORKED BY EMPLOYEES

**Definition:** Total Hours worked by employees represents the number of hours actually worked by employees, for the output of the statistical unit during the reference period.

Time spent on adjacent work, indirectly contributing to the output (e.g. planning, preparation, administrative and alike), as well as time spent without actual work, but deemed and remunerated as such by the statistical unit (e.g. short breaks, short disruptions due to slack in production, training and alike) is included.

Time spent on work, be it adjacent work, without actual remuneration (e.g. unpaid overtime) is also included.

Remunerated time spent without actual work and not deemed as such by the statistical unit (e.g. annual leave, sick leave, maternity leave, official holidays, longer breaks, meal breaks, and strikes, commuting and alike) is excluded.

**Further explanations to the definition:** Hours actually worked refer to time spent for ordinary (main and secondary) and ancillary activities.

The number of hours actually worked refers to the time worked by all categories of employees or apprentices, regardless of whether they work full-time or part-time.

Hours actually worked refers to hours worked during normal periods of work and hours worked in addition to normal working hours.

**Link to financial statement:** The variable Hours worked by employees is not identified in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Hours worked, which only consists of this variable.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 16 150 Number of hours worked by employees. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.2.5. VARIABLE 220301: EMPLOYEE BENEFITS EXPENSE

**Definition:** This variable contains all expenses arising in relation with employee benefits, recognised by the statistical unit during the reference period.

Employee benefits are all forms of consideration given by the statistical unit in exchange for service rendered by employees or for the termination of employment.

**Further explanations to the definition:** Employee benefits expense is calculated by adding 220301 Wages and salaries and 220303 Social security costs. Employee benefits expense is used in the calculation of 250501 Gross operating surplus.

**Link to financial statements:** Staff cost in the Profit and Loss account by nature of expense, Annex V of the European Accounting Directive (Directive 2013/34/EU of the European Parliament and of the Council); partly short-term employee benefits, other long-term employee benefits and termination benefits as laid out in International Accounting Standard 19 (IAS 19.9).

**Link to other variables:** The variable is part of the detailed topic Labour costs. See also variables 220302 and 220303.

**Tables:** This variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 310 Personnel cost. There is no conceptual change only rephrasing of the variable heading. The rephrasing is done to be in line with the content of the variable which refers to expenses for employees and it is heading name in the income statement according to the nature of expenses.

#### 4.2.2.6. VARIABLE 220302: WAGES AND SALARIES

**Definition:** The variable Wages and salaries contains all expenses incurred during the reference period on the total gross remuneration, in cash or in kind, of all employees of the statistical unit. Wages and salaries is part of the variable 220301 Employee benefits expense.

The total gross remuneration, in cash or in kind, contains as examples, but is not limited to the following items: direct remuneration, bonuses, allowances, gratuities, tips, commissions, payments to employees' saving schemes, payments for days not worked, wages and salaries in kind, company products, staff housing, company cars, stock options and purchase schemes, and amounts to be withheld by the employer (social security contributions of the employee, personal income tax, etc.)

Expenses regarding services provided through agency workers, as well as the expenses of social security contributions and other similar fiscal obligations (tied directly or indirectly to wages and salaries), if incurred by the employer, are excluded.

**Link to financial statements:** Wages and salaries is the item 6 (a) of the Profit and Loss account by nature of expense, Annex V of the European Accounting Directive (Directive 2013/34/EU of the European Parliament and of the Council); partly short-term employee benefits, other long-term employee benefits and termination benefits as laid out in International Accounting Standard 19 (IAS 19.9).

**Link to other variables:** The variable is part of the detailed topic Labour costs. See also variables 220301, 220303 and 320301.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 320 Wages and salaries. There is no conceptual change or rephrasing of the variable heading.

#### 4.2.2.7. VARIABLE 220303: SOCIAL SECURITY COSTS

**Definition:** Employers' social security costs correspond to an amount equal to the value of the social contributions incurred by employers in order to secure for their employees the entitlement to social benefits.

Social security costs for the employer include the employer's social security contributions to schemes for retirement pensions, sickness, maternity, disability, unemployment, occupational accidents and diseases, family allowances as well as other schemes.

Included are the costs for all employees including homeworkers and apprentices.

Charges are included for all schemes, regardless of whether they are statutory, collectively agreed, contractual or voluntary in nature. Wages and salaries which the employer continues to pay in the event of illness, occupational accident, maternity leave or short time working may be recorded here or under wages and salaries, dependent upon the unit's accounting practices.

**Link to financial statements:** Social security costs is the item 6 (b) of the Profit and Loss account by nature of expense, Annex V of the European Accounting Directive (Directive 2013/34/EU of the European Parliament and of the Council); partly short-term employee benefits, other long-term employee benefits and termination benefits as laid out in International Accounting Standard 19 (IAS 19.9).

**Link to other variables:** The variable is part of the detailed topic Labour costs. See also variables



220301 and 220302.

**Tables:** This variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 330 Social security costs. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.2.8. VARIABLE 320101: NUMBER OF EMPLOYEES AND SELF-EMPLOYED PERSONS IN LOCAL UNITS

**Definition:** Number of employees and self-employed persons is defined as for variable 220101, Local units as for variable 310101.

**Link to other variables:** The variable is part of the detailed topic Employment. See also variables 220101, 220102 and 220103.

**Tables:** This variable is included in Table 29.

**Consolidation status:** Additive variable as the number of employees is a headcount; unless the same employee is part-time employed by different local units belonging to the same legal unit or enterprise.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 16 110 Number of employees. There is no conceptual change, only rephrasing of the variable heading.

#### 4.2.2.9. VARIABLE 320301: WAGES AND SALARIES IN LOCAL UNITS

**Definition:** Wages and salaries is defined as for variable 220302 and Number of local units as for variable 310101.

**Link to other variables:** The variable is part of the detailed topic Labour costs. See also variables 220301, 220302 and 220303.

**Tables:** This variable is included in Table 29.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 320 Wages and salaries. There is no conceptual change nor rephrasing of the variable heading.

### 4.2.3. Topic Purchases

The topic Purchases covers two detailed topics: Purchases of goods and services and Change in stocks of goods. The topic consists of nine variables, all belonging to the domain Country-level business statistics. The variables are presented in tables 10, 11, 14, 21, and 22.

#### 4.2.3.1. VARIABLE 240101: TOTAL PURCHASES OF GOODS AND SERVICES

**Definition:** Total purchases of goods and services includes the total amount of goods and services purchased by the statistical unit, recognised in accounting as either current assets or expenses during the reference period.

Included in these purchases of goods, as a non-exhaustive list of examples, are: raw, auxiliary and packaging materials, consumables, fuel, spare parts, seeds and fodder, animals, small inventory items, and goods purchased for resale.

Included in the purchases of services, as a non-exhaustive list of examples, are: services with electricity, heating, water, maintenance, repairs, royalties, rental, insurance, research (if performed by third parties), agency work, advertising, promotion, transport, communication, banking, legal, accounting, and any other service performed by third parties and recognised as an expense during the reference period.

Increases in finished goods and work in progress, as well as any financial assets and non-current assets are not included. As an exception, assets from other classes reclassified to any of the items listed above as included are also included.

The purchases of goods and services referred to by this definition are valued according to the rules laid down to this effect in the accounting standards, based on which the aforementioned assets and expenses were recognised.

**Further explanations to the definition:** The term ‘current assets’ referred to in the definition means any asset which the statistical unit classifies as such, because it:

- expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;
- holds the asset primarily for the purpose of trading;
- expects to realize the asset within twelve months after the reporting period; or
- the asset is cash or a cash equivalent (as defined in the applicable business accounting framework) unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

An asset that does not satisfy any of the above criteria is classified as a ‘non-current asset’. In business accounting terms it is also customary to use ‘short-term’ instead of ‘current’ and ‘long-term’ instead of ‘non-current’.

The term ‘expenses’ referred to in the definition means decreases in economic benefits during the reference period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

**Link to financial statements:** Total purchases of goods and services is a complex statistical variable which in practice usually could neither be found in, nor be calculated from the data disclosed in financial statements. Under limited circumstances and with certain conditions being met (a detailed enough breakdown of all expenses, whether in the profit and loss account (statement of comprehensive income) or in the explanatory notes, the variable might be calculated.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240102, 240103, 240104, 240105 and 240106.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 110 Total purchases of goods and services. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.3.2. VARIABLE 240102: PURCHASES OF GOODS AND SERVICES FOR RESALE

**Definition:** Purchases of goods and services purchased for resale in the same condition as received are purchases of goods for resale to third parties without further processing. It also includes purchases of services by ‘invoicing’ service companies, i.e. those whose turnover is composed not only of agency fees charged on a service transaction (as in the case of estate agents) but also the actual amount involved in the service transaction, e.g. transport purchases by travel agents.

The value of goods and services which are sold to third parties on a commission basis is excluded, since these goods and services are neither bought nor sold by the agent receiving the commission.

Purchases of goods and services purchased for resale in the same condition as received is part of Total purchases of goods and services and it is used in the calculation of other aggregates and balances.

**Further explanations to the definition:** The term ‘inventories’ referred to in the definition of variable 240203 Change in stock of goods for resale means all assets which are either:

- held for sale in the ordinary course of business;
- in the process of production for such sale; or
- in the form of materials or supplies to be consumed in the production process or in the rendering of services.

From these inventories only those are included in this variable, which the statistical unit purchased with the intention to sell without further processing. In business accounting terms this type of inventory is usually called 'merchandise'.

**Link to financial statements:** Depending on the accounting standards used to prepare the financial statements, the purchases of goods for resale might be disclosed in the explanatory note regarding inventory, as an increase of this asset subclass during the reference period. The variable cannot be isolated from other parts (reports) of the financial statements.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240101, 240103, 240104, 240105, and 240106.

**Tables:** The variable is included in Tables 21.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 120 Purchases of goods and services purchased for resale in the same condition as received. There is no conceptual change, only rephrasing of the variable heading.

#### 4.2.3.3. VARIABLE 240103: EXPENSES ON SERVICES PROVIDED THROUGH AGENCY WORKERS

**Definition:** This variable contains all expenses recognised by the statistical unit during the reference period, referring to services provided to it by temporary employment agencies and similar organisations supplying workers to clients' businesses for limited periods of time, to supplement or temporarily replace the working force of the client, where the individuals provided are employees of the temporary help service unit. Expenses on services provided through agency workers is part of the variable Total purchases of goods and services.

However, these agencies and organisations do not provide direct supervision of their employees at the clients' work sites. Only the expenses incurred for the provision of personnel which is not linked to the provision of a particular industrial or other non-industrial service are included in this variable.

**Link to financial statements:** The variable Expenses on services provided through agency workers can neither be found, nor be calculated from the data disclosed in financial statements.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240101, 240102, 240104, 240105, and 240106.

**Tables:** The variable is included in Tables 21.

**Consolidation status:** Additive variable, but the variable may be non-additive, if the 'agency workers' are in fact employed by another legal unit of the same enterprise.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 131 Payments for agency workers. There is no conceptual change, only a rephrasing of the variable heading.

#### 4.2.3.4. VARIABLE 240104: EXPENSES OF LONG-TERM RENTAL AND OPERATING LEASES

**Definition:** The expenses of long-term rental include all expenses recognised by the statistical unit during the reference period, relating to the renting of non-current assets. Included in this variable are the payments under an operating lease contract related to non-current assets.

For this variable, a lease is classified as an operating lease if it does not transfer substantially all the

risks and rewards incidental to the ownership of an underlying asset.

**Further explanations to the definition:** A lease is classified as an ‘operating lease’ if it does not transfer substantially all the risks and rewards incidental to ownership. Conversely, if a lease substantially transfers all the risks and rewards incidental to ownership, it is classified as a ‘finance lease’.

Whether a lease is a finance lease or an operating lease depends on the substance of the transaction rather than on the form of the contract. Specific criteria for distinguishing the two types of leases from each other are established in the applicable accounting or reporting framework and are beyond the scope of this definition.

**Link to financial statements:** This variable can be isolated from the explanatory note on leases in financial statements prepared based on IFRS. The relevant disclosure requirement is specified in IFRS 16.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240101, 240102, 240103, 240105, and 240106.

**Tables:** The variable is included in Tables 21.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 411 Payments for long term rental and operational leasing. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.3.5. VARIABLE 240105: PURCHASES OF ENERGY PRODUCTS

**Definition:** Purchases of all energy products during the reference period should be included in this variable only if they are purchased to be used as fuel. Energy products purchased as a raw material or for resale without transformation should be excluded. The figure should be given in monetary value only.

**Link to financial statements:** Purchases of energy products cannot be isolated in company accounts.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240101, 240102, 240103, 240104, and 240106.

**Tables:** The variable is included in Table 21.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 20 110 Purchases of energy products (in value). There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.3.6. VARIABLE 240106: PAYMENTS TO SUBCONTRACTORS

**Definition:** For activities of NACE Sections B to E, payments to subcontractors are payments made by the unit to third parties in return for industrial goods and services supplied as part of a subcontracting relationship defined as follows:

Two enterprises are linked by a subcontracting relationship whenever conditions A and B are met together:

- A. The customer enterprise, also said main contractor, participates in the conception of the product providing, even partially, technical specifications to the supplier enterprise, also said subcontractor, and/or provides it with the materials to be processed.
- B. The customer enterprise sells the subcontracted product, either as such or as part of a more complex product, and takes on the after-sales liability for the product.

Note: The mere stipulation of a colour, size or catalogue number does not constitute a technical specification in itself. The manufacture of a tailor-made product does not of itself necessarily imply a

subcontracting relationship.

For the statistics on activities of NACE Section F, payments to subcontractors are payments made by the unit to third parties in return for construction works supplied as a part of a subcontracting relationship.

Two enterprises are linked by a subcontracting relationship, whenever conditions A, B, C and D are simultaneously satisfied:

- A. The customer enterprise contracts with the supplier enterprise, hereafter referred to as 'subcontractor', for the execution of works or services which are incorporated specifically in the construction process.
- B. The customer enterprise is responsible for the final product of the construction process, the responsibility covers also the parts carried out by the subcontractors; the subcontractor can in some cases carry some responsibility.
- C. The customer enterprise provides specifications to the subcontractor, for example, the work or service executed by the subcontractor must be tailor-made for the purposes of the specific project and thus cannot be standardised or catalogue work or services.
- D. The reciprocal contract is not otherwise ruled by an agreement of an associative type, such as a common answer for a call for tender, a consortium or joint venture, etc.

**Link to financial statements:** Payments to subcontractors are not necessarily treated separately in company accounting. They may be included in Other external charges and Other operating costs.

**Link to other variables:** The variable is part of the detailed topic Purchases of goods and services. See also variables 240101, 240102, 240103, 240104, and 240105.

**Tables:** The variable is included in Table 21.

**Consolidation status:** Additive variable, but Payments to subcontractors is not additive, if subcontracting takes place within the enterprise.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 23 110 Payments to subcontractors. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.3.7. VARIABLE 240201: CHANGE IN STOCK OF GOODS

**Definition:** Change in stocks of goods is the difference of the total value of inventories recognised by the statistical unit at the end and at the beginning of the reference period. The value of said inventories is the one at which they have been recognised in the financial statements.

**Further explanations to the definition:** The term 'inventories' referred to in the definition has the same meaning as in the further explanations to the definition of the variable Purchases of goods for resale. However, in the case of this definition, it includes all types of inventories (i.e. it also includes work-in-progress).

**Link to financial statements:** The change in stocks of goods can be calculated from the balance sheet (statement of financial position) as the difference in the value of total inventories at the end and at the beginning of the reference period.

**Link to other variables:** The variable is part of the detailed topic Change in stock of goods. See also variables 240202 and 240203.

**Tables:** The variable is included in Table 22.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 210 Change in stocks of goods and services. There is no conceptual change, only rephrasing of the variable heading.

#### 4.2.3.8. VARIABLE 240202: CHANGE IN STOCK OF FINISHED GOODS AND WORK-IN-PROGRESS

**Definition:** This variable is defined as the change in the value of the stock of finished products or in the course of production, which have been produced by the statistical unit and which have not yet been sold, between the first and last days of the reference period. It is a part of variable Change in stock of goods.

These products include work in progress belonging to the statistical unit, even if the products in question are in the possession of third parties. Equally, products held by the statistical unit which belong to third parties are excluded.

Stocks are valued at production cost and are valued prior to value adjustments (such as depreciation).

**Link to financial statement:** Change in stocks of finished goods and work in progress is recorded in company accounts under the heading Variation in stocks of finished goods and work in progress.

**Link to other variables:** The variable is part of the detailed topic Change in stocks of goods. See also variables 240201 and 240203.

**Tables:** This variable is included in Table 22.

**Consolidation status:** Additive variable but, if internal flows take place between legal units of the same enterprise, the variable is non-additive.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 213 Change in stocks of finished products and work in progress manufactured by the unit. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.3.9. VARIABLE 240203: CHANGE IN STOCK OF GOODS FOR RESALE

**Definition:** Change in stock of goods for resale is the difference of the total value of inventories recognised by the statistical unit at the end and at the beginning of the reference period as items intended for resale to third parties without further processing. The value of said inventories is the one at which they have been recognised in the financial statements. Change in stock of goods for resale is a part of the variable Change in stock of goods.

**Link to financial statements:** Depending on the accounting standards used to prepare the financial statements, the change in stocks of goods for resale might be calculated as the difference in the value of total inventories for resale at the end and at the beginning of the reference period, disclosed in the explanatory note regarding inventory.

The variable cannot be isolated from other parts (reports) of the financial statements, unless the accounting standards used to prepare them require the disclosure of goods for resale as a separate line item on the face of the balance sheet, in which case the variable can be calculated as the difference of the value of this line item at the end and at the beginning of the reference period.

**Link to other variables:** The variable is part of the detailed topic Change in stock of goods. See also variables 240201 and 240202.

**Tables:** The variable is included in Table 22.

**Consolidation status:** Additive variable but, if internal flows take place between legal units of the same enterprise, the variable is non-additive.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 13 211 Change in stocks of goods and services for resale in the same condition as received. There is no conceptual change, only rephrasing of the variable heading.

## 4.2.4. Topic output and performance

The topic Output and performance covers five detailed topics: Net turnover, Gross margin on goods for resale, Value of output, Value added and Gross operating surplus. The topic consists of 17 variables, all belonging to the domain Country-level business statistics. The variables are presented in Tables 10, 11, 23, 24, and 25.

### 4.2.4.1. VARIABLE 250101: NET TURNOVER

**Definition:** For all activities except for NACE 64, 65 and some activities of NACE 66, Net turnover consists of all income arising during the reference period in the course of ordinary activities of the statistical unit, and is presented net of all price reductions, discounts and rebates granted by it.

Income is defined as increases in economic benefits during the reference period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants.

The inflows referred to are arising from contracts with customers and are realized through the satisfaction by the statistical unit of performance obligations as foreseen in said contracts. Usually, a performance obligation is represented by the sale (transfer) of goods or the rendering of services, however, the gross inflows can also contain revenues obtained as a yield on the use by others of the statistical unit's assets.

Excluded from net turnover are:

- all taxes, duties or levies linked directly to revenue;
- any amounts collected on behalf of any principal, if the statistical unit is acting as an agent in its relationship with said principal;
- all income not arising in the course of ordinary activities of the statistical unit. Usually, these types of income are classified as 'Other (operating) income', 'Financial income', 'Extra-ordinary income' or under a similar heading, depending on the respective set of generally accepted accounting standards used to prepare the financial statements.

For the activities of NACE K6411, K6419 and K649, Net turnover is defined as the value of output minus subsidies or government grants.

For the activities of NACE K642 and K643, Net turnover can be approximated by the total operating costs, if net turnover is not available in the financial statements.

For the activities of NACE K6511, K6512 and K652 Net turnover is defined as Gross premiums earned.

For the activities of NACE K653, Net turnover is defined as total pension contributions.

For activities of NACE K66, for which net turnover is not available in the financial statements, Net turnover is defined as the value of output minus subsidies or government grants. For activities of NACE K66 for which net turnover is available in the financial statements, the standard definition of Net turnover applies.

**Further explanations to the definition:** The concept of 'net turnover' relies on the accrual basis of accounting, which is a principle requiring that income and expenses be recorded in the period in which these occur, rather than the period in which the underlying documents are prepared or issued, or in which the related cash flows take place.

The overarching requirement for inclusion of income in this variable is that it arises 'in the course of ordinary activities of the statistical unit'. In this context, 'ordinary activities' means activities that are undertaken by the statistical unit as part of its business or to meet its objectives and related activities in which the statistical unit engages in furtherance of, incidental to, or arising from activities undertaken to meet its objectives. Whether an activity performed by the statistical unit or event that happens to it qualifies as 'ordinary', depends on several factors (such as the type of the statistical unit, its declared activities and objectives, the nature and amount of the realized income and related expenses, if any,

the nature of the activity or the event, and so on) and requires a significant amount of judgment.

Depending on whether it arises in the course of ordinary activities of the statistical unit, as described above, the value of Net turnover includes income realized from:

- the sale of goods (finished goods, semi-finished goods, residual products, goods purchased for resale, raw materials, waste materials, scrap materials, inventory items, etc.);
- the sale of services (advertising, advisory, care, communication, construction, design, education, employment, entertainment, financial, maintenance, management, marketing, online, planning, publication, real estate, research, repair, representation, tourism, travel, security, etc.), in which case the income usually takes the form of a fee or commission;
- the use by others of the statistical unit's assets (through the form of renting, leasing, licensing, loaning, letting, etc.). Whether a certain activity of a statistical unit qualifies as service rendered or its result as product sold, cannot be inferred only from a list of examples. This usually depends on several factors, such as the type of the statistical unit, the best practice of the industry in which it is active and the contractual terms agreed with its clients. For example, income realized from the sale of software can be categorized under:
  - sales of finished goods (if the software is a standard product and made by the statistical unit), or under
  - sale of goods purchased for resale (if the software was acquired as such by a statistical unit, which only acts as retailing intermediary between the producer and the users of the software), or under
  - sales from services rendered (if the software is developed by the statistical unit, individually, according to the specifications of the client).

In a similar fashion, it is possible, that an asset exchanging ownership (being sold) is categorized differently by the parties, depending on their role in the transaction. For example, a car, while usually considered a long-term tangible asset by the acquiring unit, will be accounted for as a finished good sold by the car maker. Therefore, the terms enumerated above should be considered with due reference to the circumstances which might influence their substance.

Excluded from the value of Net turnover is any income realized from:

- government subsidies or grants (even if directly linked with sales);
- collecting amounts on behalf of third parties (case even if the third party is not a public sector entity, if the statistical unit is acting as the agent of the third party. For example, a travel agent selling airplane tickets on behalf of several airline companies, while collecting amounts containing its own fees, the ticket prices and usually value added tax, will only recognise as its income the fees, because the other components are collected on behalf of third parties: in this case the airline companies themselves and the government, respectively.)
- sales of own long-term assets (tangible and intangible);
- damages received through insurance agreements;
- penalties, late charges, fines and alike, if these are receivable by the statistical unit;
- repayments of overpaid taxes, fines, charges and alike, if initially accounted for as expense by the statistical unit;
- dividends and interest receivable;
- sales of assets held as investments;
- gains as effects of changes in foreign exchange rates;
- reversals of any loss generating value adjustments (provisions, allowances, impairment losses, etc.);
- other sources, if the income is classified as 'Other (operating) income', 'Financial income',



'Extra-ordinary income' or under a similar heading, depending on the respective set of generally accepted accounting standards used to prepare the financial statements.

Determining whether a statistical unit is acting as a principal or as an agent requires judgment and consideration of all relevant facts and circumstances. Usually, a statistical unit is acting as an agent when it does not have exposure to the significant risks and rewards associated with the sale of goods or the rendering of services. One feature indicating that the statistical unit is acting as an agent is that the amount the unit earns is predetermined, being either a fixed fee per transaction or a stated percentage of the amount billed to the customer.

Income arising from long-term contracts shall be recognised, as the performance obligations identified in said contracts are satisfied by the statistical unit.

**Link to financial statements:** Net turnover, as defined above is presented as the first line item of the:

- profit and loss account, as laid out in the European Accounting Directive (Directive 2013/34/EU of the European Parliament and of the Council, Annexes V and VI);
- statement of comprehensive income, as laid out in International Accounting Standard 1 (IAS 1.102 and 1.103), irrespective of the method in which the expenses are presented.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable stands as the reference point for all other variables related to or derived from turnover. See variables 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 110 Turnover. The change in the name of the variable from 'Turnover' to 'Net turnover' serves a double purpose: on the one hand, to express that the gross revenues – in contradiction to the definition of 'Turnover' applied in the replaced Regulation - are adjusted for the income described above (e.g. all taxes, duties or levies linked directly to the revenue), on the other hand this is the exact heading name in the profit and loss account in the European Accounting Directive.

#### 4.2.4.2. VARIABLE 250102: NET TURNOVER FROM AGRICULTURE, FORESTRY, FISHING AND INDUSTRIAL ACTIVITIES

**Definition:** The part of net turnover derived from activities classified to NACE Sections A to F. Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from agriculture, forestry, fishing and industrial activities cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 100 Turnover from agriculture, forestry, fishing and industrial activities. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.3. VARIABLE 250103: NET TURNOVER FROM INDUSTRIAL ACTIVITIES

**Definition:** The part of net turnover derived from activities classified to NACE Sections B to F. Net turnover derived from the sale of goods and services which have been subject to a subcontracting

relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from industrial activities cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 120 Turnover from industrial activities. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.4. VARIABLE 250104: NET TURNOVER FROM INDUSTRIAL ACTIVITIES EXCLUDING CONSTRUCTION

**Definition:** The part of net turnover derived from activities classified to NACE Sections B to E. Net turnover derived from the sale of goods and services which have been subject to a subcontracting relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from industrial activities excluding construction cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250103, 250105, 250106, 250107, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 121 Turnover from industrial activities excluding construction. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.5. VARIABLE 250105: NET TURNOVER FROM CONSTRUCTION

**Definition:** The part of net turnover derived from activities classified to NACE Section F. Net turnover derived from the sale of goods and services which have been subject to a subcontracting relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from construction cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250103, 250104, 250106, 250107, 250108, 250109, 250110, 250111, 250112 and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 122 Turnover from construction. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.6. VARIABLE 250106: NET TURNOVER FROM SERVICE ACTIVITIES

**Definition:** Revenue from all services rendered (banking and insurance services, business and personal services).

This variable encompasses net turnover from service activities resulting from a principal or secondary activity; some service activities may be performed by industrial units. These activities are classified to NACE Sections H to N and P to S and also to the maintenance and repair Groups 45.2 and 45.4 of NACE Section G.

**Link to financial statements:** The variable Net turnover from service activities cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101, see also variables 250102, 250103, 250104, 250105, 250107, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 150 Turnover from service activities. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.7. VARIABLE 250107: NET TURNOVER FROM TRADING ACTIVITIES OF PURCHASE AND RESALE AND FROM INTERMEDIARY ACTIVITIES

**Definition:** The part of net turnover derived from the trading activities of purchase and resale of the unit, and the intermediary activity of the unit. This corresponds to the sales of goods purchased by the unit in its own name and for its own account, and resold in the same condition in which they were purchased, or after such labelling, packaging and wrapping as is usually practised in distributive trade enterprises, as well as any commissions on purchases and sales made in the name and on behalf of third parties, and similar activities.

Resales may be broken down into:

- resales to other traders, professional users, etc. (wholesale sales);
- resales to households or small-scale users (retail sales).

These activities are classified in NACE Section G (except the maintenance and repair Groups 45.2 and 45.4).

**Link to financial statements:** The variable Net turnover from trading activities of purchase and resale and from intermediary activities cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250103, 250104, 250105, 250106, 250108, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 160 Turnover from trading activities of purchase and resale and from intermediary activities. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.8. VARIABLE 250108: NET TURNOVER FROM BUILDING

**Definition:** The part of net turnover derived from activities classified to NACE Division F41. Net turnover derived from the sale of goods and services which have been subject to a subcontracting relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from building cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250103, 250104, 250105, 250106, 250107, 250109, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 310 Turnover from building. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.9. VARIABLE 250109: NET TURNOVER FROM CIVIL ENGINEERING

**Definition:** The part of net turnover derived from activities classified to NACE Division F42.

Net turnover derived from the sale of goods and services which have been subject to a subcontracting relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from civil engineering cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also variables 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250110, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 24.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 320 Turnover from civil engineering. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.10. VARIABLE 250110: NET TURNOVER FROM THE PRINCIPAL ACTIVITY AT THE NACE THREE-DIGIT LEVEL

**Definition:** The part of net turnover derived from the principal activity of the unit at the NACE three-digit level. The principal activity of a unit is determined according to the rules laid down in the Council Regulation (EC) No 696/93.

Net turnover derived from the sale of goods and services which have been subject to a subcontracting relationship is included.

Net turnover derived from the resale of goods and services purchased for resale in the same condition is excluded.

**Link to financial statements:** The variable Net turnover from the principal activity at the NACE three-digit level cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250111, 250112, and 250113.

**Tables:** The variable is included in Table 25.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 18 110 Turnover from the principal activity at the NACE Rev.2 three-digit level. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described above, under 250101).

#### 4.2.4.11. VARIABLE 250111: NET TURNOVER FROM SUBCONTRACTING

**Definition:** For the statistics on activities of NACE Section F, Net turnover from subcontracting is the net turnover generated by the unit's own construction works provided to a third party under a subcontracting relationship.

Two enterprises are linked by a subcontracting relationship, whenever conditions A, B, C and D are simultaneously satisfied:

- A. The customer enterprise contracts with the supplier enterprise, hereafter referred to as 'subcontractor', for the execution of works or services which are incorporated specifically in the construction process.
- B. The customer enterprise is responsible for the final product of the construction process, the responsibility covers also the parts carried out by the subcontractors; the subcontractor can in some cases carry some responsibility.
- C. The customer enterprise provides specifications to the subcontractor, for example, the work or service executed by the subcontractor must be tailor-made for the purposes of the specific project and thus cannot be standardised or catalogue work or services.
- D. The reciprocal contract is not otherwise ruled by an agreement of an associative type, such as a common answer for a call for tender, a consortium or joint venture, etc.

**Link to financial statements:** Income from subcontracting is not necessarily treated separately in company accounting.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250112, and 250113.

**Tables:** The variable is included in Table 25.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 23 120 Income from subcontracting. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.12. VARIABLE 250112: NET TURNOVER BY RESIDENCE OF CLIENT

**Definition:** Net turnover shall mean net turnover as defined for variable 250101. The concept of residence is in accordance with Regulation (EU) No 549/2013.

**Link to financial statements:** The variable Net turnover by resident of client cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250111, and 250113.

**Tables:** The variable is included in Table 23.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 110 Turnover by residence of client. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described under 250101 above).

#### 4.2.4.13. VARIABLE 250113: NET TURNOVER BY PRODUCT

**Definition:** Net turnover shall mean net turnover as defined for variable 140202. The breakdown by product is based on the CPA.

**Link to financial statements:** The variable Net turnover by product cannot be found in the financial statements.

**Link to other variables:** The variable is part of the detailed topic Net turnover. The variable is based on variable 250101. See also 250102, 250103, 250104, 250105, 250106, 250107, 250108, 250109, 250110, 250111, and 250112.

**Tables:** The variable is included in Table 23.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 110 Turnover by product. There is a conceptual change from measuring 'Turnover' to 'Net turnover'. The change implies that the gross revenues are adjusted (with the amounts described above, under 250101).

#### 4.2.4.14. VARIABLE 250201: GROSS MARGIN ON GOODS FOR RESALE

**Definition:** Corresponds to the return on the activity of purchase and resale without further processing. It is calculated from net turnover related to trading activities of purchase and resale without further processing, total purchases for resale and changes in stock of goods and services purchased for resale.

Included in gross margin on goods for resale are sales, purchases and changes in stock of goods and services related to goods and services which are purchased in order to be rendered to third parties in the same condition.

The gross margin on goods for resale is also called gross trading margin.

**Link to financial statement:** These figures may not be isolated in company accounts. They are part of net turnover and raw materials and consumables in the accounts.

**Link to other variables:** The variable is part of the detailed topic Gross margin on goods for resale.

**Tables:** The variable is included in Table 10.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 130 Gross margin on goods for resale. There is no conceptual change nor rephrasing of the variable name.

#### 4.2.4.15. VARIABLE 250301: VALUE OF OUTPUT

**Definition:** Value of output represents the value of the total output of the statistical unit, generated during the reference period.

For all activities except for activities of NACE 64, 65 and 66, it is the sum of:

- + Net turnover
- ± Change in stock of finished goods and work in progress
- ± Change in stock of goods for resale
- + Income from product- or turnover-related subsidies
- + Capitalized output
- Purchases of goods and services purchased for resale.

Income from product- or turnover-related subsidies is any income originating from government assistance granted to and recognised as such by the statistical unit during the reference period.

Capitalized output is the total increase of all self-generated long-term assets, recognised as such by the statistical unit during the reference period.

For the activities of NACE K6411, Value of output is defined as Administrative expenses other than staff costs plus Fees and commission expenses plus Staff costs plus Depreciation of tangible and intangible fixed assets.

For the activities of NACE K6419 and K649, Value of output is defined as Interest receivable and similar income minus Interest payable and similar charges plus Commissions receivable plus Income from shares and other variable-yield securities plus Net profit or net loss on financial operations plus Income from product or turnover related subsidies. For some activities of K6499, value of output is Net turnover plus Subsidies or government grants, or can be approximated by the Total operating costs, if Net turnover is not available in the financial statements.

For the activities of NACE K642 and K643, Value of output is Net turnover plus Subsidies or government grants, or it can be approximated by the Total operating costs, if Net turnover is not available in the financial statements.

For the activities of NACE K6511, Value of output is defined as Gross premiums earned plus Investment income minus Income from participating interest minus Value re-adjustments on investments plus Investment income of reinsurers on their share of the gross technical provisions of the enterprise plus Unrealized gains on investments plus Other technical income, net of reinsurance minus Claims paid plus/minus Change in the provision for claims (increase needs to be subtracted, decrease needs to be added) plus/minus Changes in other technical provisions net of reinsurance (costs need to be subtracted, income should be added) plus/minus (if available) Changes in other technical provisions, reinsurers' share (costs needs to be subtracted, income needs to be added) plus/minus (if available) Change in fund for future appropriations (costs should be subtracted, income should be added) minus Bonuses and rebates, net of reinsurance minus Losses on the realization of investments minus Unrealized loss on investments plus Other income.

For the activities of NACE K6512 and K652, Value of output is defined as Gross premiums earned plus Investment income minus Income from participating interests minus Value re-adjustments on investments plus Investment income of reinsurers on their share of the gross technical provisions of the enterprise plus Other technical income, net of reinsurance plus Other income minus Claims paid plus/minus Change in the provision for claims (increase needs to be subtracted, decrease needs to be added) minus Losses on the realization of investments minus Bonuses and rebates, net amount

plus/minus Change in the equalization provision (costs should be subtracted, income need to be added) plus/minus Changes in other technical provisions, not shown under other headings (costs should be subtracted, income should be added).

For the activities of NACE K653, Value of output is defined as Net turnover minus Insurance premiums payable plus Investment income plus Other income plus Insurance claims receivable minus Total expenditure on pensions minus Net change in technical provisions (increases in technical provisions are to be subtracted and decreases added). Alternatively, the Value of output can be calculated as the sum of costs.

For activities of NACE K66 for which Net turnover is not available in the financial statements, Value of output is defined as Interest receivable and similar income minus Interest payable and similar charges plus Commissions receivable plus Income from shares and other variable-yield securities plus Net profit or net loss on financial operations plus Income from product- or turnover-related subsidies.

For the activities of NACE K66 for which Net turnover is available in the financial statements, Value of output is defined as Net turnover plus Capitalized output plus Income from product- or turnover-related subsidies.

**Link to financial statements:** The components of the variable 'Production value' are included in the following accounting headings;

- Net turnover
- part of Other operating income - excluding subsidies
- part of Extra-ordinary income - excluding subsidies
- Variation in stocks of finished goods and work in progress
- part of Raw materials and consumables relating to purchases and change in stocks of goods for resale
- Work performed by the undertaking for its own purposes and capitalised.

**Link to other variables:** The variable is part of the detailed topic Value of output.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 120 Production value. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.4.16. VARIABLE 250401: VALUE ADDED

**Definition:** Value added is a composite indicator of net operating income, adjusted for depreciation, amortisation and employee benefits, all components being recognised as such by the statistical unit during the reference period. Its value is given by the formula:

- + Net turnover
- + Income from product- or turnover-related subsidies
- + Capitalized output
- ± Change in stock of goods
- Total purchases of goods and services.

**Further explanations to the definition:** Income from product- or turnover-related government grants and Capitalized output have the same meaning as in the definition of the variable Value of output.

Cost of goods sold is the carrying value of the goods sold during the reference period; it is the sum of all expenses directly attributable to the production of the goods sold by the statistical unit during the reference period. It usually contains the expenses of:



- raw materials, consumables and other inventory items used in the production process;
- labour (employee benefits expense), directly attributable to the production of the goods;
- other overheads (e.g. depreciation, amortisation, utilities, maintenance, etc.) directly attributable to the production of the goods.

Depreciation and amortisation expenses (substitutes in meaning; the former is used for tangible assets, the latter for intangible assets) are expenses recognised by the statistical unit during the reference period with the systematic allocation of the acquisition value of the long-term asset to which the expense refers over the asset's useful life.

In effect, the Gross value added variable is the EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation) of the statistical unit, adjusted for expenses of employee benefits (staff costs) and other net (operating) income, except income from product- or turnover-related government grants.

**Link to financial statements:** Value added can be calculated directly from the following accounting headings:

- Net turnover
- Variation in stocks of finished goods and work in progress
- Work performed by the undertaking for its own purposes and capitalized
- Raw materials and consumables
- Other external charges
- Other operating charges
- Other operating income
- Extra-ordinary charges
- Extra-ordinary income.

**Link to other variables:** The variable is part of the detailed topic Value added.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 150 Value added at factor cost and thus there is a rephrasing of the variable heading. The calculation method also differs, as the Taxes on products which are linked to turnover but not deductible is an explicit and separate item to be deducted from Turnover in order to calculate Value added at factor cost. As all taxes are already excluded from Net Turnover, the above-mentioned item is not explicitly mentioned in the calculation of Value Added.

#### 4.2.4.17. VARIABLE 250501: GROSS OPERATING SURPLUS

**Definition:** Gross operating surplus is the surplus generated by operating activities after the labour factor input has been recompensed.

It can be calculated from the value added less the employee's benefits expense. It is the balance available to the unit which allows it to recompense the providers of own funds and debt, to pay taxes and eventually to finance all or a part of its investment.

**Link to financial statements:** Gross operating surplus can be calculated from the following accounting headings:

- Net turnover
- Variation in stocks of finished goods and work in progress
- Work performed by the undertaking for its own purposes and capitalised

- Raw materials and consumables
- Other external charges
- Other operating charges
- Other operating income
- Extra-ordinary charges
- Extra-ordinary income
- Staff costs.

**Link to other variables:** The variable is part of the detailed topic Gross operating surplus.

**Tables:** The variable is included in Tables 10 and 11.

**Consolidation status:** Additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 12 170 Gross operating surplus. There is no conceptual change nor rephrasing of the variable heading.

## 4.2.5. Topic investments

The topic Investments covers a single detailed topic: Gross investment by active enterprises. The topic consists of eight variables, all belonging to the domain Country Country-level business statistics. The variables are presented in Tables 10, 27 and 28.

### 4.2.5.1. VARIABLE 260101: GROSS INVESTMENT IN TANGIBLE NON-CURRENT ASSETS

**Definition:** Gross investment in tangible non-current assets includes all additions to tangible non-current assets recognised as such by the statistical unit during the reference period, except any increases from revaluations or reversals of previously recognised impairment losses and from reclassifications (transfers) of other tangible non-current assets.

The additions include, but are not limited to, acquisitions, finance leases, improvements, alterations, renovations, constructions, self-constructions, and any capitalized expenses, as allowed by the applicable accounting standards which define the recognition and valuation criteria.

**Link to financial statements:** Gross investment in tangible non-current assets is disclosed as the additions, during the reference period, to tangible non-current assets, in the explanatory note of the financial statements referring to such assets. In the same note, transfers, revaluations and value adjustments (impairment losses or reversals thereof) are usually required to be disclosed separately, thereby allowing for the direct isolation of the variable.

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260102, 260103, 260104, 260105, 260106, 260107, and 260108.

**Tables:** The variable is included in Table 10.

**Consolidation status:** In principle additive, but gross investment is not additive if internal flows take place between legal units of the same enterprise.

As investments may, in fact, take place between units of the same enterprise, it is recommended to treat the variable as non-additive and to use information from surveys or manual profiling. Investments within the same enterprise must be excluded from the count. It is acceptable to treat investments as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 110 Gross investment in tangible goods. There is no conceptual change but only rephrasing of the variable heading.

#### 4.2.5.2. VARIABLE 260102: GROSS INVESTMENT IN LAND

**Definition:** Gross investment in land includes all additions to land, underground deposits, forests and inland waters, tangible exploration and evaluation assets, mining, oil and gas assets and others alike, recognised as such by the statistical unit, during the reference period. Gross investment in land is a part of the variable Gross investment in tangible non-current assets.

**Link to financial statements:** Gross investment in land might be disclosed as the additions to land, during the reference period, in the explanatory note of the financial statements referring to tangible non-current assets. Due to alternative classifications, the variable might be presented together with other asset classes (usually disclosed as one item comprising 'land and buildings' or 'property, plant and equipment').

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260103, 260104, 260105, 260106, 260107, and 260108.

**Tables:** The variable is included in Table 27.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 120 Gross investment in land. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.5.3. VARIABLE 260103: GROSS INVESTMENT IN THE ACQUISITION OF EXISTING BUILDINGS

**Definition:** Gross investment in the acquisition of existing buildings includes all additions to or acquisitions of buildings and similar structures already used (i.e. not new) at the moment of acquisition, recognised as such by the statistical unit during the reference period.

Gross investment in the acquisition of existing buildings is a part of variable Gross investment in tangible non-current assets.

**Link to financial statements:** Due to alternative classifications, this variable is likely to be presented in the explanatory note of the financial statements referring to tangible non-current assets, together with other asset classes (usually disclosed as one item comprising 'land and buildings' or 'property, plant and equipment').

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260104, 260105, 260106, 260107, and 260108.

**Tables:** The variable is included in Table 27.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 130 Gross investment in existing buildings and structures. There is no conceptual change but only rephrasing of the variable heading.

#### 4.2.5.4. VARIABLE 260104: GROSS INVESTMENT IN CONSTRUCTION AND IMPROVEMENT OF BUILDINGS

**Definition:** Gross investment in construction and improvement of buildings includes all:

- additions to construction of new buildings for own use (self-constructed);
- acquisitions of new buildings (usually the result of a construction contract, the beneficiary of which is the reporting statistical unit);
- capitalized additions, alterations, improvements and renovations to existing buildings (if additional economic benefits associated with them are likely to flow to the statistical unit), recognised as such by the statistical unit during the reference period.

Gross investment in construction and improvement of buildings is a part of variable Gross investment in tangible non-current assets.

**Link to financial statements:** Due to alternative classifications, this variable is likely to be presented, in the explanatory note of the financial statements referring to tangible non-current assets, together with other asset classes (usually disclosed as one item comprising 'land and buildings' or 'property, plant and equipment').

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260103, 260105, 260106, 260107, and 260108.

**Tables:** The variable is included in Table 27.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 140 Gross investment in construction and alteration of buildings. There is no conceptual change but only rephrasing of the variable heading.

#### 4.2.5.5. VARIABLE 260105: GROSS INVESTMENT IN MACHINERY AND EQUIPMENT

**Definition:** Gross investment in machinery and equipment includes all additions to machinery, vehicles, fixtures and fittings, office equipment, computer, communication and network equipment and others alike, recognised as such by the statistical unit during the reference period. Gross investment in machinery and equipment is a part of variable Gross investment in tangible non-current assets.

**Link to financial statements:** Due to alternative classifications, this variable might be presented in the explanatory note of the financial statements referring to tangible non-current assets, together with other asset classes or broken down to several of its components.

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260103, 260104, 260106, 260107 and 260108.

**Tables:** The variable is included in Table 27.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 150 Gross investment in machinery and equipment. There is no conceptual change but only

rephrasing of the variable heading.

#### 4.2.5.6. VARIABLE 260106: GROSS INVESTMENT IN INTANGIBLE NON-CURRENT ASSETS, OTHER THAN GOODWILL

**Definition:** Gross investment in intangible non-current assets, other than goodwill, includes all additions to intangible non-current assets, recognised as such by the statistical unit during the reference period, except goodwill.

The additions include, but are not limited to, acquisitions, finance leases, improvements, additions, alterations, renovations, constructions, self-constructions and any capitalized expenses, as allowed by the applicable accounting standards which define the recognition and valuation criteria and wherein the term 'goodwill' is also defined.

**Further explanations to the variable:** Goodwill (a term that only appears in the case of consolidated financial statements and that usually means the difference between the price paid and the net fair value at acquisition of the subsidiaries consolidated by the parent) is excluded, with the aim of allowing for the collection of the variable from financial statements, where it should be disclosed either directly or broken down to its components.

**Link to financial statements:** Gross investment in intangible non-current assets, other than goodwill is disclosed as the additions, during the reference period, to intangible non-current assets, in the explanatory note of the financial statements referring to such assets. In the same note, transfers, revaluations and value adjustments (impairment losses or reversals thereof) are usually required to be disclosed separately, thereby allowing for the indirect isolation of the variable.

Financial statements based on IFRS (IAS 1 and IAS 38) or on the EU accounting directive (2013/34/EU) should either contain such a specific line item in the explanatory notes (IFRS) or, through the exclusion of goodwill, allow for the calculation of the variable.

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260103, 260104, 260105, 260107, and 260108.

**Tables:** The variable is included in Table 10.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 420 Gross investment in concessions, patents, licenses, trademarks and similar rights. The content has been changed as mentioned above with the purpose of simplifying the data collection by making it possible to collect data from financial statements.

#### 4.2.5.7. VARIABLE 260107: INVESTMENT IN PURCHASED SOFTWARE

**Definition:** Investment in purchased software is recognised to be an intangible asset if and only if it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise and if the cost of the asset can be measured reliably. If the purchase of software does not meet these conditions, it is recognised as an expense when it is incurred and included in the value of Total purchases of goods and services.

The investment in purchased software comprises its purchase price, including any import duties and non-refundable purchase taxes, and any directly attributable expenditure on preparing the software for its intended use. Directly attributable expenditure, for example, includes professional fees for the installation of software. Any trade discounts and rebates are deducted, in arriving at the cost.

**Link to financial statement:** Investment is not recorded in the balance sheet. However, the additions,

disposals and transfers of all fixed assets as well as the value adjustments of these fixed assets are shown in the balance sheet or in the notes to the accounts.

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260103, 260104, 260105, 260106, and 260108.

**Tables:** The variable is included in Table 28.

**Consolidation status:** The variable is non-additive in the general case. Actually, investments may take place between units of the same enterprise. It is recommended to treat the variable as non-additive using information from surveys or manual profiling. Investments within the same enterprise must be eliminated. It is however acceptable to treat them as additive for practical reasons, if only accounts or tax declarations are available.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 441 Investment in purchased software. There is no conceptual change nor rephrasing of the variable heading.

#### 4.2.5.8. VARIABLE 260108: SALES PROCEEDS OF TANGIBLE INVESTMENTS

**Definition:** Sales proceeds of tangible investments includes the value of existing tangible capital goods, sold to third parties. Sales of tangible capital goods are valued at the price actually received (excluding VAT), and not at book value, after deducting any costs of ownership transfer incurred by the seller. Value adjustments and disposals other than by sale are excluded.

**Link to financial statement:** Sales of investment goods are not recorded in the balance sheet. However, the additions, disposals and transfers of all fixed assets are shown in the balance sheet or in the notes to the accounts.

**Link to other variables:** The variable is part of the detailed topic Gross investment by active enterprises. See also variables 260101, 260102, 260103, 260104, 260105, 260106, and 260107.

**Tables:** The variable is included in Table 10.

**Consolidation status:** Non-additive variable.

**Comparison with replaced Regulation (EC) No 295/2008:** The variable replaces the SBS variable 15 210 Sales of tangible investment goods. There is no conceptual change only rephrasing of the variable heading.

### 4.3. Additive and non-additive variables

As mentioned above, the EBS regulation contains 42 SBS related variables, which need to be calculated and provided at the level of the statistical unit enterprise and 3 variables at the level of the statistical unit local unit. As the enterprise related variables will predominantly be collected by the National Statistical Institutes, at the level of legal units, a consolidation process is required for all enterprises consisting of two or more legal units. The 42 variables fall into two categories:

- **Additive variables** are those, for which the simple sum of the amounts of the legal units yields the consolidated amount for the enterprise. This must be the case for all enterprises, regardless of the way in which the legal units are combined to form the enterprise.
- **Non-additive variables** are those, that cannot be simply added up to calculate the total amount at enterprise level, if the enterprise consists of several legal units, but a consolidation of the amounts of the variable in question (e.g. turnover) of the underlying legal units must be carried out involving the elimination of values that are related to internal flows.

The additivity of the variables is defined at the level of the unit enterprise. Actually, SBS variables must be provided at this level. In particular, if a group is delineated into several enterprises, each of those delineated enterprises has its own legal-unit perimeter, and its own SBS variables.

For a given variable, the criterion for being additive is ensured in all cases and for all the enterprises, and does not depend on the way in which the legal units are combined to form the enterprise. In fact, for each additive variable, there are never internal flows between the legal units that form the enterprise. For example, the Number of employees in full time equivalent units is an additive variable. For this variable, there are never internal flows between the legal units that form an enterprise.

On the other hand, for non-additive variables, the amount for the enterprise cannot be simply calculated as the simple addition of the amounts of the legal units constituting the enterprise. Actually, when several legal units are combined, for these variables, there are internal flows between legal units that have to be eliminated in the consolidation (see Section 6.6). For example, Turnover is a non-additive variable. Actually, within an enterprise, a legal unit A may sell a part or all its production to another legal unit B. Consequently, there are internal flows of turnover between the two legal units of this enterprise. This does not always happen. For instance, an enterprise may consist of one legal unit only, or an enterprise, for which the turnover of all the legal units is market-oriented, may have no internal flows occurring inside the enterprise. Turnover is however defined as a non-additive variable, because there may be internal flows between the legal units, at least for some enterprises and, when this happens, the sum of the turnover of the legal units does not return the correct value of the turnover for the enterprise.

For a few variables that are non-additive in principle, it has been proposed that they be treated as being additive, as an acceptable proxy in automatic profiling. They are considered as being additive because the information available in the administrative sources that can be used for automatic profiling does not allow to indicate clear hypotheses for a better consolidation. In principle, 10 variables are additive and 35 variables are non-additive. However, for practical reasons 13 of the non-additive variables are recommended to be treated as being additive. The character of each variable by additivity is listed in Table 4.2.

**Table 4.2:** List of SBS variables by character of additivity

<b>Topic Business Population</b>		<b>Additive (A)/Non-additive (N)</b>
<b>210101</b>	Number of active enterprises	A
<b>310101</b>	Number of local units	A
<b>Topic Labour Inputs</b>		
<b>220101</b>	Number of employees and self-employed persons	N*
<b>220102</b>	Number of employees	N*
<b>220103</b>	Number of employees in full-time equivalent units	A
<b>220201</b>	Hours worked by employees	A
<b>220301</b>	Employee benefits expense	A
<b>220302</b>	Wages and salaries	A
<b>220303</b>	Social security costs	A
<b>320101</b>	Number of employees and self-employed persons in local units	N*
<b>320301</b>	Wages and salaries in local units	A
<b>Topic Purchases</b>		
<b>240101</b>	Total purchases of goods and services	N
<b>240102</b>	Purchases of goods and services for resale	N
<b>240103</b>	Expenses on services provided through agency workers	N**
<b>240104</b>	Expenses of long-term rental and operating leases	N

<b>240105</b>	Purchases of energy products	N
<b>240106</b>	Payments to subcontractors	N**
<b>240201</b>	Change in stock of goods	A
<b>240202</b>	Change in stock of finished goods and work-in-progress	N***
<b>240203</b>	Change in stock of goods for resale	N***
<b>Topic Outputs and performance</b>		
<b>250101</b>	Net Turnover	N
<b>250102</b>	Net turnover from agriculture, forestry, fishing and industrial activities	N
<b>250103</b>	Net turnover from industrial activities	N
<b>250104</b>	Net turnover from industrial activities excluding construction	N
<b>250105</b>	Net turnover from construction	N
<b>250106</b>	Net turnover from service activities	N
<b>250107</b>	Net turnover from trading activities of purchase and resale and from intermediary activities	N
<b>250108</b>	Net turnover from building	N
<b>250109</b>	Net turnover from civil engineering	N
<b>250110</b>	Net turnover from the principal activity at the NACE three-digit level	N
<b>250111</b>	Net turnover from subcontracting	N
<b>250112</b>	Net turnover by residence of client	N
<b>250113</b>	Net turnover by product	N
<b>250201</b>	Gross margin on goods for resale	N
<b>250301</b>	Value of output	N
<b>250401</b>	Value added	A
<b>250501</b>	Gross operating surplus	A
<b>Topic Investments</b>		
<b>260101</b>	Gross investment in tangible non-current assets	N****
<b>260102</b>	Gross investment in land	N****
<b>260103</b>	Gross investment in the acquisition of existing buildings	N****
<b>260104</b>	Gross investment in construction and improvement of buildings	N****
<b>260105</b>	Gross investment in machinery and equipment	N****
<b>260106</b>	Gross investment in intangible non-current assets, other than goodwill	N****
<b>260107</b>	Investment in purchased software	N****
<b>260108</b>	Sales proceeds of tangible investments	N

\* The number of employees and the number of persons are headcounts. Consequently, these variables are not additive, if the same employee (or person) is part-time employed by different legal units of the enterprise. It is recommended to treat them as additive for practical reasons, if further information is not available.

\*\* These variables are non-additive in the general case. They are additive only if no related transactions take place between units of the same enterprise. It is recommended to treat them as being additive, for practical reasons, if only accounts or tax declarations are available. However, if further information is available, from surveys or manual profiling, transactions within the same enterprise must be eliminated.

\*\*\* These variables are non-additive in the general case. It is recommended to treat them as being additive for practical reasons, if only accounts or tax declarations are available.



\*\*\*\* The investment variables are non-additive in the general case, as investments may take place between units of the same enterprise it is recommended to treat them as additive for practical reasons, if only accounts or tax declarations are available. However, if further information is available, by surveys or manual profiling, investments within the same enterprise must be eliminated.

# 5

## Compilation approaches

### 5.1. Introduction

The purpose of this chapter is to present the different approaches to producing SBS statistics. The European Business Statistics Regulation being an output-oriented regulation, Member States are able to compile the requested statistics by using the most appropriate sources of information and by selecting the most appropriate methods to process the information.

There are several factors to consider when choosing the compilation method. Each method has its advantages and disadvantages. Principally, the method that minimises the total survey error under reasonable budget constraints is to be chosen.

This chapter further explains the content and describes the core sources presented in the [European Business Statistics Manual](#), Chapter 9 'Data sources for business statistics'.

NSIs can use different approaches, in order to assure the completeness and quality of the data requested by the legal framework. These depend on each Member State's experience, response burden level, desired data quality, available resources (budget and staff, but also IT-resources and technical conditions), the availability of information, and arrangements with administrative source owners.

Amongst NSIs, a general trend is to compile the SBS (and other statistical) information by using administrative data, which replaces or supplements the statistical surveys. This can reduce respondent burden as well as costs. It is widely accepted that an essential condition for such practices are strong legal provisions that facilitate the NSIs' access to administrative data, enabling them to use that source for statistical purposes.

Statistics Portugal, which almost completely replaced survey inputs with administrative data flows, is one of the success examples. It demonstrates that using administrative data is possible - but only as a result of an extraordinary effort involving the entire public administration. Many countries are using administrative data to a large extent, and they have subsequently reduced the statistical burden substantially.

A key element in compiling SBS are the statistical units. Extensive guidelines can be found in the [European business profiling – Recommendation manual](#) and the [European business statistical methodological manual for statistical business registers](#).

This chapter introduces some of the tools and methods needed to compile SBS. It focuses on the statistical business register and on profiling. The methods that will be presented are sampling surveys and usage of administrative sources.

This chapter also provides examples of Member States' experiences and practices with their compilation sources and approaches. Chapter 6 further explains the compilation process of SBS data

itself, as well as providing Member-State examples.

Tables 5.1 and 5.2 respectively provide an overview of the advantages and disadvantages of the different approaches, and of the availability of data on the SBS variables, by the different data sources.

**Table 5.1: SBS compilation approaches**

Compilation approach	Advantages	Disadvantages
Compilation based only on statistical survey/s	Definition of the variables Direct contact with respondents Complete control on data collection	High cost and burden on respondents
Compilation based only on administrative data	Low cost and burden Information already collected	Incomplete set of SBS variables Differences in definitions of variables (administrative definitions can substantially differ from statistical definitions) Different units of reporting/compilation
Compilation based on a combination of survey and administrative data	Lower cost and burden	Differences in definitions of variables Different units of reporting/compilation

**Table 5.2: Compilation of SBS variables by sources**

Topic	Business Population	Statistical Business Register	Statistical surveys	Administrative data sources
<b>210101</b>	Number of active enterprises	YES	NO	YES, to some extent (for enterprises equal to legal unit)
<b>310101</b>	Number of local units	YES	NO	NO
Topic Labour Inputs				
<b>220101</b>	Number of employees and self-employed persons	YES	YES	YES, to some extent (for enterprises equal to legal unit)
<b>220102</b>	Number of employees	YES	YES	YES, to some extent (for enterprises equal to legal unit and in case they are disclosed in the annual financial statements)
<b>220103</b>	Number of employees in full-time equivalent units	NO	YES	YES, to some extent (for enterprises equal to legal unit)

<b>220201</b>	Hours worked by employees	NO	YES	YES, to some extent (for enterprises equal to legal unit)
<b>220301</b>	Employee benefits expense	NO	YES	YES, for enterprises equal to legal unit and for the enterprises providing consolidated annual financial statements
<b>220302</b>	Wages and salaries	NO	YES	YES, for enterprises equal to legal unit and for the enterprises providing consolidated annual financial statements
<b>220303</b>	Social security costs	NO	YES	YES, for enterprises equal to legal unit and for the enterprises providing consolidated annual financial statements
<b>320101</b>	Number of employees and self-employed persons in local units	YES	YES	To some extent for enterprises equal to legal unit and equal to local unit
<b>320301</b>	Wages and salaries in local units	NO	YES	To some extent for enterprises equal to legal unit and equal to local unit
<b>Topic Purchases</b>				
<b>240101</b>	Total purchases of goods and services	NO	YES	YES, to some extent for enterprises equal to legal unit (when detailed-enough breakdown of all expenses is available in the annual financial statements)
<b>240102</b>	Purchases of goods and services for resale	NO	YES	YES, to some extent (for enterprises equal to legal unit)
<b>240103</b>	Expenses on services provided through agency workers	NO	YES	NO
<b>240104</b>	Expenses of long-term rental and operating leases	NO	YES	YES, to some extent (for enterprises equal to legal unit)
<b>240105</b>	Purchases of energy products	NO	YES	NO
<b>240106</b>	Payments to subcontractors	NO	YES	NO
<b>240201</b>	Change in stock of goods	NO	YES	YES, for enterprises equal to legal unit
<b>240202</b>	Change in stock of finished goods and work-in-progress	NO	YES	YES, for enterprises equal to legal unit
<b>240203</b>	Change in stock of goods for resale	NO	YES	YES, to some extent and for enterprises equal to legal unit

Topic Outputs and performance				
<b>250101</b>	Net Turnover	YES	YES	YES, for enterprises equal to legal unit
<b>250102</b>	Net turnover from agriculture, forestry, fishing and industrial activities	YES	YES	NO
<b>250103</b>	Net turnover from industrial activities	YES	YES	NO
<b>250104</b>	Net turnover from industrial activities excluding construction	YES	YES	NO
<b>250105</b>	Net turnover from construction	YES	YES	NO
<b>250106</b>	Net turnover from service activities	YES	YES	NO
<b>250107</b>	Net turnover from trading activities of purchase and resale and from intermediary activities	YES	YES	NO
<b>250108</b>	Net turnover from building	YES	YES	NO
<b>250109</b>	Net turnover from civil engineering	YES	YES	NO
<b>250110</b>	Net turnover from the principal activity at the NACE three-digit level	YES	YES	NO
<b>250111</b>	Net turnover from subcontracting	NO	YES	NO
<b>250112</b>	Net turnover by residence of client	NO	YES	NO
<b>250113</b>	Net turnover by product	NO	YES	NO
<b>250201</b>	Gross margin on goods for resale	NO	YES	NO
<b>250301</b>	Value of output	NO	Not as such but by collecting additional variable	YES, to some extent (for enterprises equal to legal unit and the component elements are available)
<b>250401</b>	Value added	NO	Not as such but by collecting additional variable	YES, to some extent (for enterprises equal to legal unit and the component elements are available)
<b>250501</b>	Gross operating surplus	NO	Derived from the other variables	YES, to some extent (for enterprises equal to legal unit and the component elements are available)

Topic Investments				
260101	Gross investment in tangible non-current assets	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260102	Gross investment in land	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260103	Gross investment in the acquisition of existing buildings	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260104	Gross investment in construction and improvement of buildings	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260105	Gross investment in machinery and equipment	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260106	Gross investment in intangible non-current assets, other than goodwill	NO	YES	YES, to some extent (for enterprises equal to legal unit)
260107	Investment in purchased software	NO	YES	NO
260108	Sales proceeds of tangible investments	NO	YES	NO

## 5.2. Statistical Business Register

The Statistical Business Register (SBR) represents an important element in the compilation of business statistics as it records the statistical units that are active in the national economy. Statistical Business Registers provide the basis for creating the statistical survey frames.

The statistical unit is the entity for which the required statistics are compiled (statistical output). The statistical unit may, but not necessarily, coincide with a reporting unit (direct approach) or with an observation unit (indirect approach).

The observation unit is the entity on which information is received and statistics are compiled. The reporting unit is the entity from which the data items are collected.

The statistical business register records the following units:

- enterprises performing economic activities that contribute to gross domestic product (GDP)
- legal units
- local units
- kind of activity units
- enterprise groups.

Additional information about statistical units can be found in the [European Business Statistics Manual, Chapter 4 'Business Register' and Chapter 7 'Statistical units'](#).

In SBS, the national SBRs must be used as the main source of information for the identification of the survey population and for the establishment of the link to the administrative data sources. In order to obtain maximum benefit from using the Statistical Business Register for the compilation of SBS data,

the register must contain a complete and correct set of information regarding the identification of the statistical units. Although the SBR should contain all units that are active and perform economic activities, there might be small businesses which are difficult to include. This is mainly due to the fact that SBRs depend on administrative sources, from whose coverage smaller units may be excluded due to thresholds those sources impose.

The unit to compile and provide data on for SBS is the enterprise. Enterprises are defined in Chapter 3 of this manual. Further guidance is available in the [European business statistics methodological manual for statistical business registers](#), Section 4.5 'Enterprise'.

The role that the SBR plays for SBS is to provide the populations of statistical units with links to administrative units, at fixed points in time, for specific reference periods. They also provide the information on observation units and the units that are responsible for reporting on statistical units. In case that SBS data are compiled by means of a statistical survey, the SBR ensures the monitoring of survey response and measures the response burden. Where SBS are compiled from administrative data, the SBR facilitates the linkage of microdata from different administrative and statistical sources.

The SBS frame population (survey frame) is derived from the Statistical Business Register. To identify and access the units of interest in the population, the survey frame should contain the statistical units that are valid for the specific reference period. The statistical units also need to contain all identification characteristics (ID code, name, NACE activity code, etc). The time at which SBS statisticians need the survey population for the production processes depends on their data collection/compilation approach. Where the survey is based on a direct data collection, the population of enterprises should be available at the start of a statistical production process or just after the end of the reference period. The decision on the right point in time shall however take into account the time frame, within which the SBR is able to provide complete and accurate information on the SBR population.

According to [Council Regulation \(EC\) No 696/93](#), the enterprise is defined as being the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit (see also Box 3.1). In most cases, the enterprise equals the legal unit. However, large enterprises can consist of more than one legal unit and they can be quite complex. They can also perform several economic activities. In these cases, the statistical unit 'enterprise' should be constructed from more than one legal unit. The activity of delineating the enterprise is called profiling, and the statistical units that are created are called profiled (statistical) enterprises.

Profiling is the method employed to analyse the legal, operational and accounting structure of an enterprise group, at national and at world level, in order to establish the statistical units within that group, their links, and the most efficient structures for the collection of statistical data (see [European business profiling – Recommendations manual, 2020 edition](#)).

Two or more legal units within an enterprise group are combined into one entity, the enterprise, which should have an economic meaning and a certain degree of autonomy in decision-making.

There are two profiling methods (see Box 3.2) one can use and they depend on the size and complexity of the groups as follows:

- Manual profiling for the larger and more complex groups;
- Automated profiling for small and medium groups.

Manual profiling means that the statisticians analyse the available information and delineate enterprise(s) individually through comprehensive dialogue and, if suitable, a meeting between the statisticians and the representatives of the enterprise group. The process is also related to the way the profiled enterprises provide their business statistics data in consolidated form, based on the available accounting information.

Automatic profiling means that the statisticians delineate the enterprises through different algorithms. In that case, the SBS data are calculated based on the legal units' accounting/survey data, using mathematical algorithms. Profiling methods are further explained Subsection 3.3.1 of this manual.

## 5.3. Surveys as source for SBS compilation

Data might be collected through surveys, either a census or a sample survey. A census survey implies that data are collected for all units of the statistical population fulfilling the requested criteria (market producers within the given scope of NACE activity codes) while, in a sample survey, only selected units of the statistical population are enquired. In that case, the sample must be delineated, in order to ensure that it is representative of the entire population of interest.

The question is to determine the appropriate sample size for a sample survey. In order to answer this question, statisticians should take into account different arguments, such as: variables and the parameters to be estimated, statistical distribution of the variable, level of precision of the parameter estimated, financial and time constraints.

In the sampling process, statisticians deal with different types of populations: target population, frame population and survey population. The SBS target population is the population of interest, i.e. market producers of NACE Rev.2 Sections B to N and P to R and divisions S95 and S96. The frame population is the population from which the sample is selected. The survey population refers to the units that will be surveyed. Ideally the survey population should correspond exactly to the target population.

### 5.3.1. Sampling methods

In general terms, sampling is a technique of selecting individual units of the population of interest or a subset of the population, to collect statistical data from them and to estimate characteristics of the entire population. Different sampling methods can be used depending on different constraints, among which: availability of information, time-convenience, and cost and burden. There are two types of sampling methods:

- Probabilistic sampling means that the method is based on the theory of probability and the selection of units is done based on certain criteria; the units of the population of interest are randomly selected (each unit having a known, equal, opportunity to be selected in the sample).
- Non-probabilistic sampling means that there is not a predefined selection process (not all units of the interest population have a known, e.g. equal, opportunity to be included in a sample).

The suitable method for business statistics is the probabilistic method because the population is rather large and diverse, the bias due to sampling is relatively low and the errors are measurable (accurate sample). The probability sampling techniques available are:

- Simple random sampling (SRS);
- Systematic sampling (SYS);
- Cluster sampling;
- Stratified random sampling: the entire population is divided into smaller groups that represent the entire population and the sample is drawn from each group separately.

The sampling methods listed are applicable to the entire SBS target population, after applying thresholds in defining the final target population. Through applying specific thresholds or 'cut-offs', some of the less economically significant units are excluded from the survey population. For example, enterprises with no employees are excluded in the design phase of the sampling frame. For those units excluded in the sampling phase, the SBS variables are computed based on different administrative sources or by model-based estimation.

Probabilistic sampling methods enable statisticians to make probability statements about the size of



the sampling error. Simple and stratified random sampling are two categories of techniques that are used for selecting the units to be surveyed.

All definitions below, except for cut-off sampling, are taken from the [Survey sampling reference guidelines](#), Eurostat 2008.

### Box 5.1: Definition of the sampling methods

**Simple random sampling** (SRS) is often regarded as the basic form of probability sampling. SRS is applicable to situations, in which no previous information is available on the population structure. Taking simple random samples directly from the frame population ensures that each population element has an equal probability of selection. Thus, SRS is an equal-probability sampling design. In simple random sampling of  $n$  elements, every element  $k$  in the population frame of  $N$  elements has exactly the same inclusion probability  $\pi_k = n/N$ .

**Systematic sampling** (SYS) is a widely used sampling technique in situations, in which the sampling frame is an ordinary electronic (or manual) database, such as a population register, a register of business firms or farms, or a list of schools. SYS also is an equal probability sampling design because the inclusion probability of a population element  $k$  in an  $n$ -element sample is  $\pi_k = n/N$ .

In **sampling with probability proportional to size** (PPS), the inclusion probability depends on the size of the population element. Reduction in variance can then be expected if the size measure and the study variable are closely related. It is assumed that the value  $Z_k$  of the auxiliary size variable  $z$  is known for every population element  $k$ . Typical size measures are variables that physically measure the size of a population element.

In **stratified sampling** (STR), the target population is divided into subpopulations. Stratified sampling (STR) relies strongly on the use of auxiliary information. In STR, the frame population is first divided into non-overlapping subpopulations called strata, and sampling is executed independently within each stratum. Within the strata, some of the basic sampling techniques, SRS, SYS or PPS, are used for drawing the sample of elements. Stratification involves flexibility because it enables the application of different sampling techniques to each stratum. The most common allocation techniques for defining the stratum sample sizes are: proportional allocation, equal allocation, optimal or Neyman allocation, and power or Bankier allocation.

Neyman allocation is applicable if the population standard deviations  $S_h$  for individual strata of the study variable  $y$  are known. Neyman allocation is often used in continuous business surveys. The stratum sample sizes are first calculated. The number of sample units  $n_h$  in stratum  $h$  under optimal allocation is calculated as:

$$n_h = n \frac{N_h S_h}{\sum_{h=1}^H N_h S_h}$$

To carry out **cluster sampling**, a sample of clusters (naturally formed groups of population elements such as clusters of employees in establishments, clusters of pupils in schools and clusters of people in households) is first drawn from the population of clusters by using one of the basic sampling techniques.

**Cut-off sampling** is a procedure in which a predetermined threshold is established, with all units in the universe at or above the threshold being included in the sample and all units below the threshold being excluded. The threshold is usually specified in terms of the size of some known relevant variable. In the case of establishments, size is usually defined in terms of employment or output. (Source: OECD Glossary of terms)

Table 5.3 presents advantages and disadvantages of different sampling methods as well as the circumstances in which they are applicable.

**Table 5.3: Sampling methods – application, advantages and disadvantages**

Sampling method	Advantages	Disadvantages	Applicable
<b>Simple random sampling</b>	No bias on the estimates Sampling error is known Same probability of units being selected Less complicated compared to other sampling methods Easy to use when the target population is known High degree of representativeness	Large number of units to be selected, which will mean: Relatively high cost Relatively high burden on respondents	The population units are similar. The population must be complete and up-to-date. No auxiliary information on the population is needed.
<b>Systematic sampling</b>	Depends on a sampling interval rule to select all units Less costly and more straightforward sampling method	Can introduce bias to the estimates; possibility of skewed results Over- or under-representation of particular patterns	The population units are similar. No auxiliary information on the population is needed. Size of the target population is known. Occasionally used for business statistics surveys
<b>Sampling with probability proportional to size</b>	Improved efficiency	Requires additional information	The population units vary in size. An auxiliary variable is needed.
<b>Stratified sampling</b>	Ensures a high degree of representativeness of all the strata or layers in the population	Requires additional information about the target population for the construction of the strata Relatively high cost	The population is heterogeneous and contains several different groups. Auxiliary information on the population is needed.
<b>Cluster sampling</b>	Lower costs for data collection	Inappropriate to be used for SBS	Not suitable for SBS
<b>Cut-off sampling</b>	Lower cost for data collection	Results only for the population above the threshold	Large number of units with very small

Sampling method	Advantages	Disadvantages	Applicable
	Lower burden on respondents	Requires additional methods to be used, to estimate the information for the units excluded  Costs to build and maintain the estimation models and methods	impact on total estimates

The above-mentioned methods can be used either as a singular method, or two or more methods may be combined, for example stratified sampling combined with cut-off or simple random.

Taking into account the variety of breakdowns (different levels of NACE activity – classes, groups, divisions, sections, or specific aggregates, size classes, etc.) and the magnitude of the SBS population units, many Member States which collect data using a survey approach applying the stratified sampling method. The strata are defined by crossing the NACE activity code and employment size class of the enterprises. In addition to those two dimensions, a third dimension, NUTS, is also used by some Member States.

Because of various constraints such as costs, resources available and burden on respondents, or because the smallest units contribute less to the parameter of interest, SBS compilers also carry out cut-off samples. In this way, the smallest units are excluded, when defining the strata (for example, for some NACE activities all micro-units are excluded). Model-based estimations are used to compile the estimates for the units excluded.

The most common method used to select the number of units in the sample is Neyman allocation. In optimal allocation, a stratum which is large or has a large within-stratum variance has more sampling units than a smaller or more internally homogeneous stratum.

Compiling SBS variables, based on data collected through surveys, has important advantages, among which being able to explain the definitions of the variables to the respondents, in order to obtain the data that reflect the phenomena, and being in direct contact with units, in case clarifications are needed. On the other hand, two main issues that can impact the quality of the final output: response burden and non-responses.

### 5.3.2. Member States using sampling methods for SBS surveys

Complexity of enterprise arrangements and the lack of information in the administrative or other sources make it necessary for information to be collected through statistical surveys. However, the pressure on the respondents should be reduced as much as possible. Therefore, NSIs apply different sampling methods to ensure the representativity of the data produced. Member States use various criteria to stratify the target population.

Below are some of examples of how Member States compile SBS data using sample surveys.

#### Box 5.2: Member State practices with using sample surveys for SBS compilation

**Statistics Belgium** uses the frame population, which is stratified, to select the SBS survey units. Stratification depends on both employment and VAT turnover; both define a combined size class. This size class is then combined with the NACE 4-digit in order to define each stratum. The method used to draw the sample is stratified simple random sampling. Every year, a different sector of the frame is particularly renewed with a negative coordination, while the other two are sampled with

positive coordination with regard to previous samplings of SBS. This allows one to reach a larger part of the register by imputing data for a subset of units of the two sectors Services, retail and industry and Construction with positive coordination instead of systematically sending a questionnaire to each and every unit sampled. The strata corresponding to the biggest size class are exhaustive strata. Neyman allocation is used to determine the number of units to be sampled in each stratum.

**Ireland** SBS are based on cut-off sampling, with all units surveyed for Industry. For the other sectors, different thresholds are used: Construction 10 employees, Trade and services 50 employees. All units above these thresholds are surveyed while, for those below the threshold, random sampling is applied. Exceptions are made where some enterprises may have less than 50 employees but have significant turnover and are included in the census for the Services sector.

**CBS Netherlands** applies a random stratified sampling method. Neyman allocation is used to optimize the sample distribution. Strata usually consist of NACE-4 digit and size-class groups. Sometimes, small NACE groups are joined together to make samples bigger and estimates more robust. The units belonging to the Large Case Unit are all included in the survey.

The **Swedish SBS** uses Statistics Sweden's system for coordinated sampling to retrieve the frame population and the samples. The surveys' samples are probabilistic samples, to which a cut-off is applied. The samples are stratified according to varying details of NACE. Two methods are applied: stratification according to size followed by the selection of a simple random sample in each stratum; and sampling proportional to size within strata.

### 5.3.3. Sampling coordination

Business statistics are produced for different reference periods: year, quarter or month. Data collection and compilation starts at different points in time for the different surveys, but the frame population is built upon the Statistical Business Register.

The need for consistency of business statistics requires controlling measures to secure coherence between the annual, multi-annual and sub-annual (quarter or month) populations, and between domains of business statistics. On the other hand, the necessity to reduce response burden challenges NSIs have to find innovative solutions.

One of those solutions is sampling coordination. Sampling coordination means spreading the statistical burden consistently among the population units, over repeated sample selections. The objective of the coordination of samples is to select units that have not already been selected in recent surveys.

### 5.3.4. Legal unit versus enterprise

In SBS, the statistical unit applied is the enterprise, which is defined in the Statistical Unit Regulation of 1993 (Council Regulation (EEC) No 696/93). The implementation of the unit enterprise is a complex process, in the case of those enterprise groups which comprise several legal units and perform different economic activities.

Statistical units are units defined for statistical purposes, about which information is required. Enterprises and legal units are usually closely related but the two concepts are different.

While legal units are independent in a legal sense, they may not necessarily constitute independent economic units with decision-making autonomy for their activities, a criterion that is fundamental to the definition of a statistical enterprise. Data on units without decision-making autonomy will not be comparable with data on units with decision-making autonomy. In addition, legal units are not harmonised between the Member States, and this is an supplementary reason for inconsistency.

Legal units nevertheless play a pivotal role in the construction and use of a statistical business register. Administrative data about economic units are mainly available, based on legal units. Legal units are

the building blocks in defining enterprises. Furthermore, legal units are often the reporting units from which information is collected about enterprises. (See [European business statistics methodological manual for statistical business registers, 2021 edition](#).)

In the case that an enterprise consists of several legal units, the compilation of SBS data implies that information is collected either at the profiled-enterprise level or at legal-unit level.

Where the data are collected directly at profiled-enterprise level, the situation might occur that the data about the 'enterprise' as requested by statistical definition are not available. This might result from the different consolidation approaches that the enterprises use, or because no consolidation is carried out at national level. In those cases, the statistical survey questionnaire needs to include additional requests, in order to identify and eliminate the national intra-group flows from the accounts.

Where data are collected at legal-unit level, additional information needs to be collected especially for larger and complex enterprises, in order to eliminate the flows between legal units that constitute the enterprise. For less complex enterprises, the compilation of the SBS data can be done using the automated algorithms, taking into account whether variables are additive or not (see Section 4.3 and Section 6.6 of this manual).

### **5.3.5. Additional information collected for compiling SBS variables**

Most of the SBS variables (Table 5.2. Compilation of SBS variables by sources) can be collected and are available in the enterprise bookkeeping systems or they can easily be derived from the existing information, for example turnover, employment, wages and salaries. However, some of the SBS variables are more complex variables, which are not available as such in enterprise accounting systems. The most important ones are value added and output value.

Additional data need to be collected, in order to compile this category of variables. In the case of Value added, additional elements of revenues and expenses should be collected for the correct compilation of the variable.

The output value covers total output that is generated during the reference period, which means that it should include all goods and services regardless of whether they are supposed to be sold or will be self-generated long-term assets.

The variable Value of output is computed on the basis of the following items: Net turnover, Change in stock of finished goods and work in progress, Change in stock of goods for resale, Income from product- or turnover-related subsidies, Capitalized output, and Purchases of goods and services purchased for resale. (For the purpose of compilation of this variable, data regarding Income from product- or turnover-related subsidies is any income originating from government assistance granted to and recognised as such by the statistical unit during the reference period; and Capitalized output is the total increase of all self-generated long-term assets, recognised as such by the statistical unit during the reference period.)

The variable Value added is derived from the following components: Net turnover, Income from product- or turnover-related subsidies, Capitalized output, Change in stock of goods, Total purchases of goods and services. Income from product- or turnover-related government grants and Capitalized output have the same meaning as in the definition of the variable Value of output.

### **5.3.6. The frame Quality aspects of the sampling approach**

The frame population might contain coverage errors due to various reasons, amongst which: time lag between the creation of the sampling frame and the usage of the sample, newly created or closed units.

Over-coverage and under-coverage of the frame are the main quality issues statisticians face in the sampling process. Over-coverage means that the sampling frame used contains elements which do

not belong to the target population. Over-coverage can normally be detected during the fieldwork. Under-coverage means that the sampling frame does not contain all elements that are part of the target population. Under-coverage is a much more problematic phenomenon since often it cannot be detected and assessed in a reliable manner. Under-coverage can essentially only be countered by means of a frame review.

#### 5.3.6.1. THRESHOLDS APPLIED

Some micro-economic entities might not be included in the sampling frame, due to different constraints. Thresholds may have been applied, in the design of the sampling approach, and design under-coverage may have been introduced through population groups or geographical areas being excluded a priori for reasons of practical feasibility. A quality indicator of design under-coverage is given by the fraction of the frame elements that is not covered by the sampling design.

In the sampling process, under-coverage error could occur; due to the frame population elements that should be included in the sampling frame, but which are actually missing. Under-coverage can induce a bias in the estimation of parameters.

#### 5.3.6.2. SAMPLING ERRORS

Sampling error is defined as being the difference between a population value and its estimate derived from a random sample. Sampling error can be determined in the case of probability sampling. Sampling error can be reduced by selecting a larger sample, but this increases the costs of obtaining the data and the burden on respondents.

The treatment of sampling errors is more extensively described in Chapter 7.

#### 5.3.6.3. NON-SAMPLING ERRORS

Non-sampling errors are those, which cannot be attributed to sampling methods. These errors can be:

- non-response errors, which are due to missing or wrong values of the data;
- processing errors, which are caused by the incorrect implementation of methods or handling of data;
- random errors occurring during data collection, errors due to wrong measurement, or due to the time when the data are available;
- errors due to the use of wrong measurement methods and/or the wrong model for the estimation.

## 5.4. Using administrative sources for SBS compilation

### 5.4.1. Definition of administrative data and administrative data source

Administrative data (see Box 5.3 for definition) are held within the public administrative system. The data collected are defined according to the needs and purposes of the public organisations, and they may differ from the statistical definitions used in SBS. In order to use administrative data for the purpose of compiling SBS data, the NSIs have to establish specific organisational arrangements regarding the access and the management of data flows.

Statistical offices are increasingly taking the advantage of using already collected data. Although the availability of relevant and usable administrative data is generally increasing, production processes (including those of SBS) that are completely based upon administrative sources are quite exceptional.

By definition, the information content of administrative data is determined by the regulations, in accordance with which it is collected. Such regulations can vary from one country to another, so that even substantial differences can be found within the same type of source.

Appropriate legal provisions are the foundation that enables NSIs to obtain administrative data and use them for statistical purposes. There has been important progress in the last decades in many countries, in terms of strengthening the provisions in the statistical legal framework.

A strong legal framework is a necessary condition to obtain access to administrative data, but it is not a sufficient one. In order to make it operational, institutional cooperation and general organisational arrangements are prerogative.

Successful cooperation between NSIs and administrative data owners imply permanent communications and the establishment of detailed processes covering protocols for the transfer of or access to the data, frequencies and timelines, and metadata.

Moving to the compilation of SBS data based on administrative sources requires in-depth analysis and assessment of administrative sources regarding the relevance of their content (units, variables), quality of the data, access, timeliness, and costs and benefits.

One of the drawbacks in utilizing administrative sources might be the possible inconsistency between the enterprise perimeter built up as part of the profiling method and the consolidation carried out by the enterprises.

The flow of processing and transforming administrative data into SBS data covers the following steps and actions:

- Transfer data from the holders to the NSI;
- Check data for completeness;
- Link administrative units to statistical units;
- Deal with differences in definitions;
- Data editing and validation;
- Combine administrative data with survey data;
- Apply estimation and imputation methods.

### Box 5.3: Definitions of administrative data and administrative data source

**Administrative data** are defined as administrative records from public administrative systems (for example tax and customs records) and from other sources. In statistical legislation, the term 'administrative data' is used in a more narrow sense, meaning administrative data from public administration. However, in terms of methodology, the definition of administrative data also includes administrative data derived from other sources.

According to the ESS glossary on the reuse of administrative data, the following definitions apply:

Administrative data are defined as the data derived from an administrative source, before any processing or validation by NSIs or ONAs.

An administrative source is defined as a data holding containing information collected and maintained for the purpose of implementing one or more administrative regulations.

An administrative regulation is defined as a set of detailed directions having force of law (such as decrees, ordinances and other similar provisions), developed to put a policy into practice — it is normally addressed to a designated population of natural and/or juridical persons, which are bound to observe it.

Source: [European Business Statistics Manual](#)

## 5.4.2. Relevant administrative data and institutions

An important project was carried out within the framework of the ESSNet: Use of Administrative and Accounts Data for Business Statistics. The main objectives were to explore the possibilities of the use of administrative data for business statistics, to provide best practices in this area available to the NSIs, and to prepare recommendations on the efficient ways of producing business statistics by using data that are already available in the economy.

Based on this valuable source of information and the practices of Member States, a number of SBS-relevant administrative data were identified. They are presented and detailed in the following subsection.

The national administrative data holders that are relevant for SBS data compilation are the Taxation Authorities/Administrations, Ministries of Finance, Labour force/employment Ministries or Administration.

Potential administrative sources for present purposes are: Value Added Tax data, Personal Income tax data, Business (including Corporate) Taxation data (including annual financial statements), Social Security data, Business registration and administration records, and Published business accounts. This also includes the appropriate administrative registers of taxation, social security, etc. These registers are main sources for the statistical registers.

The main administrative source of information are the annual financial statements of enterprises. Some of the variables can be retrieved from this administrative source, while some others can be compiled, based on the elements of the Profit and Loss/ Income statement or on the Balance Sheet.

By creating tools to facilitate the access to administrative data, IT developments have helped and speeded up the process. Tools such as XBRL (allows the creation, publication and exchange of entire financial statements) represent a way of collecting data on businesses. XBRL is the open international standard for digital business reporting. It is managed by a global not-for-profit consortium, XBRL International.

Table 5.4 presents the synthesis of the administrative data identified and their usage for SBS.

**Table 5.4:** Type of administrative data and SBS scope of usage

Administrative data	Scope
<b>Value Added Tax data</b>	Replace the survey data collection for a limited number of SBS variables (net turnover) Complement survey data Data imputation Data validation
<b>Business Taxation data (including annual financial statements)</b>	Replace the survey data collection for a limited number of SBS variables (variables contained in the topics: labour inputs, outputs and performance, purchases, investments) Complement survey data Data imputation Data validation
<b>Social Security data</b>	Replace the survey data collection for a limited number of SBS variables (variables contained in the topic labour inputs) Complement survey data Data imputation Data validation



<b>Business registration and administration records</b>	Complement survey data
<b>Employment registration</b>	Complement survey data Data imputation Data validation
<b>Published business accounts</b>	Replace the survey data collection for a limited number of SBS variables if data can be retrieved or if they are sent by the enterprise (variables contained in the topics: labour inputs, outputs and performance, purchases, investments)  Complement survey data Data imputation Data validation

### 5.4.3. Financial reporting principles and statistical requirements

International accounting standards (IASs) are a set of principles that are agreed internationally and that refer to the manner in which enterprises present their accounts.

International Accounting Standards were issued by the former International Accounting Standards Council (IASC) and endorsed and amended by the International Accounting Standards Board (IASB). The IASB reissues standards in the series, where it considers it appropriate.

The International Accounting Standards that are related to SBS are:

- **IAS 1 Presentation of Financial Statements** defines the requirements for financial statements, the way in which they are structured, and the minimum requirements for their content. The standard requires a complete set of financial statements to comprise a statement of financial position, a statement of profit or loss and other comprehensive income, a statement of changes in equity, and a statement of cash flows. The revised IAS 1 applies annually since 2009.
- **IAS 2 Inventories** defines the requirements on how to account for most types of inventory. The revised version of IAS 2 applies to annual periods beginning with 2005.
- **IAS 12 Income Taxes** sets out the comprehensive balance sheet method of accounting for income taxes, which recognises both the current tax consequences of transactions and events and the future tax consequences of the future recovery or settlement of the carrying amount of an entity's assets and liabilities. The current IAS 12 is applicable to annual periods starting with 1998.
- **IAS 16 Property, Plant and Equipment** specifies the accounting treatment for most types of property, plant and equipment. Property, plant and equipment is initially measured at its cost, and it is subsequently measured, either using a cost or a revaluation model, and depreciated so that its depreciable amount is allocated on a systematic basis over its useful life. IAS 16 applies to annual periods since 2005.
- **IAS 19 Employee Benefits** defines the accounting requirements for employee benefits, including short-term benefits (e.g. wages and salaries, annual leave), post-employment benefits such as retirement benefits, other long-term benefits (e.g. long-service leave) and termination benefits. The standard establishes the principle that the cost of providing employee benefits should be recognised in the period in which the benefit is earned by the employee, rather than when it is paid or payable, and outlines how each category of employee benefits are measured. The current IAS 19 is applicable to annual periods beginning with 2013.

- **IAS 23 Borrowing Costs** requires that borrowing costs directly attributable to the acquisition, construction or production of an asset must be capitalized as part of that asset. Other borrowing costs are recognised as an expense. The revised IAS 23 applies to annual periods beginning on 1 January 2009.
- **IAS 27 Separate Financial Statements** outlines the accounting and disclosure requirements for 'separate financial statements', which are financial statements prepared by a parent or an investor, in a joint venture or associate. The revised IAS 27 applies to annual periods beginning with 2013.
- **IAS 38 Intangible Assets** defines the accounting requirements for intangible assets, which are non-monetary assets which are without physical substance and identifiable. Intangible assets are initially measured at cost, subsequently measured at cost or using the revaluation model, and amortised on a systematic basis over their useful lives. The revised IAS 38 applies since 2004.
- **IAS 40 Investment Property** applies to the accounting for property (land and/or buildings) held to earn rentals or for capital appreciation (or both). The current IAS 40 applies to annual periods since 2005.

**International Financial Reporting Standards (IFRS)** are accounting standards developed by the IFRS Foundation and the International Accounting Standards Board (IASB). The IFRS is a set of high quality, understandable, enforceable and globally accepted accounting standards describing the company's financial performance and position.

The IFRS subjects that are of interest to SBS:

- **IFRS 8** requires an entity whose debt or equity securities are publicly traded to disclose information to enable users of its financial statements to evaluate the nature and financial effects of the different business activities in which it engages and the different economic environments in which it operates. It specifies how an entity should report information about its operating segments in annual financial statements and in interim financial reports. It also sets out requirements for related disclosures about products and services, geographical areas and major customers.
- **IFRS 10** establishes principles for presenting and preparing consolidated financial statements when an entity controls one or more other entities. IFRS 10 requires an entity (the parent) that controls one or more other entities (subsidiaries) to present consolidated financial statements; defines the principle of control, and establishes control as the basis for consolidation; sets out how to apply the principle of control to identify whether an investor controls an investee and therefore must consolidate the investee; sets out the accounting requirements for the preparation of consolidated financial statements; and defines an investment entity and sets out an exception to consolidating particular subsidiaries of an investment entity. Consolidated financial statements are financial statements that present the assets, liabilities, equity, income, expenses and cash flows of a parent and its subsidiaries as those of a single economic entity.
- **IFRS 11** establishes principles for financial reporting by entities that have an interest in arrangements that are controlled jointly (joint arrangements).
- **IFRS 12** requires an entity to disclose information that enables users of its financial statements to evaluate the nature of, and risks associated with, its interests in a subsidiary, a joint arrangement, an associate or an unconsolidated structured entity; and the effects of those interests on its financial position, financial performance and cash flows.
- **IFRS 15** establishes the principles that an entity applies when reporting information about the nature, amount, timing and uncertainty of revenue and cash flows from a contract with a customer. Applying IFRS 15, an entity recognises revenue to depict the transfer of promised goods or services to the customer in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

- **IFRS 16** reports information that faithfully represents lease transactions and provides a basis for users of financial statements to assess the amount, timing and uncertainty of cash flows arising from leases. IFRS 16 introduces a single lessee accounting model and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is of low value. A lessee is required to recognise a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments.

The following annexes to the EU Accounting Directive 34/2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings pertain to SBS:

- Annex III Horizontal Layout of the balance sheet
- Annex IV Vertical Layout of the balance sheet
- Annex V Layout of the Profit and loss account – by nature of expense
- Annex VI Layout of the Profit and loss account – by function of expense.

#### 5.4.4. Linkage between SBS and accounting data

All SBS variables are defined and explained in Chapter 4 of this manual. This subsection presents the SBS variables which might be derived from the enterprise accounting data.

##### 5.4.4.1. EMPLOYEE BENEFITS EXPENSE

The main international accounting principles related to Employee benefits expense are:

- IAS 19 – Employee benefits
- IAS 1 – Presentation of financial statements
- IAS 24 – Related party disclosures
- Accounting Directive 34/2013, Annex V (by nature of expense) 'Staff costs'.

The objective of IAS 19 is to prescribe the accounting and disclosure for employee benefits, requiring an entity to recognise a liability where an employee has provided service and an expense when the entity consumes the economic benefits of employee service.

IAS splits the employee benefits item into four categories:

- short-term employee benefits such as wages, salaries and social security contributions, paid annual leave and paid sick leave, profit-sharing and bonuses (if payable within twelve months of the end of the period) and non-monetary benefits (such as medical care, housing, cars) for employees;
- post-employment benefits such as pensions, other retirement benefits, post-employment life insurance and post-employment medical care;
- other long-term employee benefits including long-service leave or sabbatical leave, jubilee or other long-service benefits, long-term disability benefits and, if they are not payable wholly within twelve months after the end of the period, profit-sharing, bonuses and deferred compensation;
- termination benefits.

#### 5.4.4.2. WAGES AND SALARIES

The main international accounting standards related to Wages and salaries are:

- IAS 1 – Presentation of financial statements
- IAS 19 – Employee benefits
- IAS 24 – Related party disclosures
- Accounting Directive 34/2013, Annex V (by nature of expense) ‘Wages and salaries’.

#### 5.4.4.3. SOCIAL SECURITY COSTS

The main international accounting standards related to Social security costs are:

- IAS 1 – Presentation of financial statements
- IAS 19 – Employee benefits
- IAS 24 – Related party disclosures
- Accounting Directive 34/2013, Annex V (by nature of expense) ‘Social security costs’.

#### 5.4.4.4. TOTAL PURCHASES OF GOODS AND SERVICES

The main international accounting standards related to Total purchases of goods and services are:

- IAS 1 – Presentation of financial statements
- IAS 2 – Inventories
- IAS 23 – Borrowing costs
- IAS 16 – Property, plant and equipment
- IAS 40 – Investment property
- Accounting Directive 34/2013 – Nature of expense method: Raw materials and consumables used; Other expenses. Function of expense method: Cost of sales; Distribution costs; Administrative expenses; Other expenses.
- Accounting Directive 34/2013 – Nature of expense method: Raw materials and consumables used; Other expenses. Function of expense method: Cost of sales; Distribution costs; Administrative expenses; Other expenses.

#### 5.4.4.5. PURCHASES OF GOODS AND SERVICES FOR RESALE

The IAS standards related to Purchases of goods and services for resale are:

- IAS 1 – Presentation of financial statements
- IAS 2 – Inventories.

#### 5.4.4.6. CHANGE IN STOCK OF GOODS

The IAS standards related to Change in stock of goods are:

- IAS 1 – Presentation of financial statements
- IAS 2 – Inventories
- IAS 23 – Borrowing costs
- Accounting Directive 34/2013, Annex III Assets, ‘Current assets’.

#### 5.4.4.7. NET TURNOVER

The IAS standards related to Net turnover are:

- IAS 1 – Presentation of financial statements
- Accounting Directive 34/2013, 'Net turnover' in Annex V (by nature of expense) and/or Annex VI (by function of expense).

#### 5.4.4.8. GROSS INVESTMENT IN INTANGIBLE NON-CURRENT ASSETS OTHER THAN GOODWILL

The international accounting standards related to Gross investment in intangible non-current assets other than goodwill are:

- IAS 38 – Intangible assets
- IAS 1 – Presentation of financial statements.

#### 5.4.4.9. GROSS INVESTMENT IN TANGIBLE NON-CURRENT ASSETS

The international accounting standards related to Gross investment in tangible non-current assets are:

- IAS 16 - Property, Plant and Equipment
- Accounting Directive 34/2013, Annex III Assets 'Tangible assets'.

The objective of IAS 16 is to prescribe the accounting treatment for property, plant, and equipment. The principal issues are the recognition of assets, the determination of their carrying amounts, and the depreciation charges and impairment losses to be recognised in relation to them.

### 5.4.5. Usage of administrative data for data editing

In order to ensure that the final statistical product is of good quality, it is crucial to detect and treat errors at an early stage of the statistical production process. In this context, administrative data can play an important role in the editing process by adding information to the statistical data or by supporting the editing task in detecting erroneous variables. Concerning data editing see also Section 6.5 of this manual.

Editing methods that can be used in case of SBS are:

- Manual editing - check and correct microdata. It requires for the identification of the units that need a closer inspection to be done by an expert and to be supported by software for interactive editing.
- Deductive editing - editing systematic errors for which the error mechanism is known (e.g. sign or unit of measurement errors, typing errors).
- Automatic editing - through editing rules as mathematical equations.
- Detection of outliers - the statistician can decide whether the value is an error or an influential correct value.
- Methods for reconciling conflicting microdata. The purpose of reconciling conflicting microdata is to solve the consistency problems by making adjustments to some of the variables involved.

### 5.4.6. Usage of administrative data for data imputation

Imputation is the process of replacing the missing values with values estimated from the available data. In surveys, missing data occur when respondents are not willing or able to provide answers to one or more questions in the survey or to the entire questionnaire. In the imputation phase, these missing values will be replaced by plausible ones, in order to guarantee the quality of the data. Administrative data are a valuable source of information that can be used for data imputation. Concerning imputation methods see also Section 6.7 in this manual.

There are several methods for handling missing data, depending on the scope, the type of the missing values or the level at which the data should be produced and/or disseminated.

Regardless of the imputation method considered, at the end of the procedure, the consistency of the imputed observations should be checked and the impact of imputations on estimates and variances should be evaluated.

For an efficient and beneficial usage of administrative data, statisticians should check the harmonisation of units and variables.

Unit consistency and harmonisation – When administrative data are used, the administrative units need to be 'transformed' into statistical units referring to the target population. After a preliminary check of the consistency, for those units that differ, it is necessary to start the process of harmonisation or alignment of units. That means that the units registered in the administrative data sources must be transformed into relevant statistical units.

Variable definition and content harmonisation – Variables in an administrative data source are defined according to the administrative purposes of the owner. These definitions may differ from those of the target variables for statistical purposes. In case differences in variable definitions occur between data sources, these variables need to be harmonised during data integration.

### 5.4.7. Quality aspects in using administrative data

Despite of the advantages of using administrative data in the statistical process, it should be mentioned that they are affected by different type of errors. In addition, the initial quality control is not in the hands of statisticians, which may imply additional data checking regarding the consistency and completeness, prior to use in the compilation process.

The quality of administrative data can be judged in relation to the quality dimensions: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, coherence and comparability.

Relevance is measured as the extent to which the administrative data satisfy the statistical needs. The differences between administrative and statistical concepts and definitions of the variables are the main aspect to consider.

Accuracy and reliability are usually given by the owner organisation. For example, taxation authorities check the income statements they receive. But additional checks might be performed by the statisticians, in order to assess the accuracy of the data they are going to use for statistical purposes.

Accuracy can be influenced by processing errors. The assessment thereof by the NSI can however be rather difficult as the NSI receives the information from the administrative source holders. Two other aspects affect the accuracy of the administrative data: measurement errors and non-responses. Measurement errors in the administrative data are treated in a way similar to that used in surveys. Unit non-response is less of a problem with administrative data, but item non-response can arise because of omissions of the reporting units, when filing administrative forms.

Timeliness of administrative data depends on whether they are available to the NSI when they are needed. Punctuality depends on the regularity and consistency with which the administrative data become available to the NSI.

The accessibility of the administrative data might differ between data owners and also between countries. In many cases the administrative data owners are very collaborative and make the data they collect available to the NSI. Clarity is given by the metadata content that complements the data. Metadata normally should include the definitions of population units, variables and other administrative concepts. In some cases, descriptions of concepts and methods that usually should accompany the data are missing.

The coherence of administrative data can be assessed on the basis of discrepancies between the figures provided over time and describing the same phenomenon. The comparability of administrative sources can be affected by changes in the legislation regarding the owners of the administrative data. Changes to the legislation concerning accounting rules is one of the sources of lack of comparability.

#### 5.4.8. Member States using administrative data to compile SBS

Box 5.4 presents brief examples of the use made of administrative data by some of the Member States.

##### Box 5.4: Type of administrative data and SBS scope of usage

**Statistics Belgium** uses the income statement, which displays all the income received and expenses made during the financial year: turnover, increase or decrease in stocks, raw materials and purchases, remuneration, financial income and charges. The annual accounts are drawn up at legal-unit level. The Belgian accounting rules (Belgian GAAP) remain mandatory for the non-consolidated annual accounts of all legal units. The SBS staff neutralise the VAT flows between the different legal units, in order to obtain the variables at enterprise level following the rules edited in the guidelines. Statistics Belgium uses XBRL to upload the enterprises' data into the data collection system.

**Statistical Service of Cyprus** uses company data to eliminate the intra-group flows. The companies provide specific notes in the financial statements, listing the transactions with related parties (i.e. other legal units that have some form of relationship (parent, children, sister, shareholder, etc.)). Each transaction is recorded for the legal unit making the transaction, its type (purchase, sale, payment of interest, dividends, etc.) and amount. These transactions must be recorded on both sides. When transactions take place within an enterprise, they are not taken into account.

**Statistics Portugal** SBS uses the Simplified Business Information (IES) as its basis. With the IES, the various obligations, namely the annual accounts of the enterprises, are fully complied with by electronic means, in a totally dematerialised form, and they are carried out in a single occasion. One of these legal obligations includes the statistical one. Since 2006, the compilation of Structural Business Statistics in Portugal has been based on administrative records, and the annual accounting data for all the enterprises is only obtained by this way, without additional data collection via statistical surveys.

**NIS Romania** accesses and uses administrative data for the purpose of compiling SBS. For smaller units, the annual financial statements at record level provided by the Tax Authority are used for the compilation of SBS variables (profit and loss account for variables referring to incomes and purchases, and the immobilised assets balance and balance sheet for variables concerning the gross investments); value added tax declarations are used for the compilation of value of turnover (in case annual financial statements are not available in time); social security contributions data provided monthly at record level are used for the compilation of employment and employee benefits expense.

## 5.5. Combining different sources of data for SBS compilation

### 5.5.1. Survey supplemented by administrative data and Business Register

Section 5.3 on statistical surveys and Section 5.4 on administrative sources describe the most important sources for the compilation of SBS data. However, the experience of the NSIs shows that the two approaches are quite often combined in different ways - very rarely is only one method used.

The successful compilation of SBS using different data sources is ensured by the availability of data at record level. The two data sources can be combined in different ways, depending on the availability of the information. The statistical unit, the identifier and the reference period are the main characteristics that enabling an effective compilation of data.

The following ways of combining different sources of data are used in the compilation of SBS:

- Administrative data (record level) used for some small enterprises, combined with survey data for larger and more complex enterprises;
- Administrative data (record level) used for a set of variables for all enterprises, combined with survey data for the rest of the variables;
- Statistical Business Register data, combined with administrative (record-level) data and with survey data;
- Data estimated by applying mathematical algorithms or models based on administrative and survey information.

Table 5.5 presents the main conclusions from compiling SBS data using different approaches.

**Table 5.5: Detailed compilation approaches – benefits and drawbacks**

Compilation approach	Benefits	Drawbacks
Sampling survey based	Data collection can be designed to answer the precise objective. The variables collected are defined to allow the production of the requested SBS. A limited number of units are selected in the sample. Estimate precision is known. Direct contact with respondents	Sampling errors Medium costs Burden on respondents Non-response
Survey – Census	Data collection can be designed to answer the precise objective. The variables collected are defined to allow the production of the requested SBS. No errors due to sampling selection of the units Direct contact with respondents	High cost Burden on respondents High non-response



Compilation approach	Benefits	Drawbacks
Survey – Census for larger units and sampling for smaller ones	Data collection can be designed to answer the precise objective. The variables collected are defined to allow the production of the requested SBS. Estimate precision is known. Direct contact with respondents	High cost Burden on respondents
Combining survey and administrative sources	Estimate precision is known. Direct contact with respondents in case of units selected in the respondents list Lower cost for data collection Burden on respondents diminished	Inconsistent content and definition of the variables Availability of the requested variables Partial availability of the requested variables Administrative data purpose differs from SBS purpose Quality of the information in administrative sources Indirect contact or no contact with respondents in the case of administrative sources Administrative units might differ from statistical units.
Administrative sources	Low cost for data collection No burden on respondents Completeness of respondents (non-response tends to be equal to zero)	Different purpose of data collection of the administrative sources Different content and definitions of the variables Availability of the requested variables Indirect or no contact with respondents Administrative units might differ from the statistical units. Cooperation with holder of administrative sources not very smooth

### 5.5.2. Member States combining different data sources to compile SBS

In the last decade, most of the statistical offices in the Member States faced cuts in their resources for the compilation of statistical data. The allocation of resources according to the cost-effectiveness principle and the necessity to reduce response burden called for new methods to be used to compile statistical data. For the SBS, the most appropriate method was to use already available administrative data, and only to collect that information which cannot be derived from the available sources of data.

Box 5.5 presents some of examples of compiling SBS data in the Member States by using combined

data sources.

### Box 5.5: Member States practices with using combined data sources for SBS compilation

In **Statistics Austria** the SBS is compiled by using surveys, administrative data and information from the SBR. The SBS survey is based on cut-off sampling for the enterprises above the defined threshold. For the enterprises below the threshold, a model-based estimation using administrative data and the SBR is used for compilation. For each unit in the frame of SBS, the SBS database contains a full data set obtained either from the survey, from administrative sources or from model-based estimation.

Survey: all SBS variables that are not available with sufficient quality from other domains of business statistics nor from administrative sources are produced using the SBS survey; STS data for industries and construction units: some variables (e.g. employment, employee benefits expense, turnover).

Administrative sources (direct source): Social security data for employees.

**Statistics Denmark** compiles SBS data using the SBS survey and administrative data. Less than 5 % of the total SBS population units are included in the SBS survey.

The SBS survey collects information regarding the income statement as well as investments. The legal units belonging to the largest enterprise groups in the population receive an extended questionnaire, which also includes questions related to the balance sheet.

If the financial statements in electronic form (XBRL-files) are available, they are imported as prefilled answers in the electronic questionnaire to be filled by the enterprises being part of the sample. For the units which are not included in the SBS survey, the financial statement data if available from the XBRL files are used in the imputation process at unit level. Furthermore, for most enterprises being personally owned a limited number of variables can be extracted from the annual tax-statement and finally administrative data (VAT and tax data) are available for nearly all units, informing about the number of employees and turnover is available. These data are also used as input for the imputation process.

**ISTAT Italy** uses administrative data (fiscal data) for main accounting variables, and sample surveys for detail items for legal units with less than 250 persons employed. For legal units of above 250 persons employed, a census survey is carried out. For the enterprises belonging to largest groups of legal units under common control, data are collected based on census survey.

**The Croatian Bureau of Statistics** compiles SBS taking into account administrative and statistical sources as follows: annual financial reports (microdata) for accounting and statistical purposes are taken from the Financial agency, for all legal units that are obliged to deliver an annual financial report in accordance with the Accounting Act; reports on receipts, income tax, surtax, and contributions for compulsory insurance are provided by Tax administration as main source for employment and regional statistics; statistical survey 'Annual report on gross investments in fixed assets' (sample survey conducted by National accounts sector) constitutes the main source for investment variables; SBR for NACE code, employees and turnover variables.

**Statistics Finland** uses the administrative sources and yearly surveys data sources to compile SBS:

- (a) tax administration's Business tax data for financial statement variables and business register variables;
- (b) four-yearly enquiries for enterprises: 1) Business Register enquiry for multi-establishment enterprises, for variables NACE codes, address and the number of wage and salary earners for establishments; 2) Business Register enquiry for single-establishment enterprises, for NACE code, address and the number of wage and salary earners for establishments, 3) enquiry on enterprises' Financial statements collects data on the

breakdown of income and expenditure, increases and decreases in assets, and itemised balance sheet data supplement to the Tax Administrations data, and 4) enquiry on industrial establishments variables is used to collect data on industrial establishments' breakdown of income and expenditure, investments and inventories.

**Statistics Sweden** compiles SBS using a number of different data sources. Re-using existing data was a core fundamental when the present survey design for the Swedish SBS was developed. Data, corresponding to the Income statement and the Balance sheet, collected by the Swedish tax authority from all businesses is at the centre. This dataset is complemented by data from existing surveys such as Prodcop (production value), STS (hours worked), short-term survey on investments (Investments), and annual survey on employment (number of employees). Detailed data from the annual reports (number of persons employed and wages and salaries), purchased from a private company, are also used.

# 6

## Data compilation process

### 6.1. Introduction

This chapter describes the data compilation process of the national SBS data. It is linked to Chapter 5, in which the different data collection approaches are described. Generic information on the methods used to compile business statistics can also be found in [Chapter 10 of the EBS Manual](#). A major input to this chapter comes from the two surveys that were conducted to identify national practices in various aspects of the SBS data compilation process.

The description of the data compilation process largely follows the [Generic Statistical Business Process Model](#) (GSPBM). Section 6.2 provides an overview of that model.

Section 6.3 deals with the role of the Statistical Business Register (SBR) in providing master and survey frames, which are used to derive the target population. Recommendations for profiling can be found in the [European business profiling – Recommendation manual](#). This part of the chapter closely follows the developments in the domain and aligns its recommendations with the profiling manual for the practical purpose of compiling SBS data.

Section 6.4 deals with the various aspects of the data collection. Section 6.5 describes the methods of data validation, whereby data errors are detected and corrected. The methods to employ will depend on the types of data sources used (survey or administrative data) in the compilation of SBS statistics, as introduced in Chapter 5.

Section 6.6 provides an overview of the methods used to consolidate the non-additive SBS variables for enterprises consisting of more than one legal unit, where the data collected are based on legal units. Intra-enterprise transactions may require consolidation.

Section 6.7 covers imputation methods that are applied, in the SBS statistical process, with the aim of completing and/or replacing information which is missing within a data record with reliable estimates. The section details different imputation methods that may be performed on microdata or at an aggregated level.

Section 6.8 deals with preliminary and final data. Preliminary data need to be submitted eight months earlier than the submission of the final SBS data. Preliminary data only need to be compiled for three variables: Number of active enterprises, Number of employees and self-employed persons, and Net turnover.

Section 6.9 concerns itself with data revisions, the reasons for revising already published statistical data and the types of revisions.

## 6.2. General description of the compilation process

The UNECE Generic Statistical Business Process Model ([GSBPM \(8\)](#)) shows the different steps in the production of official statistics. This process aims to enable the compilers of the SBS data and of all the other business-statistical domains, to modernise statistical production processes, and to share methods and components. The GSBPM describes the statistical processes in a coherent way and helps statisticians to organise their statistical production. All activities undertaken by producers of official statistics, that result in data outputs, are captured by the model.

The GSBPM describes and defines the set of business processes needed to produce official statistics. It provides a standard framework and harmonised terminology. The GSBPM can be utilised for the integration of data and metadata standards, as a template for process documentation, for the harmonisation of statistical computing infrastructures, as well as to provide a framework for the assessment and improvement of data quality. The purposes and uses of the GSBPM are further elaborated in Section VII of the GSBPM, Version 5.1. That version of the GSBPM is aligned with version 1.2 of the Generic Statistical Information Model (GSIM) and version 1.2 of the Generic Activity Model for Statistical Organisations ([GAMSO](#)).

GSBPM also recognises several overarching processes that apply throughout the production phases, and across statistical business processes. Further information on the process of quality management and metadata management are available in Chapter 7 of this manual.

The GSBPM comprises three levels: Level 0, the statistical business process; Level 1, the eight phases of the statistical business process; and Level 2, the sub-processes within each phase. A description of the phases and sub-processes is available under [Section V of the GSBPM Manual](#) <sup>(9)</sup>.

GSBPM is presented, with Levels 1 and 2, in Figure 6.1.

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<sup>(8)</sup> (Version 5.1, January 2019)

<sup>(9)</sup> <https://statswiki.unece.org/display/GSBPM/V.+Descriptions+of+Phases+and+Sub-processes>

**Figure 6.1: Generic Statistical Business Process Model**

Overarching Processes							
Specify needs	Design	Build	Collect	Process	Analyse	Disseminate	Evaluate
1.1 Identify needs	2.1 Design outputs	3.1 Reuse or build collection instruments	4.1 Create frame and select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult and confirm needs	2.2 Design variable descriptions	3.2 Reuse or build processing and analysis components	4.2 Set up collection	5.2 Classify and code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design collection	3.3 Reuse or build dissemination components	4.3 Run collection	5.3 Review and validate	6.3 Interpret and explain outputs	7.3 Manage release of dissemination products	8.3 Agree an action plan
1.4 Identify concepts	2.4 Design frame and sample	3.4 Configure workflows	4.4 Finalise collection	5.4 Edit and impute	6.4 Apply disclosure control	7.4 Promote dissemination products	
1.5 Check data availability	2.5 Design processing and analysis	3.5 Test production systems		5.5 Derive new variables and units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare and submit business case	2.6 Design production systems and workflow	3.6 Test statistical business process		5.6 Calculate weights			
		3.7 Finalise production systems		5.7 Calculate aggregates			
				5.8 Finalise data files			

The GSBPM <sup>(10)</sup> is built up in business processes, phases, sub-processes within each phase, and detailed descriptions.

**Phase 1 – Specify Needs** defines the need for new statistics. In the case of SBS, these are laid down in the EBS regulation. The statistical needs have been identified above (see Chapters 1 and 2). In this phase, the needs for SBS have been identified in consultation processes with the stakeholders and main users of business statistics at EU and at national level. The phase is broken down in six-sub processes: identify needs, consult and confirm needs, establish output objectives, identify concepts, check data availability, and prepare business cases.

**Phase 2** – refers to the **Design**, and describes the development and design activities, and any associated practical research work needed to define the statistical outputs, concepts, methodologies, collection instruments, and operational processes. In addition, this phase is divided into different sub-processes: design outputs, design variable description, design collection, design frame and sample, design processing and analysis, and design production systems and workflow (see Chapters 2, 5 and 6 of this manual). In this phase, the SBS compiler decides whether the survey observes all units of the frame population (census-type survey) or selected units of the population only (sample survey). In the latter case, the survey frame serves as a basis for sampling; therefore, the survey frame will be a sample frame.

**Phase 3** – the so-called **Build** refers to the tests of the production solution, to the point where they are ready for use in the ‘live’ environment. The sub-processes in this phase are described as follows: build collection instrument, build or enhance process components, build or enhance dissemination components, configure workflows, test production system, test statistical business process, and finalise production system. This phase is not within the scope of this manual.

The next phase refers to the **collection** of all necessary data and metadata, and it is called **Phase 4 – Collect**. In this phase, different collection methods can be used for extractions from

<sup>(10)</sup> <https://statswiki.unece.org/display/GSBPM>

statistical, administrative and other non-statistical registers or databases. The phase is divided into four sub-processes: create frame and select sample, set up collection, run collection, and finalise collection. Further details on the collection phase can be found under Section 6.4 of this chapter.

**Phase 5** describes the **Process**. In principle, this entails the cleaning of data and their preparation for analysis. It is made up by the sub-processes: integrating data, classifying and coding, reviewing and validating, editing and imputing, deriving new variables, calculating weights and aggregates, finalising the data files, etc. The activities of this phase are described under Sections 6.4, 6.6 and 6.7 of this chapter.

**Phase 6 – Analyse** includes preparing statistical content (including commentary, technical notes, etc.), and ensuring outputs are “fit for purpose” prior to dissemination to users. Outputs of this phase could also be used as an input to other sub-processes (e.g. analysis of new sources as input to the “Design” phase). It is made up by the sub-processes: preparing draft outputs, validating the outputs, interpreting/explaining the outputs, applying disclosure control (further details can be found in Chapter 8 of this manual) and finalising the outputs.

**Phase 7 – Disseminate** manages the release of the statistical products to customers. This phase is defined by: the update of the output systems, the production of dissemination products, manage and release of the outputs, their promotion, as well as user support. The activities of this phase are further explained in Chapter 8 of this manual.

**Phase 8 – Evaluate** is a specific instance of a statistical business process, related to the evaluation of statistical outputs. The phase is defined in three sub-processes: gathering of evaluation output, evaluating, and setting up an action plan. That phase is not within the scope of this manual.

Each of the processes of GSBPM should form an integral part of the SBS compilation.

## 6.3. Master and survey frames

This section explains how business registers (BR) and survey frames can be used in the context of the collection and compilation of SBS data. It consists of the following parts: the delineation of the SBS population and the activity of enterprises, the role of the business register as master and survey frame, the importance of frozen frames, as well as Member States’ practices in those domains.

Business registers are used in the context of SBS and other statistics, to prepare and to co-ordinate the SBS survey or to establish links with administrative sources (see Section 5.4). BRs also act as data sources, as detailed in *Chapter 2 of the European business statistics methodological manual for statistical business registers – 2021 edition*. Guidelines for building business registers can be found in that manual. The basis for Member States’ maintenance of business registers is laid down by the EBS Regulation and the Implementing Act.

The legal requirements for a European framework for statistical business registers are defined in Art 8 of [Regulation \(EU\) 2019/2152](#) of the European Parliament and of the Council of 27 November 2019 on European business statistics, Recital 10, where the competencies between Member States and the Commission are further specified. The EBS Regulation (EU) 2019/2152 strengthens the role of the European framework for statistical business registers, covering national statistical business registers and the EuroGroups Register <sup>(1)</sup>, as an authoritative source for deriving high-quality and harmonised statistical business register populations for statistics related to businesses and multinational enterprise groups.

National statistical business registers and the EuroGroups register together form the basic infrastructure for the collection and compilation of data. Both, national registers and the EuroGroup register, are used as main sources of information, for the definition of the survey population, as well as for linking data to administrative sources.

The SBR plays a key role in the production of business statistics, in terms of the way in which they are

<sup>(1)</sup> <https://ec.europa.eu/eurostat/web/statistical-business-registers/eurogroups-register>

produced, regarding data quality as well as establishing survey frames. As such the SBR should fulfil specific roles (see also Figure 6.2):

- Operating of a regularly updated business register;
- Providing a master for frame populations;
- Providing survey frame populations;
- Providing survey support;
- Facilitating microdata linking activities and data exchanges;
- Providing input for business demography.

This section firstly focuses on the delineation of the SBS population, and the definition of the activity and non-activity of units and enterprises.

The delineation of the SBS population is defined by the following criteria: a) main economic activity (according to NACE Rev. 2); b) activity status of an enterprise, defined by employment and/or turnover in the reference year; c) market-producer status; or d) investment. Member States mostly use the information from the SBR.

The coverage required of the SBRs is defined in Article 2(2) of the EBS regulation. In order to define the SBS population, it refers to units that are engaged in economic activities and that thus contribute to gross domestic product (GDP). SBS covers all activities of the business economy with the exception of agricultural activities.

Box 6.1 shows some country examples of the delineation of the SBS population, applying the above-mentioned criteria.

### Box 6.1: Member State practice in the delineation of the SBS population

**Statistics Austria** defines the SBS coverage according to the following criteria: a) Main economic activity (according to NACE Rev. 2), b) Size class (until reference year 2021, a turnover threshold of 10 000 EUR is applied); c) A record is made in the SBR, whether an enterprise is active or not (employment and/or turnover during the reference year), and whether an enterprise is a market or a non-market producer. According to the above-mentioned criteria, the frame is drawn from the SBR; the basic frame is drawn based on the legal unit, since the data compilation (survey, administrative sources/model-based estimation) is carried out on the basis of legal units and survey thresholds have to be defined at this level. As thresholds are applied to annual, monthly and quarterly tax declarations, the use of the supplementary data from income and corporate tax declarations, where no threshold is applied, completes the data. In the case of turnover data missing from administrative sources, the turnover is imputed based on employment information.

The SBS frame is not frozen, on the contrary, it is drawn many times in the course of the data compilation process of a reference year (e.g. selection of units for the survey, start of the survey, calculation of preliminary results, availability of certain updated administrative data, model-based estimation, and compilation of final data). Consequently, the most recent information in the SBR is considered in SBS. The final frame is drawn after the finalisation of the compilation process for a reference year.

The frame for statistical enterprises is based on the frame for legal units and it is drawn according to the same schedule and criteria. For reasons of coherence between SBS and Business Demography (BD), the same frame will be used for BD, from the reference year 2021 onwards.

**Statistics Poland** uses the SBR as the basic framework for the delineation of the SBS population. The register contains information on legal units and enterprises (that might consist of one legal unit or might be a combination of multiple legal units) and covers all entities, irrespective of type of



activity and legal form. The population of SBS units is created by selecting from the register of enterprises those that were active during the entire reference year or part of it. The unit activity data from the register that refer to the activity status for a specific date are verified against statistical surveys and additional administrative sources that become available after the end of the reference year. NACE activity codes are entered into the register, based on a declaration from the entity at the moment of its registration. The codes are verified on the basis of the changes made in the administrative registers by the legal unit itself and additionally updated through statistical surveys and direct contact by phone or e-mail in case of any doubts.

**Statistics Portugal** uses statistical information on enterprises, based on administrative data, with particular emphasis on Simplified Business Information (IES), created by Decree-Law No. 8/2007 of 17 January 2007. The IES includes a wide range of annual information, relevant for statistical, tax and accountability purposes. This information is complemented, on the one hand, with data on individual enterprises (sole proprietors and self-employed persons), received through the protocol established between Statistics Portugal and the Tax Authority, and on the other hand, with information from the Business Register. In SBS, the definition of the business universe takes into consideration the institutional sector used by the National Accounts.

Whether a unit was active or not is defined according to certain criteria or a combination thereof. A unit, which had either turnover or employment, at any time during the reference period, is viewed as having been active. A unit is also deemed active when it is in investment phase, but does not yet generate any turnover.

Box 6.2 presents some examples of Member States' practices in the identification of active and non-active units and box 6.3 delineates the coverage of SBS.

### Box 6.2: Member State practice in delineating whether an enterprise is active or not

In order to define whether an enterprise is active or not, **Statistics Austria** uses information from the SBR. The SBR distinguishes between active enterprises relevant for business statistics (employment and turnover criteria), active units in the SBR that are however not relevant for business statistics (for tax reasons; active in companies register but no economic activity), and inactive enterprises. Only active enterprises relevant to business statistics are considered. These units are flagged in the SBR. An active enterprise needs at least one active legal unit in the reference year/part of the reference year. To define the status of activity/non-activity of an enterprise, information from two administrative sources is used, the variables employment and turnover serving as determinants. The following information is available: a) self-employed persons and employees (recent information); b) turnover tax advance returns (where threshold and definition problems are encountered); c) turnover from turnover tax (threshold); and d) turnover and other SBS variables from the supplements to the income and corporate tax declarations (main source for turnover, in SBS). Since data for investments are not available at all, this criterion is not considered. The different sources are considered according to the availability of information; in the case of availability of information from different sources according to a priority list based on the quality of the data. Model-based estimations are imputed to missing information (see Section 6.7). Units only active during a part of the reference year are considered for the relevant part of the reference year. The SBR has a monthly history, making it possible to define the relevant reference period on a monthly basis. In the SBR, a special flag is used for the delineation of the relevant period to be taken for annual business statistics.

**Statistics Belgium** considers an enterprise as being active during a reference year  $t$  if, during that reference year, the enterprise records employment  $>0$  or turnover  $>0$ , or a balance sheet deposit. For an enterprise consisting of several legal units, each legal unit must be economically active during the reference year  $t$ . Enterprises, for which the only source of activity is a turnover of less than 5 600

EUR, are not considered as being active and are thus excluded from the SBS. Legal units that are only active during a part of the reference year are weighted in the data compilation process.

**Statistics Denmark** defines an enterprise as being active if the turnover is greater than ½ full-time equivalent (FTE) employment by the industry average, or the employment is greater than ½ FTE, or the enterprise has large holdings of securities. The information on whether an enterprise is active, about an enterprise's industry, and whether it mainly carries out market activity (using the sector code) is available from the SBR. The latter also provides information on the number of employees and on VAT turnover.

**Statistics Ireland** defines a unit as active in the reference period if it fulfils one of the following criteria: a) employment, b) turnover or c) investment. For these, data from the Irish Revenue Commissioners is used. There are exceptions, such as businesses that report their employment through a head office (and thus might not show any activity of their own), or those whose turnover is consolidated. Such amendments are applied manually, after the application of the above criteria. For units which were only active during a part of the reference year, calculations can be made on the basis of employment data. The source provides monthly employment data thus an average is taken, of the months during which the enterprise was active (e.g. if it was active for four months, the employment for those months is summed and divided by four, and the eight months it was inactive do not form part of the calculation). The turnover data from source is annual so that the turnover figures used are taken to be the turnover for the year.

**The Croatian Bureau of Statistics** considers a unit as being active if the enterprise records a Turnover > 500 KN HRK or Number of employees > 0 or Gross investment > 3 500 KN HRK.

**The Hungarian Central Statistical Office** considers legal units as being active if they either had positive turnover or employment data, at any time during the reference period. The legal units are all included in the Joint Production Database for legal units (JPDleu). An enterprise is considered to be active if at least one legal unit within the given enterprise is active. The active enterprises are all included in the Joint Production Database for enterprises (JPDent). All legal units are taken into account, which have been active at any time during the reference year (even if it is only a short period of the year). The primary source are the surveys. Taxation data are used if available for the unit, or data of the former year are imputed.

**Statistics Poland** defines the status of an enterprise with information from the SBR, together with information from auxiliary data sources e.g. data from annual and short-term surveys of enterprises, VAT data, Social Insurance data, and data from the official register of economic entities. The process of matching legal units from the statistical register with administrative sources and surveys is based on the statistical identification number and the tax identification number. Using data from administrative sources and surveys of legal units conducting economic activity enables the precise determination of the activity status of legal units and the identification of entities operating both throughout the entire year and during part of the year. Thus, a legal unit is considered as being active if it reports turnover or employment in the reference year, in at least one of the sources used.

In order to avoid the double counting of values of variables, Statistics Poland also analyses transformations of legal units, for example identifying legal units that are taken over (absorbed) by other entities. This information is obtained from the statistical register (entries from enterprise registers) and from the Annual Survey of Enterprises (information on the establishment, liquidation or organisational changes of enterprises). Information on the activity and transformations of legal units is transferred to the set of profiled enterprises. The statistical units 'enterprise' are selected by activity and legal form, in line with the scope of the SBS.

**Statistics Portugal** considers an enterprise as being active during the reference period if it records turnover or employment. Economically active enterprises are all units that present turnover or main expenditures <sup>(12)</sup> or a number of persons employed with a value other than zero, in the reference

<sup>(12)</sup> This variable corresponds to the sum of cost of goods sold and materials consumed, supplies and external services, personnel expenses, other expenses and losses, interest and similar expenses incurred and expenditures and losses in subsidiaries, associates and joint ventures).

year for companies, and turnover or a number of persons employed with a value other than zero, in the reference period for individual enterprises.

The **Statistical Office of Slovenia** defines the activity of an enterprise by turnover, employees or investment during the observation period. The information from annual accounting reports is used as the main data source, and tax data are used to estimate missing values for certain units (e.g. when there are delays in reporting). For other enterprises (physical persons, etc) which have no legal obligation to publish annual reports, the information is obtained from tax data. An enterprise is active even if its performance lasted for only part of the reference year (newly born or deleted).

### Box 6.3: Member State practices in the delineation of the SBS coverage

**Statistics Austria** defines the coverage of the SBS with respect to the legal units by means of two criteria: (1) the NACE of the enterprise, to which the legal unit belongs, must be within the SBS scope and (2) the legal unit as well as the enterprise must be a market-oriented. For this purpose, information on criterion 2 (market-orientation) is taken from the SBR and coordinated regularly with National Accounts in order to mark legal units and – as a consequence – enterprises with a respective flag. This flag serves as the basic indicator whether a legal unit or an enterprise has to be considered in business statistics or not.

Naturally, the delineation of enterprises also indirectly impacts the definition of the Austrian SBS coverage. Most notably, the following legal units must not be allocated to the same enterprise in the course of the profiling:

- Market and non-market oriented legal units,
- Financial and non-financial legal units,
- Legal units active in agriculture, forestry and fishing and legal units active in production/services

Moreover, it must be mentioned that for legal units which perform activities with respect to NACE 64.2 and Special-purpose entities (SPEs), a special and case-specific treatment is necessary.

**Statistics Denmark** assigns NACE codes to both enterprises and local units. An enterprise may have local units with several different NACE codes that are both within and outside SBS activity coverage. However, an enterprise is part of SBS if the NACE code is within the SBS activity coverage. At enterprise level, there may be some activity that is outside the SBS coverage and that will be included. At local-unit level, activities that are outside of SBS coverage will therefore not be included. Local units with NACE activities that are within the scope of SBS are included even if the enterprise they belong to is outside the scope of SBS.

**The Croatian Bureau of Statistics** covers all active enterprises (legal units) that, according to their main activity, are classified in NACE sections B – J and L – N as well as in division 95 of section S. Active enterprises classified in parts of section K (classes 6411 and 6419 as well as in division 65) and branches of foreign enterprises are also included.

The JDPlEU and JPDent databases of the **Hungarian Central Statistical Office** contain data for the legal unit level and the enterprise level, for the entire national economy (NACE Rev. 2 Sections A - S (excl. K and O)). In accordance with the 2008 SBS Regulation, however, data are only transmitted for Sections B - N + S95 excl. K.

For an enterprise that has its main activity in NACE Rev 2 Sections B – N + S95 excl. K, all its members are taken into SBS scope (even if a legal unit in the given enterprise has its main activity in Sections A, P, Q, R, S94 or S96). If the main activity of the enterprise is classified in Sections A, P, Q, R, S94 or S96, the whole enterprise is excluded from the scope of SBS, even if it has one or

more legal units in Sections B - N + S95 excl. K.

**Statistics Portugal** defines the population of SBS in year N as all enterprises (companies, sole proprietors and self-employed persons) that carry out an activity of production of goods or services during that period in the country as a whole. The scope of economic activity considered comprises enterprises that are classified in Sections A to S of NACE Rev. 2, except in Sections K and O. Financial and insurance companies, and non-market-oriented entities, namely central and local government units, and various associative activities, are classified in the following institutional sectors: S12 - Financial corporations; S13 - General government and S15 - Non-profit institutions serving households, and are excluded from SBS. There is no threshold that excludes enterprises.

This section focuses further on the role of the SBR in providing master frames for the statistical data collections. The SBR produces register 'snapshots', the so-called business register master frames. Master frames are derived from the live register (see Sections 2.3 and 2.4 of the European business statistics methodological manual for statistical business registers – 2021 edition) and they enable the SBR to fulfil its 'backbone' role in the production of business statistics.

Master frames comprise populations of statistical units, their relationships with each other and their relationships with administrative units, and they are shared and used by statistical domains to coordinate their survey frames. Master frames are created by reference periods (month, quarter or year) and can have different versions: preliminary, intermediate or final <sup>(13)</sup>.

'The annual master frame consists of the populations of statistical units and their relationships active at the end of the reference year (year t) according to the state of information in the national statistical business register and the EuroGroups Register (EGR) at the point in time of selection' (Box 10.1, Chapter 10 'Frame population methodology', op. cit.). For national practices with (sub-)annual master frames also see Box 10.2, Chapter 10, op. cit.

A master frame builds the input for the selection of the SBS survey frame by defining the statistical units, which are valid for a specific reference period of the SBS compilation. Thus, the master frame represents a co-ordinated population of statistical units for a specific time (t, t-1, t-2, etc). The master frame contains all active units to be surveyed and the links between statistical and administrative units for a specific reference period. For further information on the role of the SBR, see Chapters 2.3 and 10, op. cit.

The SBR provides the SBS domain with a selection of survey frames, which contain the population of statistical units and serve as base for sampling (survey frame as sampling frame).

A survey frame is the set of a population that is the subject of a survey, together with its variables referring to a given reference period. A survey frame is selected from the master frame. The survey frame contains at least the identification, contact and classification variables of the selected units <sup>(14)</sup>.

A survey frame for SBS will include units belonging to a specific NACE group which were the reference period. The compiler will thus be able to identify and analyse, which units were active during the reference period or other periods. For further information, see Section 2.4, op. cit.

A high-quality business register helps to improve efficiency and coherence in the compilation of statistics (see Chapter 9, op. cit). Compilers of SBS are advised to be in close contact with the unit responsible for the maintenance and updating of the business register.

The SBR as referred to in Section 2.1 of op. cit. is the core statistical infrastructure supporting the collection of business data and the production of business statistics. The role of the SBR as the provider of master frames and survey frames, and as the provider of survey support, is described in further details in Sections 2.3 to 2.5., op. cit.

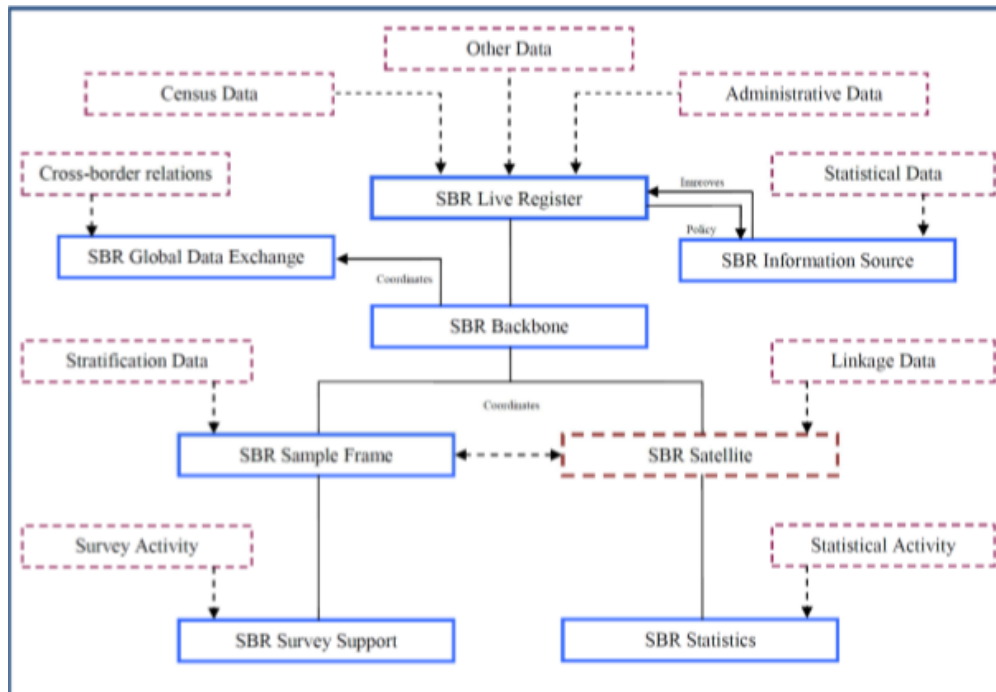
Figure 6.2 illustrates the relations between the SBR live register, the different sources used to obtain

<sup>(13)</sup> See Glossary: Eurostat (2021), European business statistics methodological manual for statistical business registers, and Section 10.2.

<sup>(14)</sup> Source: CODED

and/or complement information in the SBR, as well as the relevance of the SBR as sample frame.

**Figure 6.2:** Roles of the statistical business registers



Chapter 10 of op. cit. provides the methodology of how a statistical business register (SBR) can contribute to achieving consistent and comparable business statistics by creating and using co-ordinated populations of statistical units. The concept of ‘frame population methodology’ refers to a method, rules and procedures for defining and using frame populations in statistical production processes.

While the SBR live register changes with each update (in some countries, on a daily basis !), the SBS compilers need a co-ordinated survey population by reference period for the statistical processing. This ensures that the composition and quality of the statistical units are consistent over time.

SBS compilers need to select survey populations from a master frame. A master frame is selected from the live register. The annual master frame includes the populations of statistical units and their relationships active at the end of the reference year (year t) according to the state of information in the national statistical business registers and the EuroGroups Register (EGR) at the point in time of selection.

It is recommended to use a frozen frame (as a ‘snapshot’) that comprises all statistical units that are active or potentially active or that were active during the previous year. The frozen frame includes administrative units that are linked to these statistical units. The aim is to include all units and all characteristics that are used by subsequent processes. The frozen frame does not include inactive units, which are outside the scope of the SBS population. The units to be included in the frame follow certain criteria: NACE Rev. 2 code, activity status, etc.

It is recommended to use the same frozen frame for all other domains of business statistics.

Box 6.4 provides Member States examples on the use of master frames.

## Box 6.4: Member State examples concerning use of master frames

**CBS Netherlands** updates the business register every month. This results in 12 frames a year, one for every month in the year. Annual statistics make different choices, as to which monthly frame(s) is/are used. Sample surveys generally use the December frame both for surveying and sometimes for calculating population totals. Statistics that are based on administrative data use all monthly frames, to make sure the administrative data source can be used most extensively.

**Statistics Denmark** uses frozen frames for most business statistics (quarterly and annual, in preliminary and final versions). By using frozen frames, the consistency between the units and the statistics is improved, as is the comparability between statistics.

In its work on the SBS data, **Statistics Poland** updates the SBR on an ongoing basis, using the results of statistical surveys as well as administrative data sets. The SBR covers all entities of the national economy, regardless of type of activity and legal form; it contains frozen monthly, quarterly and annual stocks, which are used by various statistical domains to create frames for statistical surveys.

Table 6.1 describes Member State practices regarding the frame methodology. It refers to Member State practices with using a frozen frame for SBS and for all other business statistics. It also indicates the time at which information is extracted from the SBR in order to obtain the target population for the SBS survey.

**Table 6.1: Member State practices with deriving master frames**

Member State	Time of extraction of units from the statistical business register	Frozen Frame	Common frozen frame
<b>Belgium</b>	A first frame is extracted in April/May T+1, based on information known at this time which is valid on 31/12/T (or valid at an earlier date if the unit has stopped before). From reference year 2018 onwards, SBS makes use of an updated frame available in April/May T+2	Yes	No
<b>Denmark</b>	t + 1 and t + 9. T + 1 is used to draw a sample population, while t + 9 is used for SBS preliminary figures (t + 10) and SBS final figures (t + 18).	Yes	Mostly
<b>Croatia</b>	31 December for the reporting year. The first delivery is t + 6M, the final delivery is T + 14M.	Yes, as of 31 December	No
<b>Ireland</b>	The Sampling Frame is created in Autumn every year. It is used for the Autumn provisional SBS deadlines each year, and the basis from which samples from all surveys the following year are taken. The Final Frame is created in the Spring every year, and is used for Business Demography and SBS releases, and related submissions to	Yes	Yes

Member State	Time of extraction of units from the statistical business register	Frozen Frame	Common frozen frame
	Eurostat.		
<b>Italy</b>	Sampling frame is extracted in April/May of the same year in which the survey is launched. The frame reference year is t-2 for the reference survey year t-1.	Yes	Yes
<b>Netherlands</b>	January/February (one or two months after the end of the year of reporting).	Yes	No
<b>Poland</b>	Unit information for the SBS preliminary data is taken from the registry at T + 9 from the frozen state of the registry on December 20 of the reference year (the same frozen frame is used by all annual business surveys). They are also used to work on the final SBS data for a given reference year.	Yes	Yes
<b>Slovenia</b>	General sample framework of enterprises (VOP). VOP is done at the end of December or at the beginning of January, when data for the previous year are available in the statistical business register. There are no differences between sample frame and SBR.	Yes	

If the annual master frame is created for the reference year t, changes after the cut-off date in the statistical business register might affect the frame. SBS compilers have to deal with units that were active in the reference period but entered into the statistical business register after the sample was drawn. Subsequently, those detected active units should be included in SBS statistics. The following examples describe how Member States deal with this issue and how they also handle frame errors (under- or over-coverage, wrong activity codes, wrong activity status, etc).

Box 6.5 provides Member States examples on the use of frozen frames and Box 6.6 describes practices regarding the handling of frame errors.

### Box 6.5: Member State practices with frozen frames

The account statistics (which cover most of the SBS) in **Statistics Denmark** use both a preliminary frozen frame for the sample and a final frozen frame for the final population. The difference between a preliminary frozen frame and a final frozen frame will often be that many of the units will have minor changes in the number of employees and VAT revenue. A smaller number of units will have wrong activity codes and larger changes in the number of employees or VAT turnover. Only a few or no units will be in the final frozen frame but not in the preliminary frozen frame, because the SBR is linked to an administrative register, in which all legal units must be registered. However, there may also be units, which by mistake will be registered as inactive due to incorrect information about the number of employees and turnover, and therefore will not be included in the final SBS population.

**Statistics Ireland** deals with units that were active in the reference period but entered into the statistical business register after the sample was drawn by producing a sampling frame in the Autumn for the samples to be created. At this point, the sampling frame is reviewed and there is a window of a few months before the Final Frame, where extra enterprises can be added if they were discovered to be missing. If an enterprise is discovered to be missing from the frame after the Final Frame is completed, it will be noted and added to the next frame.

**CBS Netherlands** ensures a full coverage of active units in the frame by following criteria: For every monthly frame, new monthly information from the Tax Office and the Chamber of Commerce is used to update the frame. The largest units are actively profiled. The SBS survey usually uses the December frame. This means that all units starting during the reporting period are in the frame. Regarding persons employed, the situation is slightly different. The number of persons employed is based on administrative data. Some of the active units are missing in the business register, in the first months of operation. For these variables, temporary units are added to the population until the business register is up to date.

### Box 6.6: Member State practices with handling frame errors

The account statistics (which cover most of the SBS) in **Statistics Denmark** use both a preliminary frozen frame for the sample and a final frozen frame for the final population. Between making the preliminary and the final frozen frame, it is possible to correct the quality of data, for example wrong activity codes. By using frozen frames, improved quality can be achieved through quality assurance programs, which are run before making a frozen frame. The final frozen frame is only 'thawed' in case of serious errors and then by Steering Group decision.

**CBS Netherlands** does not consider under-coverage as being a significant problem in the frame. Only in very exceptional cases are units not obliged to register at the Chamber of Commerce. In those cases, relevant units are still added to the business register, based on Tax data. Over-coverage can be a problem if units are part of a merger, takeover, split, etc. during the reference period. In those cases, units may be double counted. Depending on the variable and source, countermeasures are taken to prevent this (for example, an explicit check is done, on whether units that are leaving the frame are deceased or have continued under a different unit).

**Statistical Office of the Republic of Slovenia** does not identify any major errors in the framework. This is mainly because all the activities are fully captured in SBR (there are no thresholds for small units). It is possible to under-cover or over-cover due to wrong activity. During the year the larger cases are investigated. However, the main problems that are identified regard the correct activity and not necessarily over- or under-coverage. The wrong activity code is a bigger issue for the preliminary data than for the final data.



## 6.4. Data collection

This Section addresses the issues related to the data collection process itself as defined in sub phase 4.3 of the GSBPM model for 'Phase 4. Collect'. In general, if the SBS data collection is survey based, the procedures will be aligned with the common data collection policy of the NSI in question (see [MEMOBUST](#), Chapter 12).

The first phase is related to the contact to the enterprises selected. It needs to take the following elements into consideration: 1) Timing of the first sending, which needs to take the general finalisation of the annual accounts into consideration; 2) Time given to respond; 3) Material to include in the first sending; 4) Number of reminders; 5) Timing of reminders; 6) Material to include in reminders; and 7) Penalties/Fine, if this is an option in the Member State concerned.

It is important that respondents may be guided and helped in the compilation of the questionnaire. Even if general accounting terms and principles will be familiar to many respondents, the NSI cannot be sure that all respondents will have the necessary knowledge to fill in the questionnaire correctly. To this aim, the questionnaire and its layout, together with the instructions for questionnaire compilation, are of extreme importance. The questionnaire and its layout have to be designed in such a manner that they can provide respondents with all the information they need. Instructions must cover two main information areas, one on content and one on technical aspects. In terms of content, instructions have to make the meaning and the aim of each question clear and understandable. Besides, if necessary, they have to clarify, which respondent by profession is the appropriate recipient – in the case of SBS, accountants would be the appropriate respondents. Especially concerning online digital questionnaires, the instructions must inform on how to fill in each question and on how to navigate among them. A help desk that respondents can easily contact to get any information they need would be an important aid.

A cover (or 'pre-noticed') letter about the starting date of the survey has to be sent to the sample units that were selected during the sample design phase. The letter should contain information about the survey, such as its content, its aim and its deadline, together with the web address of the survey. The letter can also be sent to the e-mail addresses of respondents, if an updated list of them exists. For short-term statistics, the cover letter can be sent repeatedly at each survey round, by e-mail or fax. In the case of SBS, the letter should be addressed to the Chief Financial Officer or the accounting division. If the questionnaire is web-based, it is advisable to give the responding units access to download a paper version of the questionnaire from the survey website, or to send it by e-mail in order to prepare the responses internally within the enterprise.

As not all enterprises can be expected to send their responses in time, a policy for sending reminders should also be in place. Again, the reminder policy is a national matter depending on the national practices. In general, especially larger enterprises are considered crucial for the statistics, and often special reminding contacts are taken to secure the replies from the largest enterprises. In the last couple of years, an increasing number of NSIs have established dedicated units for contacts to the largest enterprises (so-called Large Case Units), these units might have the responsibility of securing the contacts with the largest enterprises. The reminder policy also depends on the national practices concerning the policy of dealing with non-responses or item non-response, as is in the case of re-contacting enterprises in the validation phase (see also Section 6.5).

In Chapter 5, the different sources for producing the SBS variables have been described. The traditional source for SBS variables has been the collection of the requested data via surveys carried out by the NSI. One advantage of this data collection mode is that the data request can be designed to exactly match the definitions specified by the EBS regulation. Furthermore, the NSI can build validation criteria into the collection phase, when online questionnaires are used. Finally, this collection mode also allows the NSIs to be in direct contact with the responding enterprises if re-contact is needed due to the results of the validation process (see also Section 6.5). The disadvantage of 'direct' surveys is the burden on enterprises caused by the request for filling in the entire questionnaire, including variables that could otherwise have been pre-filled by the NSI. The issue of lowering the administrative burden of enterprises is high on the policy agenda of many governments of the Member States,

requesting NSIs to utilise already existing information collected by other administrative institutions. A further disadvantage is that collecting data solely by questionnaires is also relatively burdensome for the NSIs themselves.

As also mentioned in Chapter 5, a supplementary source for producing the SBS statistics is the use of administrative data collected by other authorities. This method is becoming increasingly important, especially due to the governmental demands of lowering the administrative burden on enterprises. There is a clear advantage to collecting data using this method. A further advantage is that the administrative registers often hold information from the total population of enterprises or a large subset thereof, e.g. information about wages and salaries and employees from all employers. Finally, as the data should already have been validated by the administrative institution collecting the data, less resources are needed for validation by the NSI (see also Section 6.5). An obvious disadvantage is that the definition of the data collected by the administrative institution is often not in line with the statistical definition to be used for producing SBS, e.g. the variable turnover. Administrative definitions might differ from statistical definitions, and the impact of such deviations on the data has to be assessed systematically.

A third method of producing the requested data is by utilising registers that are already existing within the NSI. This is done by linking to the registers at micro level. As the Statistical Business Registers hold unique identification numbers of the enterprises, it is possible to link different registers across different domains, at enterprise level. The use of microdata linking is mainly used for validation purposes (see Section 6.5), but in some cases, it might be possible to utilise data already collected by the NSI for other purposes or variables, from administrative registers already compiled by the NSI, e.g. variables on employment or wages and salaries. The advantage again is that this avoids any need for asking the enterprises for information already available in the NSIs.

Most NSIs will use a combination of the methods described above, especially that of supplementing survey data with administrative data. In the case of SBS, it is an obvious advantage that a large number of the requested variables are closely related to the international accounting standards (IAS/IFRS and the [EU Accounting Directive \(2013/43/EU\)](#)). A general description of data validation in business statistics can be found in the *EBS Manual, Chapter 11*.

## 6.5. Methods of data validation

Data validation is the activity aimed at detecting and correcting errors (logical inconsistencies) in the data. This Section addresses the methods of validation of input data. The methods to be used will depend on the types of data sources used (survey or administrative data) for compiling the SBS statistics, as described in Chapter 5. The validation of input data described in this Section is related to the sub-phases 4.3 and 5.3 of the GSBPM and is especially relevant for the variables observed via statistical surveys, while certain elements are also valid for the use of administrative data in the statistical production process. A general description of data validation in business statistics can be found in the [EBS Manual](#), Chapter 11.

Data validation can be defined as an activity verifying whether or not a combination of values is a member of a set of acceptable combinations (Eurostat: Methodology for data validation 2.0, p.8). Data validation assesses the plausibility of data: a positive outcome will not guarantee that the data are correct, but a negative outcome will guarantee that the data are incorrect.

Data validation is a decisional procedure ending with an acceptance or refusal of the data scrutinised. The decisional procedure is generally based on pre-defined rules expressing the acceptable combinations of values, but expert validation is also considered as a legitimate and important part of the procedure. Rules are applied to the individual data elements or a combination thereof. If data satisfy the rules, which means that the combination expressed by the rules is not violated, data are considered valid for the next sub-phases in the production process (see Section 6.7 for imputation methods).

The rules used in the validation process of a given statistics can be split into hard/fatal edits and

soft/query edits. Hard edits are generally rules that must necessarily be satisfied for logical or mathematical reasons (e.g. an activity code that does not exist in the activity nomenclature to be used). A case of soft edits could be a turnover value that is suspiciously high compared to the number of employees registered for a specific enterprise.

In the case of a refusal, data are marked to be handled by the editing staff, in order to correct the incorrect data. The editing procedure might include a re-contact with the surveyed enterprise, or the correction is made internally by the editing staff, using other existing information, either values from similar enterprises, replies the enterprise in question gave in previous years, or additional information available in administrative registers or other relevant statistical registers.

An important validation principle is that validation processes must be designed to be able to correct errors as soon as possible – the sooner, the better – so that data validation can be performed as close to the collection period as possible (*Eurostat: Business Architecture for ESS validation, Annex A*). Timely validation improves the data quality as the respondents still can remember the survey, the replies given and the possible reasoning for the reply, and thus this approach also saves resources at the statistical offices as less resources need to be devoted to the editing. Increasingly, elements of the validation process are pushed forward to the collection phase as digital (online) questionnaires become more and more frequent in their use by statistical offices, allowing for building different validation rules into the questionnaire.

Another important validation principle is that validation rules should be fit-for-purpose; implying that they should balance data consistency and accuracy requirements with timeliness, purpose of the (final) output data (level of publication, etc.) — good enough is the new perfect. But as the majority of the SBS variables are accounting variables, the variables in SBS will often have a higher degree of interdependence than variables from other statistical domains, requiring solid consistency checks across the requested variables, but also making the design of pre-defined validation rules easier and more logical.

The validation process, after receiving the reported data, can be divided into several levels or phases, the first one being a basic check of the formal aspects of the files received (expected number of columns, format (alphanumeric/numeric character), etc.) and not of the content. This type of formal checking is valid for both survey and administrative data received by the statistical office. This validation process is part of [GSBPM](#) sub-process 4.3.

The [GSBPM](#) sub-process 5.3 explicitly refers to validation. The purpose of this sub-process is to identify potential problems, errors or discrepancies such as outliers, item-non-response and miscoding. It may be run iteratively, validating data against predefined edit rules, usually in a set order. The process may, as an end result, flag data for automatic or manual inspection or editing. Whilst the validation sub-process is described under the Process phase (process 5 of [GSBPM](#)), some elements of the validation process are more and more frequently performed alongside the collection activities (process 4 of [GSBPM](#)), as mentioned above. With online digital questionnaires, part of the validation of the content can be moved upwards to the data collection process itself as a number of formal checks can be integrated in the digital questionnaire, both allowing for hard and soft editing. This method allows for an early validation of the data even before the data are sent to the statistical office, and it can both improve the quality of the replies and save resources, both in the responding enterprises and in the statistical office, by avoiding re-contacting the respondents.

**Figure 6.3: Data validation levels**

EXTERNAL PROCESS	SURVEY DATA			ADMINISTRATIVE DATA
0. Online validation	Online Questionnaire		0. Validation by external administration	Administrative dataset (e.g. VAT data)
INTERNAL PROCESS 1.1 Formal Checking 1.2 Content checking 1.2.1 In record 1.2.2 Cross record 1.3 Matching with previous years 1.4 Cross domain checking	Online validated data	Not validated data (paper form)	1.5 Formal checking 1.6 Mirror checks	Data set
	Validated data v.1 For year x		1.7 Filling gaps	
	Validated data v.2			

The validation carried out at this level is based on ‘in-record rules’, meaning checking firstly the consistency of the variables within a given data record (micro level). As SBS variables are mainly accounting variables, a formal consistency between the different variables is often already ensured in the source data and is well documented by the accounting standards. Predefined standard rules can relatively easily be defined for checking possible inconsistencies. A second validation level is the ‘cross-record’ checking of the variables and the interrelation between the different variables, to ensure that the consistency across the in-record variables is reasonable compared with other enterprises in the same size class and activity, i.e. the full record is not an outlier in its totality.

Even if no inconsistencies are detected with the record, there is a need for setting up detection measures of outliers that can point out specific problems in the data received, for instance a wrong unit (thousands instead of millions).

The focus, at this validation level, is normally on the largest enterprises as the results from those enterprises can influence the final aggregated results. But it is important to understand that, as the SBS survey is carried out as a stratified sample survey, even data from small enterprises might have a significant impact on overall results if they represent a stratum consisting of a large number of enterprises, and thus be given a relative high weight in the subsequent grossing up process. In this way, even a small enterprise can strongly influence the aggregated values.

The next validation level is checking the collected and accepted variables at enterprise level against data sets for the same enterprise for previous years, meaning comparing the responses of enterprise Y in year X with the responses of enterprise Y in year X-1, to check for suspicious developments in specific variables. For instance, only if a new datum varies from the previous year(s) by more than a reasonable percentage, the record should be further checked. Changes in characteristics (change in size class or change in activity) can either explain variations across the years for certain variables or indicate errors in the response given.

A further level in the validation value chain is the validation of the data, received and approved in the previous levels, is ‘cross-statistical domain’ validation. As a unique identifier for each enterprise is stored and maintained in the statistical business register, it is possible, by matching data at micro level from other statistical domains, to further check the validity of the data reported for a certain statistic. Often such matching at micro level can be used to find plausible reasons for a value flagged as suspicious in the first round of validation, for instance a large export value in the International Trade in Goods statistics can explain unexpected growth in turnover. It is advised to perform ‘cross statistical

domain' validation systematically and in a co-ordinated manner that avoids that an enterprise is re-contacted several times for the same issue, in order to limit the post-enumeration response burden.

As described in Chapter 5, statistical offices often use administrative data in the production of SBS data, implying special validation procedures. Typical administrative registers used for the production of SBS are VAT registers, Tax registers holding information about the employees and their wages, and especially the financial data from the annual balance sheets and income statements delivered to the authorities. As a starting point, it should be emphasized that administrative data are collected by other administrative authorities and have thus already been through a validation process following the purpose of the specific collection of data, e.g. VAT data or tax data on wages and salaries. But, as mentioned in Chapter 5, there is a close relation between the requirements for SBS variables and the accounting entries published in the balance sheets and income statements of businesses following the requirements of IAS/IFRS as well as the [EU Accounting Directive \(2013/34/EU\)](#). This implies that the main related international accounting standards to a large degree match the SBS requirements in definition, recognition, measurement and classification issues. The annual reports are often available via the national business authorities or other administrative institutions allowing the NSI to simultaneously receive a large number of balance sheets instead of receiving them individually from each company; see also the [ESSnet on the use of administrative data \(Admindata\)](#), especially the reports on the use of administrative and accounts data for business statistics.

Consequently, the administrative data producers should be trusted to have validated data for their purpose. But, as the statistical definitions and use of data often differ from the original purpose of collecting the administrative data in question, a validation needs to be carried out, before actually using the data in the statistical production. Firstly, the formatting of the data when receiving them from the administrative institution needs to be checked for consistency with the transmission formats agreed. If there is an inconsistency, the statistical office needs to contact the administration sending the data, which needs to revise the record lay-out to be used. Secondly, the content needs to be checked for outliers and possible inconsistency with survey data. Normally, if data are inconsistent between survey and administrative data, the statistical office would give priority to the survey data collected for specific statistical purposes, even if this is not always the case (see the Finnish example in Box 6.7.)

A key difference between survey and administrative data is that, with administrative data, it is usually not possible to directly re-contact the business and ask them to confirm any suspicious values. For most NSIs, legal restrictions prohibit this option. But, for some NSIs, it is possible to contact the compiling administrative institution and ask them to further investigate suspicious records. This possibility requires a good and close relationship with the administrative institution, and it is recommended to set-up co-operation agreements between the statistical office and the administrative organisations.

An implication of not having an agreement with the administrative organisation in place is that the only option for adjusting suspicious values in the administrative data received is to remove the original value and to impute a figure which is more in line with expectations. For future validation, it is important that corrections carried out by the statistical office itself are implemented only on the records that are used for statistical purposes. This allows the NSI to keep track of future revisions by the administrative organisation when new transmissions are received.

An example of a difference in requirements is that SBS statistics refer to the calendar year as the reference period, while companies may be bound to use a financial year different from the calendar year. Such differences can only be treated by the statistical office as the administrative body receiving the annual reports from the companies has no other information available.

Concerning the issue of the financial year deviating from the calendar year, statistical offices normally fully allocate the financial year to calendar year X or X+1, if consisting of twelve months, depending on the actual end date. In case that the financial year of a specific unit is more or less than 12 months long, a conversion to a 12-month period is affected. However, this method is not applied to a new enterprise, which started during the reference year, nor to an enterprise ceasing its activity during the reference year. Then, only the actual months of activity are counted (see also Subsection 3.3.5.)

National validation practices are illustrated in Box 6.7.

## Box 6.7: Member State practices with national validation

**ELSTAT Greece** reports regarding survey data, that completed questionnaires collected from the large enterprises are, at a first stage, checked manually in terms of logical consistency and completeness and, if necessary, corrected by ELSTAT staff. At a second stage, the data are imported into the database, where they are subject to automated controls, as well as to any corrections needed. The basic rules applied for checking and validation concern:

- accounting inter-consistency of data
- verification of totals/sums
- detection of outliers
- statistical inter-consistency of data (e.g. wages compared to employment).

Based on a statistical study conducted by ELSTAT in cooperation with a private certified accounting company, a correspondence table between the tax form fields and the statistical variables was created. The correspondence was made on the basis of the tax circulars on one hand and on the other hand on the basis of the definitions of statistical variables according to the relevant EU Regulations. This table is updated every year following ongoing cooperation between ELSTAT and the Public Revenue Authority, concerning tax obligations of enterprises as well as additional questions incorporated in tax declaration forms that cover needs for statistical information.

As regards data that come directly from administrative sources, the following individual processing checking tasks are performed:

- For specific activities (manufacture and wholesale of tobacco products, petroleum, beverages and manufacture and wholesale of pharmaceuticals), the value of turnover and total purchases of goods and services are checked and adjusted when necessary, in order to exclude special consumption duties and refunds (rebates and claw backs) respectively.
- Checks and corrections take place, where necessary, for the existence of negative values in variables 'turnover' and 'gross investment in tangible goods'.
- Checks and corrections take place, where necessary, for the coherence of 'personnel costs' and 'wages and salaries' variables. Personnel costs are calculated on the basis of the income tax form, while salaries and wages are calculated on the basis of the Electronic Earnings Attestations. Therefore, since they come from different administrative sources, it is likely that some enterprises' data will have cohesion problems.
- Checks and corrections take place, where necessary, for the coherence of the variable 'number of employees' and 'wages and salaries'. This check mainly concerns the cases of enterprises that have not submitted the Electronic Earnings Attestations or have submitted it with zero wages data. Information on the existence of employees in the enterprise is however available from another source (e.g. Social Security Fund).
- Statistical checks and corrections take place, where necessary, for extreme values and, in particular, in cases of enterprises for which the ratio (turnover / number of employees) differs substantially, both in relation to the corresponding ratio of the other enterprises belonging to the same activity sector (3-digit level) and to the respective ratio for the same enterprises given by the data from the previous year(s) (if available). The enterprise data (turnover and employment) are checked and adjusted for individual enterprises, based on published financial data.
- Checks and corrections take place, where necessary, for extreme turnover values found using the statistical method of selective editing.
- Checks and corrections take place, where necessary, for changes over time in the production value of large and important enterprises.

**Statistics Portugal** reports that all data are submitted to comparisons of year N with year N-1 giving special attention to possible deaths and births of enterprises, as well as to changes in economic activity, region, persons employed, turnover, and legal form. Whenever it is justified, enterprises are contacted to provide additional clarifications, which may or may not give rise to occasional corrections in the microdata, in order to ensure the statistical quality of the statistical information to be made available under the SBS.

Concerning conflicting data, between survey obtained data and data from administrative sources, **Statistics Finland** reports that survey data are automatically scaled to match the information from the administrative data, and survey data are corrected according to the companies' official financial statements if needed.

Concerning the issue of the financial year being different to the calendar year, **Statistics Denmark** would normally fully allocate the financial year to calendar year X or X+1, if the former consists of twelve months, depending on the actual end date. In the case, in which the financial year of a specific unit is more or less than 12 months long, it is converted to a 12-month period. However, this method is not used if it is a new enterprise.

## 6.6. Consolidation of non-additive variables

### 6.6.1. Why consolidation is needed

The consolidation of the non-additive SBS variables has to be seen in the context of the delineation of the statistical unit enterprise and the national profiling activities. It is a task, which others of the NSI's units might also be engaged in, and with which the SBS staff works together. Profiling might be undertaken by a special unit within the SBS unit or within the SBR unit, or it might be executed by a separate special unit (such as a 'Large Case Unit'). The latter might also focus on the consistency of business statistics and it thus might also be engaged in work on other statistical domains, in addition to SBS. European and national profiling of large and complex enterprise groups is today a standard procedure to delineate the statistical units and to analyse the most efficient structures for the collection of statistical data. Data to be supplied by these enterprises should in principle already be consolidated. Manual profiling is not possible for medium and smaller groups, because there are simply too many of them. In the case of the smaller enterprise groups, automatic profiling is performed, and consolidation is an issue that is to be solved by the application of certain hypotheses. Automatic profiling is usually done by the SBS or the SBR unit.

The consolidation of non-additive variables is thus an issue of profiling large and complex enterprises, an issue for the SBS, when additional information on the enterprises' internal transactions should be collected, and an issue of automatic profiling of the medium and small enterprise groups, which is just based on the characteristics of the legal units. In the further explanation given, of the tasks of the consolidation of the non-additive variables, in this Section, no specific attribution will be made to the different organisational units in the NSIs. The organisation of work is executed under the responsibility of the Member States. This Section will also not deal with the manual profiling methodology; this is explained in the European business profiling recommendations manual, 2020 edition. Further, it should be mentioned that the consolidation of non-additive variables is also an issue in other domains of business statistics. However, SBS is certainly the domain with the highest degree of concern, due to the character of the SBS variables.

The choice of statistical unit determines the flows of the transactions of the unit: transactions are only those with other statistical units; transactions within the statistical unit are consolidated. In the case of the unit enterprise, the transactions of interest are those with other enterprises (and/or other economic agents, such as government, private households). The turnover of a legal unit comprises total turnover, irrespective by whom the goods or services were bought. The same holds for purchases and various other kinds of transactions. The turnover of the enterprise is the sales of goods and services to other

(outside) enterprises. Consequently, any turnover of the legal unit that resulted from sales to another legal unit(s) of the same enterprise would inflate the turnover of the enterprise if the turnover were to be calculated as just the sum of the turnovers of all legal units of the enterprise. This part of the turnover needs to be deducted from the sum of turnover of the legal units belonging to the same enterprise. As sales of one legal unit to another legal unit of the same enterprise simultaneously means an expense of the other legal unit, both the enterprise's turnover and expense data need to be corrected – i.e. 'consolidated'.

If the statistical unit enterprise were also to be observation unit, no problem of consolidation would arise, if the data collected follow the rules of consolidation. The data at enterprise level would only show the market-oriented transactions. However, in most Member States, the legal unit is still the observation unit. There are several reasons for this. A main reason is that only legal units exist in the legal reality and thus only this unit can be obliged to report data for official statistics. Also, financial reports and administrative data are mostly based on legal or administrative units. The concept of the statistical enterprise is not known to the economic agents and thus no data (accounting) structure is maintained using this unit.

Internal transactions within a statistical 'enterprise' (also called 'intra-enterprise' transactions) can occur only if an enterprise consists of more than one legal unit. Most of enterprises do consist of only one legal unit. However, those enterprises consisting of more than one legal unit include the very large and complex enterprises, which have a significant influence on the aggregated statistical data. The majority of enterprises with more than one legal unit are small in size, with usually just two legal units. However, the mere number of legal units is not a sufficient criterion for the existence of internal transactions. Nevertheless, it could be expected that, the higher the number of legal units is, the more likely it is that internal transactions are taking place within that enterprise.

## 6.6.2. Requirements for consolidation

For the further explanations of the consolidation issue, it is assumed that the statistical unit 'enterprise' is already delineated. The enterprises of the very large and complex type are usually delineated by intensive profiling, a method taking place in close contact with the enterprise group. This will either lead to the delivery of already consolidated enterprise data or to an agreement on how the statistical information on the enterprises will be delivered (for instance delivery of data on intra-enterprise transactions). However, it should not be ignored that this profiling process is quite complex and that consolidated accounts available for the operating segments do not always coincide with the definition of a statistical enterprise. Nevertheless, the direct contact with the enterprise group, the adequate use of the information in the financial statements, especially as regards the consolidated operating segments, are important inputs for the adequate statistical data of these enterprises.

Further requirements for the consolidation task for those enterprises (consisting of more than one legal unit) that are not delineated by intensive profiling are:

- Availability of information on all legal units belonging to enterprises that have more than one legal unit;
- Elaboration and collection of data on internal transactions of medium-sized enterprises that are neither profiled by intensive profiling (because they are not large and complex enough) nor by automatic profiling (because they are viewed as being 'too' large for schematic algorithms);
- Identification of internal transactions;
- Selection of non-additive variables;
- Methods of consolidation, including algorithms for automatic profiling.

These requirements are further explained and discussed in Subsections 6.6.3 to 6.6.7.



### 6.6.3. Data on legal units

In order to start the consolidation process, data on all legal units of enterprises with more than one legal unit should be available. Depending on the survey frame for SBS, it could be that not all legal units for those enterprises were selected for the sample frame. In addition to the identification and stratification variables, the information available should also cover the main variables of the company accounts and reports, similarly to the data structure that is collected from the legal units included in the sample.

Clearly, data on the legal units not covered in the survey frame will not be available to the SBS survey. A solution could be that data for these legal units are imputed with the help of administrative data or other estimation methods. However, in the case of medium-sized enterprises, such imputations might be problematic due to the size of the transactions of the legal units. An advisable procedure might be that for certain medium-sized enterprises with obvious greater complexity of structure and activities of the legal units, all legal units should be included in the sample frame. However, an optimal approach would be that, for the enterprises selected for sampling, all legal units are covered (see country examples in Box 6.8). There should be systematic and regular feedback from the SBS to the SBR unit, in order to ensure that legal units that were not covered in the survey frame will be so in the future.

#### Box 6.8: National practices concerning coverage of legal units in sample schemes

##### Administrative data is main SBS database:

**Statistics Finland:** Business statistics database based mainly on administrative data, completed by survey data.

##### SBS survey is a census:

**NSI Bulgaria:** SBS survey is a census.

**Croatian Bureau of Statistics:** No sample survey applied to SBS.

**Statistical Office of Slovenia:** SBS database is a census. The source for enterprise frame is SBR. Due to consistency with other statistical domains based on sample surveys, all domains concerned should include all the legal units of the enterprise.

##### Sample scheme covers all legal units:

**Statistics Belgium:** The sample is drawn at the company level. All legal units within the company are then surveyed.

**Statistical Service of Cyprus:** When decided that an enterprise needs to be delineated, all legal units of the enterprise are included in the survey.

**Statistics Denmark:** All legal units of a complex enterprise are generally included in the sample. In order to limit the response burden, some legal units may be exempted if they are very small and have little or no activity and no assets.

**INSEE France:** The sample frame contains legal units and enterprises. Enterprises are first sampled, then all legal units related to those enterprises are retained. There are several exceptions and a cut-off is applied, excluding the smallest enterprises.

**Statistics Lithuania:** The sample scheme has been changed. Currently, it only concerns the most important units.

**Statistics Poland:** The sample scheme has been changed. Currently, it only concerns the most important units.

**NSI Romania:** The sample scheme has been changed to include all legal units.

**Mixed approaches:**

In **Austria**, a change of the sample scheme is not necessary for the following reasons:

- For the largest units (about 10 % of population) a cut-off survey is used.
- Model-based estimation is carried out for every single unit below survey thresholds; model-based estimation is based on data from the survey, population from the SBR and administrative sources.
- For every single legal unit in the population a data record with SBS data is available.
- The following changes were necessary:
  - Model-based estimation for legal units belonging to complex enterprises has to be carried out at an earlier date.
  - That is necessary because a full set of data (already checked at the level of legal units) is required for the consolidation of all legal units of a complex enterprise.
  - In practice, the sample scheme has not changed – but due to the implemented strategy, a complete data set was necessary for consolidation.

**Destatis Germany:** All legal units that are part of a complex enterprise but have not been surveyed are imputed. The remaining legal units, which are equivalent to enterprises, are projected based on the sampling frame of these enterprises only.

**Hungarian Central Statistical Office:** The main SBS database (on legal units) is not based on sample surveys, but on taxation data and full-scope surveys for legal units with at least 19 persons employed. The scope on the other members of enterprises cannot be extended as the deadlines for provision of legal-unit surveys fall earlier.

**Statistics Sweden:** Administrative tax data on most legal units are used within the SBS. For the sample survey, there are enterprises, where all legal units have not been surveyed. A combination of sample data and imputed data is used for those enterprises.

The country examples in Box 6.8 on the national practices with respect to the inclusion of the relevant legal units show that many Member States have changed their sampling scheme and now cover all the relevant legal units, at least for the large and complex enterprises. In countries, in which the SBS survey is a census, or in which data mainly derive from administrative sources, such adaptations are not needed.

## 6.6.4. Non-additive variables

Nearly 80 % of the SBS variables are non-additive (Table 4.2). As also explained in Subsection 4.3, some of those variables can however be treated as being additive, at least in the context of automatic consolidation. This significantly reduces the number of non-additive variables, and it is assumed that it has no significant effects on the enterprise data, because the values of such variables are either very small or instances are not very frequent in business reality. In the case of special surveys, which mainly address the larger enterprises, those variables should however be included in the questionnaire.

The typical and core non-additive variables are those pertaining to output and purchases. They include:

- Variables of net turnover (and all subcategories thereof) and gross output (including the output of trade activities);
- Variables on purchases of goods and services (and all subcategories thereof).

The transactions between the legal units of the same enterprise can refer to deliveries of (intermediate) goods within the physical production process, the delivery of goods for resale, as well as to deliveries

of ancillary services. When such transactions do occur, they will most likely represent the largest share of the consolidation effect. Their consolidation will not change the data on value added and gross operating surplus (which is also a criterion for checking the consistency of the consolidation calculation).

The variables on output and purchases' being typical non-additive ones does not mean that each variable has the same likelihood of its data also covering internal sales/purchases. So, one could assume that contracts for subcontractors and for agency workers are predominantly completed with other enterprises, rather than within the own enterprise, and thus these variables might be treated as being additive. This also applies on the income side (net turnover from subcontracting). However, those are assumptions, and one should check whether information is available from other surveys or from manual profiling.

Similar considerations apply to the variables on gross investment, on changes in stocks of finished goods and work in progress, and on goods for resale. It is possible, in business reality, that investments take place between units of the same enterprise, and that goods or stocks be transferred between them. Again, the occurrence of such transactions might be less frequent and it may not significantly impact the statistical data results. Based thereupon, these variables can be assumed to be additive, in case no supplementary information is available (from surveys or manual profiling).

A last category of non-additive variables refers to the number of employees. The data represent simple head counts, both of persons with full-time as well as with part-time contracts. It can theoretically be that a person is employed in two or more of the legal units belonging to the same enterprise. Although this can occur, it seems to be quite an unlikely and insignificant event. Therefore, the variables on the number of employees may be treated as being additive, under the same conditions as those applying in the other cases of 'unlikely' non-additive variables.

## 6.6.5. Data sources for internal transactions

In the consolidation task, Member States usually use all available sources to acquire data on intra-enterprise transactions. Important such sources are: company accounts, the annual reports and the consolidated financial statements. Administrative data offer additional sources, mainly VAT data. For example, Statistics Belgium receives monthly data on the net sales of one legal unit to another, for all legal units that are registered in the VAT database. Similar tax information is used in Lithuania ('intra-flows between associated units'). This source is, however, not complete as some thresholds apply.

Several countries enlarged their surveys to collect intra-enterprise flows. Examples are those of Austria, Denmark, Finland, Greece, Hungary, Italy and Sweden. Usually, Member States use several data sources to collect data on the internal transactions of the different enterprise strata. More information on selected country practices in collecting data on intra-enterprise transactions is presented in Box 6.9.

### Box 6.9: Country examples on data sources for intra-enterprise transactions

#### Statistics Austria:

(1) Survey: For all manually profiled enterprise groups, additional information is compiled directly from all related domestic legal units within the primary survey. Specifically, the total amount of domestic intercompany revenues as well as the total amount of domestic intercompany expenditures are collected at the legal-unit level. In addition, only for enterprise groups that are subject to manual intensive profiling, are further data (e.g. matrix of domestic intercompany turnover) collected from the National Decision Centre (NDC), on a voluntary basis. This two-tier data collection procedure replaces the actual collection of consolidated ENT-data from the NDC as of SBS 2021.

(2) Consolidated financial statements of the enterprise group: For all manually profiled enterprise

groups, the amount of intercompany (IC) turnover between IFRS 8 operational segments is analysed. However, if the Global enterprise Group (GEG) exhibits substantial activities and/or numbers of legal units outside of Austria, which is regularly the case, IC-turnover values at GEG level can only be used for general plausibility checks. Besides segment reporting, the consolidated financial statements are systematically reviewed with respect to qualitative and quantitative information about significant economic relationships between entities of the GEG.

(3) Individual financial statements of single legal units: For all manually profiled enterprise groups, intercompany turnover and domestic turnover values, as outlined in the notes to the income statement, represent another source for the quantification of a group's internal transactions at legal-unit level. Disclosing this information can however be omitted if it could be disadvantageous to the company. Two ratios represent a further source, which stem from the individual financial statements: accounts receivable (intercompany) / total accounts receivable; and accounts payable (intercompany) / total accounts payable. One must be aware that those two figures can however only serve as indicators of internal transactions, due to their static nature (point in time) compared to turnover which is a flow (over a time period). Retail companies should not be considered. In addition to quantitative data, the report on the business situation of the company ('Lagebericht'), which is mandatory in compliance with Austrian GAAP, is analysed with the aim of obtaining other disclosures about the legal unit's role within the enterprise group.

**Statistics Denmark** collects the information from the legal units constituting a complex enterprise. For example, if an enterprise consists of three legal units (A, B and C), a questionnaire is sent to each and they are asked for the intra-enterprise flows for a number of variables (from the profit and loss account, and from the balance sheet). Legal unit (LEU) A thus has to report the sum of transactions it has with B and C, LEU B reports transactions with LEUs A and C, etc. Currently, although it would be preferable, a full matrix of transactions is not available as it would significantly increase the response burden.

**Statistics Finland** has started using the enterprise unit in business statistics, instead of the company. With the introduction of the enterprise unit, in addition to financial statements data, the financial statements enquiry now also asks about the shares between companies belonging to the same enterprise unit, for certain financial statement items. The intra-company data items enquired on concern:

- Breakdown of turnover and expenses
- Other operating income from the income statement
- Interest income and expenses
- Assets and liabilities.

The survey includes all companies with over 60 employees, as well as companies with a turnover of over EUR 40 million or a balance sheet exceeding EUR 300 million. Companies with 10 to 60 employees are drawn into the enquiry through random sampling. The enquiry also includes some companies with a lower number of employees, as well as market-based municipally owned enterprises.

Data, on the shares between companies belonging to the same enterprise unit for certain statements items, are only asked from around 45 of the largest enterprise units.

**ISTAT Italy:** A questionnaire is sent to larger groups, on intra-enterprise flows for each ENT delineated, while for the other legal units included in an ENT, automatic procedures are applied.

The correct implementation of the new statistical unit (ENT) has involved the planning of a new data collection process (RFI) and the consequent production of final estimates. In fact, once the new ENT has been identified, the economic variables are consolidated. In the case of non-additive variables, the main task, in doing this, is to eliminate the intra-flows between the legal units that belong to the same ENT, which in most cases are not available in any administrative data nor detected in any survey.

A new survey has been planned, to test and collect data at ENT level. The questionnaire consists of several sections; in a first part, each group validates the business lines (ENT) identified by ISTAT through desk analysis or automatic profiling. In this section, the group is able to identify new ENTs and to modify those identified by ISTAT. The second part requires reporting of internal transactions between the legal units belonging to the same ENT. In this way, data are collected on non-additive variables, in particular: revenues from sales and services, changes in inventories, changes in contract work in progress and other revenues and income, costs for the purchase of raw materials, accessories, consumables and goods, costs for services, costs for the use of third-party assets, and changes in stocks. The last part of the questionnaire focuses on variables that are not available from administrative sources such as tangible and intangible assets (investments) with the details of the sub-items. The results of these surveys, together with those of the surveys on SMEs and the SCI, will help to build the accounts based on the new statistical unit.

When Member States collect data on internal transactions by means of a special SBS survey, they include most or all of variables that, by their character, are non-additive. Not only does this provide a fuller picture of the flows, it also follows the recommendation that, in the case of a special survey, those variables should also be included, where internal transactions are less frequent or they are of smaller size. Such special surveys tend only to cover the larger enterprises (see Box 6.9).

As the sales of one legal unit to another legal unit are simultaneously the expenditures of the purchasing legal unit, a fuller picture of internal transactions is yielded by covering the transactions from both the seller's and the buyer's viewpoint. One can envisage the construction of a matrix of internal transaction flows. Gathering the necessary information does however significantly increase the response burden, which reduces feasibility. Even if the transactions can be surveyed on the sellers' side only, this would represent a great advantage, given that the total amount of internal transactions is known, and that the 'real' amounts of the enterprise's main variables, such as net turnover, purchases of goods and services, can thus also be known.

### 6.6.6. Identification of internal transactions

If an enterprise consists of more than one legal unit, it does not mean that internal transactions between the legal units belonging to that enterprise do necessarily occur. For example, the variable net turnover, a typical non-additive variable, will usually exist in all legal units. Yet, no consolidation is required, in cases in which the turnover of each legal unit originates from sales to legal units outside the own enterprise. Criteria are therefore required, to identify whether internal transactions occur, in each enterprise that has more than one legal unit.

As stated in Subsection 6.6.2, large and complex enterprises should be delineated by intensive profiling. The issue of internal transactions forms an important part of the process of 'intensive profiling'. The issue of internal transactions is also an important part of the process, in light profiling, where profilers do not necessarily come in close contact with the enterprise. Consolidated accounts cannot, however, be expected *a priori*, which is why, in the SBS process, data on internal transactions need to be collected by means of a special or additional survey, as explained in the previous Subsection.

For enterprises which are delineated by intensive or light profiling either no further consolidation work is necessary (as the data are received already in consolidated form) or only certain calculations are to be done based on data on internal transactions provided by the enterprise. This is not the case with smaller enterprises with more than one legal unit: they need to be profiled using an automated method. Criteria allowing the identification of those enterprises' internal transactions are important.

In considering how to identify whether an enterprise consisting of more than one legal unit has intra-enterprise transactions, one starts with the definition of the enterprise and the reasons for which certain kinds of legal units should be combined to form an enterprise (see section 3.3.1.1). Not all of those reasons do necessarily result in internal transactions. This is the case with the following three reasons, though:

- If a separate legal unit exists for a single factor of production, this legal unit should be combined with the other legal unit(s) it serves to form an enterprise.
- If a separate legal unit exists for an ancillary activity (including holding company activities) connected to just one enterprise, the legal unit should be combined with that enterprise.
- Legal units carrying out vertically integrated activities under a common management should be combined to form a single enterprise.

The most frequent case is that of the separation of ancillary activities into separate legal units. If, in an enterprise consisting of two legal units, one legal unit is categorised by a manufacturing NACE code and the other, by one of trade, it can be assumed that the manufacturing process takes place in the first unit, whereas the other unit is tasked with selling the manufactured goods. The enterprise is classified under manufacturing as ancillary activities should not be taken into account when classifying the enterprise. In the other two cases of combinations of legal units, factors of production and vertically integrated activities, the NACE code of the legal units are also of help in identifying those enterprises which might have intra-enterprise flows. In case of horizontally integrated activities, one can assume that there are no internal transactions between legal units classified in the same NACE activity.

Ancillary activities support the principal and secondary activities. They can include activities, such as bookkeeping, transportation, storage, purchasing, IT services, repair and maintenance, security, etc. The output of ancillary activities is always intended for intermediate consumption within the same entity, but not for sale on the market (for a detailed definition see *European business statistics methodological manual for statistical business register, 2021 edition, Section 4.3*).

The sale of own products is an ancillary activity because it is not possible to produce without sales. There is no decisive list of ancillary activities in terms of NACE codes. Main kinds of activities that can however be termed ancillary are listed in Box 6.10.

### Box 6.10: Examples of possible ancillary activities

#### 1. Distribution and logistics

- Trade services of own products
- Freight transportation services
- Cargo handling services
- Freight transport agency services and other freight transport services
- Postal and courier services

#### 2. Marketing, sales- and after sales services including help desks and call centres

- Marketing management consulting services
- Advertising services and provision of advertising space or time
- Market research and public opinion polling services
- Advertising and related photography services
- Telephone call centre services
- Trade show assistance and organisation services

#### 3. ICT services

- Information technology (IT) consulting and support services
- Hosting and information technology (IT) infrastructure provisioning services
- IT infrastructure and network management services

- Telephone and other telecommunication services
- Internet telecommunication services
- 4. Administrative and management functions**
  - Legal and accounting services
  - Management consulting and management services
  - Business consulting services
  - Other management services, except construction project management services
  - Combined office administrative services
  - Specialised office support services

*Source:* Notice of intention of the Business Statistics Directors Groups and the Directors of Macroeconomic Statistics on the consistent implementation of Council Regulation (EC) No 696/93 on statistical units; Drafted by the Eurostat Task Force 'Statistical Units' and adopted by the ESS Directors of Business Statistics (BSDG) and Macroeconomic Statistics (DMES), June 2015.

Whether a legal unit with an 'ancillary' NACE code really performs an activity that is ancillary to the enterprise in question depends on the whole structure and characteristics of the enterprise. A legal unit whose main activity is in freight transportation will not be considered as an ancillary legal unit, if freight transportation is also the main activity of the enterprise. It may also be the case that a legal unit described by such an 'ancillary activity' NACE code (e.g. freight transportation), and for example belonging to a manufacturing enterprise, is deemed to be ancillary (and thus its transactions are consolidated) when, in fact the unit is engaged in freight transportation for customers outside its own enterprise (market sales).

Given that ancillary activities are predominantly service activities, enterprises with their main activity outside the service industries will principally have greater impact due to the non-additivity of variables, especially net turnover and purchases of goods and services.

### 6.6.7. Consolidation methods

Consolidation needs to be carried out at the level of the individual enterprises, the goal being to cancel out the internal transactions of each enterprise. An enterprise may have internal transactions or not. Different variables might be affected, due to different internal-transaction scenarios, and the magnitudes of the effect might be quite different. In SBS, consolidation is applied to the national enterprises that have been identified at the national level (criterion of economic residency), even if such enterprises belong to an international enterprise group. The transactions of a legal unit of a national enterprise with foreign legal units is not subject to consolidation, as such transactions are, by convention, market sales.

As explained above, through intensive and light profiling, either consolidated accounting data or data on internal transactions (at least the most important ones) will be provided. In principle, no further specific methods are needed. Smaller enterprises can however be profiled using an automated method: the consolidation of accounts is based on information available from administrative sources, and available at legal-unit level. Automatic profiling algorithms reconstitute a consistent profit and loss account, based on certain hypotheses.

Automatic profiling has the following goals:

- Automatic delineation of enterprises on the basis of assumptions. It may be assumed that each group below a certain size, or determined according to a set of complexity criteria, consists of one enterprise. Algorithms may also be used to delineate several enterprises within a group, on the basis of assumptions regarding their internal structure.

- Automatic calculation of the accounts of the delineated enterprise.
- Automatic assignment of its attributes to each enterprise (such as ID number, NACE code, link to other units, and continuity).

A first question is whether legal units that are outside the coverage of SBS but that belong to an enterprise that is within the coverage of SBS, is considered in the delineation of the enterprise and thus included in the consolidation process.

### Box 6.11: National practice in the treatment of legal units outside the coverage of SBS

**Statistics Austria:** With regard to SBS scope [Commission Regulation \(EC\) No 251/2009](#) as regards the series of data to be produced for structural business statistics, the following types of legal units are distinguished:

1. Legal units not in the scope of SBS (e.g. public sector, non-profit): these units are not in the same statistical enterprise with SBS units (separated in the course of enterprise delineation in profiling).
2. Legal units of NACE Rev. 2 divisions 64 (excl. 64.2) and 65 are also singled out, in the course of profiling. Due to the fact that there are no recommendations for the profiling of those economic activities, it is assumed that the legal unit is the same as the enterprise. In addition, data for these activities have a quite special character – so it is not so easy to combine such activities with other economic activities.
3. Economically active units in economic activities not covered by SBS (sections A, O, S94 of NACE Rev. 2):
  - (a) If such a unit is part of a complex enterprise that is in the scope of SBS, it is calculated, on the basis of administrative sources and model-based estimations, and it is considered in consolidation.
  - (b) If such a unit is part of an enterprise which is not in the scope of SBS, it is not considered in SBS.
  - (c) Please note that NACE 66 is in the scope of SBS, in Austria, while the other activities will be added with reference year 2021.
4. If a legal unit is in the scope of SBS (e.g. with NACE 47) yet part of an enterprise with a NACE activity that is out of scope (e.g. in section P of NACE), the unit is considered at the legal-unit level but not at the level of the statistical enterprise.
5. For NACE 64.2 and SPEs, special, case-specific treatment is necessary.

**Statistics Belgium:** Before starting the consolidation process, enterprises composed of legal units of SBS and non-SBS are split into homogeneous enterprises. Consequently, legal units outside the SBS scope are not part of the final SBS enterprises (for example, no agricultural legal units).

**NSI Bulgaria:** Legal units that belong to Sections A and K are excluded from the consolidation.

**Croatian Bureau of Statistics:** Legal units are consolidated with all other units within the enterprise.

**Statistical Service of Cyprus:** These legal units are not included in the SBS population; no consolidation.

**Statistics Denmark:** As a general rule, we do not include LEUs in the financial sector – e.g. holding companies – in complex enterprises. As for other legal units that are outside the SBS frame, they have not been included, so far. Apart from in the financial sector, there are very few if any examples of such legal units, in the scope of the enterprise groups profiled hitherto.



**Statistics Finland:** There are only few of these units and they are always treated with extra care, as the sector boundaries should not be broken. However, if it is found appropriate, these units are included in enterprise figures, as any other legal units.

**Destatis Germany:** Legal units outside the SBS frame (e.g. NACE Section A) are not considered.

**ISTAT Italy:** These legal units are included if they are part of ENT. In particular, in the RFI survey, the legal units with economic activity in agriculture are included, because groups of Manufacture of food products are included in the ENT and there are legal units with agricultural economic activity.

**Statistical Office of Slovenia:** All legal units in an enterprise should be included in the SBS population and consolidation takes place, if the enterprise is within the SBS frame. In the case of Slovenia, that is possible because data for all legal units (regardless of their NACE code) are kept in the SBS database, not only those observed by the regulation.

**Statistics Sweden:** Legal units outside the SBS frame that are a part of an enterprise within the SBS frame are included except for financial (NACE K) units.

For example: Enterprise A consists of:

Legal unit 1 – NACE Division 01

Legal unit 2 – NACE Division 11

If LEU 1 is the main unit, then none of the legal units will be included in the SBS frame. On the other hand, if LEU 2 is the main unit, both legal units will be included in the SBS frame. These cases are always treated with extra care, as the sector boundaries should not be broken. However, if found appropriate, the units are included in the enterprise figures as any other legal units.

The picture of the national practices in the treatment of legal units outside the SBS scope is heterogeneous. More countries exclude such units than include them. From the conceptual point of view of the definition of an enterprise, legal units belonging to enterprises inside the SBS scope with activity outside the SBS scope should not be excluded. However, units in Section K Financial and insurance activities would usually be treated as own enterprises and might thus be excluded from the rest of the enterprises. In that case, the financial units also have a different sector code, and there is the convention that enterprises should just have one institutional sector code.

In principle, the need for consolidation is given for all types of enterprises, whether they are large, medium or small, if inter-enterprise transactions are suspected. For larger enterprises, information is usually collected through manual profiling or special surveys. This is of course not the case for most smaller enterprises, for which automatic procedures have been developed by Eurostat, which were further elaborated by the NSIs, in their national implementation. Box 6.12 provides examples of Member States' consolidation practices.

## Box 6.12: Some examples of national practice with consolidation

**Statistics Denmark:** The same method is used in all cases. That is – the information that has been collected from the LEUs constituting the complex enterprises is consolidated. The NSI tries to apply the standard consolidation method that enterprise groups apply, when preparing the annual report. For each LEU there is information on the inter-enterprise flows that is matched with the information collected from the other LEUs in the enterprise.

**Statistics Finland:** Consolidation is made manually based on the survey.

**Hungarian Central Statistical Office:** Larger enterprises are asked for the inner flow, so that the NSI has Consolidated Data = SUM(Legal unit data) – SUM(Inner flow).

The automatic consolidation method (for enterprises consisting of 2 or 3 legal units) is very complex and documentation is available only in Hungarian.

In short:

As a first step in automatic consolidation, the role of members of enterprises with 2 or 3 legal units should be determined within the entity. P (production (basic) activity), S (sales), A (ancillary activity).

The next step in automatic consolidation is classification into different Cases, which is a function of the ACT\_TYPE pairs. (For example, an enterprise with members P and A or S and A is classified in a given case. Vertical enterprises, pairs that fall into UP: production of raw materials, parts, or DOWN: production of end-product categories, are placed in a different case.)

The next step is consolidation itself. For example, the enterprise-level turnover of a producer (pharmaceutical factory) or an ancillary activity (accountant) can be determined in two ways.

If the turnover of the ancillary member/ accountant is less than the service used by the production unit/ pharmaceutical factory, then it is assumed that the turnover of the ancillary member comes from internal turnover, so at the enterprise level the turnover is equal to the turnover of the producing legal unit.

If the turnover of the member performing the ancillary activity is greater than the service used by the production unit (assuming that it also provides services to external companies), the turnover of the two is added together, then the service used by the producer is deducted.

Automatic consolidation is done in 2 steps for 3-element enterprises. First, the data of two members are consolidated. Then, as a second step, the third member is also involved in the result.

**ISTAT Italy:** The consolidation of non-additive variables depends on the characteristics of the legal units that make up the ENT. Particularly, the ENT may contain both ancillary units and vertically integrated units.

When the ENT is composed of legal units, considered as neither ancillary nor vertically integrated, the consolidation is calculated as the sum of individual legal units' economic variables.

Whereas, whether the legal units are considered as either ancillary or vertically integrated, those internal flows within the enterprises are neutralized by consolidating them into a single statistical unit.

The case of two legal units is the starting point.

ENT Cases with ancillary or vertically integrated units composed of two Legal Units

Cases	Servant LeU		Flows	Recipient LeU		
	Activity	Main variable	→	Activity	Main variable	
Ancillary	A	Auxiliary/support services (Account, marketing)	Turnover	→	Manufacturing Activities/Services	Expense for services
	B	Real estate activities (ATECO 68.2)	Turnover	→	Manufacturing Activities/Services	Use of third party assets
	C	Wholesale on a fee or contract basis (ATECO 46.1)	Turnover	→	Manufacturing Activities/Services	Expense for services
Vertical Integrated	D	Manufacturing activities	Turnover	→	Trade activities	Purchases of goods
	E	Manufacturing activities	Turnover	→	Manufacturing activities	Purchases of goods
	F	Wholesale trade activities	Turnover	→	Retail trade activities	Purchases of goods

The consolidation process is conducted through a step-by-step algorithm whereby the first step output is the input of the second step, so on and so forth.

The flows are identified by considering the minimum value of servant LeU(s) turnover, the expenses of recipient LeU(s) and the turnover of recipient LeU(s).

If the LeU is considered as servant to more than one LeU, the amount of the flows to be deleted in the expense items of each recipient will be proportional to the weight of LeU expenses over the total amount of the recipient LeU expenses.

#### STEP 1:

Comparison between LeUs belonging to the same type: Manufacturing- Manufacturing and Commercial-Commercial;

Consolidation through 'standard' rule, by deleting flows of turnover in the servant LeU and the flows of the expenses in the recipient LeU.

#### STEP 2:

Comparison between LeUs belonging to Manufacturing -Commercial type;

Consolidation through 'value chain' rule, by deleting flows of turnover and expenses in the recipient LeUs.

#### STEP 3:

Comparison between LeUs belonging to Ancillary- Manufacturing type and Ancillary-Commercial type;

Consolidation through 'standard' rule, by deleting flows of turnover in the servant LeUs and of the expenses in the recipient LeUs.

**Statistics Lithuania:** Before the consolidation, the balance of purchases and sales, sold and acquired fixed tangible and intangible assets by kind, paid and received interests, and similar

indicators are checked and edited.

The consolidation process sums the values of particular indicators of LeUs that belong to the same enterprise and minus sum of their intra-flow values (for example sum of LeU's turnover minus sum of intra-enterprise sales, sum of LeU's purchases by kind minus sum of intra-enterprise purchases by the same kind, etc.)

Consolidation with fixed assets is more difficult, as the value of sold and purchased assets might be different. If the unit sold the asset at a higher value than the balance value of the asset, the received profit should be eliminated from other income and profit before tax and net profit. If the unit sold the asset at a lesser value than the balance value of the asset, the difference between those values is recognised as being a decrease of the value of the asset.

Attention should also be paid when the enterprise's activity is production and, at the beginning of the chain, there is a trading unit which purchases raw materials as goods for resale. Then, those goods are sold to the production unit and the production unit buys it as raw materials, and so on... At the end of chain is a trading unit, which sells production to final users, where sales from the trading activity are recognised. So, the consolidated production value is equal to the trading margin, as purchases of goods for resale at the beginning of the chain and the sale of goods for resale at the end of chain remain after the consolidation (purchases of raw materials and sales of production are eliminated as intra-enterprise flows). In such cases, the treatment of inventories and turnover from the main activity should be corrected.

**INE Spain:** Spain distinguishes three main types of consolidation which are not classified as simple nor complex, just applied in the necessary cases:

- First type occurs in vertical integration cases, between Upstream-type (U) and Downstream-type (D) LUs. The Upstream Legal Units sell their production to the Downstream type, which they sell to the market.
- Second type occurs in cases of vertical integration, between Industrial Legal Units, and those of the Trade type. I Legal Units sell their production to the Downstream type U or C, which they sell to the market.
- Third type occurs in cases of auxiliary relationships between Legal Units A and the rest of the enterprise. For these relationships, five different situations are distinguished, depending on the activity of the type=A auxiliary unit.
  - Typology A\_transp: LUs with activities '4941', '5224', '5229', '521', '53'
  - Typology A\_inmob: LUs with activities 682', '6832'
  - Typology A\_publi: LUs with activities '742', '822', '823', '73'
  - Typology A\_contrat: LUs with activities '783'
  - Typology A\_mixto: LUs with activities '61', '62', '69', '702', '821', '6311'

More information on the procedure of consolidation by Spain can be found in the following paper:

[https://www.ine.es/en/metodologia/t37/metodologia\\_eee2019\\_en.pdf](https://www.ine.es/en/metodologia/t37/metodologia_eee2019_en.pdf)

The main goal is the automatic consolidation of the accounts. The algorithm behind automatic profiling is based on certain assumptions, all originating from the characteristics of the legal units and their data. Legal units are categorized according to 'productive', 'sales' and 'ancillary'. 'Productive' means units that are assumed to be the main unit in the enterprise, which represent the main activity. Both 'sales' and 'ancillary' represent ancillary activities. 'Sales' is treated as a category of its 'own'. Also, the accounting variables of the legal units play a central role. As explained above the units classified with an ancillary NACE code may, not only, deliver their services to the other units within the enterprise, but also to the market.

This categorisation was further developed by NSIs to better reflect additional situations in the enterprise structure. Already in the first study, 4 scenarios to consolidate an ancillary and a productive

legal unit, 3 scenarios to consolidate a productive legal unit and a sales unit were analysed. For enterprises with more than two legal units, considerably more specific cases in the algorithm is needed. The algorithm may be adapted to the national context and data sources. Such adaptations are positive, to take into account the reality of the groups in the country.

The algorithms applied to consolidating the accounts are based on hypothesis, to combine two legal units according to their kind of activity: productive, sales or ancillary. The two-unit case is certainly the simplest one as one unit is the productive one and the other the ancillary one, whose transactions with the other unit needs to be consolidated. There is no need to consider, from which unit the internal flows are to be deducted, as there is only one receiving unit. The consistency of the consolidated data between the units is easy to hold (and that value added is unchanged). Only the type of variable will be an issue and, in case of doubt, one can attribute the flows to the totals of turnover and purchases of goods and services. This method of consolidating two legal units may be extended to enterprises with more than two legal units.

The logic of consolidation, consistently deducting the internal flows between the units involved is illustrated in Box 6.13 using examples from Statistics Sweden.

### Box 6.13: Logic of consolidation (example from Statistics Sweden)

#### Example of simple approximation method

In this example:

A is a primary unit, no consolidation is done.

B and C are ancillary units, their turnover will be consolidated to 100 %. The same amount will also be removed from the external costs (in this case we have positive costs for legal unit B and negative costs for legal unit C).

Unit	Ancillary	Turnover	Consolidated turnover	Other external costs	Consolidated other external costs
Legal unit A	No	1 000 000	1 000 000	-500 000	-500 000
Legal unit B	Yes	300 000	0	-100 000	200 000
Legal unit C	Yes	300 000	0	-400 000	-100 000
<b>Enterprise ABC</b>		<b>1 600 000</b>	<b>1 000 000</b>	<b>-1000 000</b>	<b>-400 000</b>

#### Example of complex approximation method

In this example:

A is a primary unit, no consolidation is done.

B and C are ancillary units, their income will be consolidated to 50 % and 10 % respectively. The same amount will also be removed from the costs (in this case we have positive costs for legal unit B and negative costs for legal unit C).

Unit	Ancillary	Income	Consolidated income	Other external costs	Consolidated other external costs
Legal unit A	No	1 000 000	1 000 000	-500 000	-500 000
Legal unit B	Yes 50 %	300 000	150 000	-100 000	50 000
Legal unit C	Yes 10 %	300 000	270 000	-400 000	-370 000
<b>Enterprise ABC</b>		<b>1 600 000</b>	<b>1 420 000</b>	<b>-1 000 000</b>	<b>-820 000</b>

If an enterprise consists of two legal units and they both have the same NACE code of productive activity, it can be assumed that there are no internal transactions. For instance, an enterprise trading in furniture might have various locations and each location is a separate legal unit. However, in the case of a manufacturing enterprise with two or more legal units having the same NACE code, it can be that there is a vertical integration and that there are no internal transactions. Even the lowest level of the NACE classification has classes which cover more than one production process. In case that these legal units have different NACE codes, it should be checked whether these NACE activities are in an up- or downstream relation.

The results of the consolidation calculations need to be quality checked and assessed. Having done that, the authentic micro-database for the SBS reference year becomes available.

## 6.7. Imputation methods

Data imputation is the activity aimed at completing and/or replacing missing information within a data record with reliable and robust estimates, with a view to allowing the compilation of a complete set of information for that record. This section introduces the methods used in the statistical process of producing SBS data for the imputation of missing data. The methods to be used will depend on the types of data sources that are available (administrative data or data deriving from statistical models) for the compilation of the SBS statistics.

In the SBS compilation process, as in all statistical domains, one can distinguish between data missing due to unit non-response (total non-response) and data missing due to item non-response (partial non-response). The most accurate imputation method is that of using administrative data, both for unit and for item non-response. Different administrative data sources can be combined to compute the data that are missing from the survey.

Missing data caused by non-response is a source of error, and the imputation methods are used to fill those gaps. Several methods can be used to impute missing information in a data set. Possible imputation methods include: deductive imputation, model-based imputation (including mean, ratio, and regression imputation), and donor imputation (including cold deck, random hot deck, and nearest-neighbour imputation) or longitudinal imputation. Different methods may be useful in different contexts.

In the case of deductive or logical imputation method, missing values are determined, based on logical or mathematical relationships between the variables. The value of one or more missing variables is derived from the values that were observed. Imputations are predictions of the missing values, based on an explicit or an implicit model. In some cases, the imputations are derived directly from the values that were observed in the same record. For example, one or several enterprises did not provide data for the variable wages and salaries (WS), only the total values of employee benefits expense (EBE) and social security costs (SSC). Assuming that the two observed values are correct, the missing value can be calculated using the rule:  $WS + SSC = EBE$ .

In the case of model-based imputation, SBS staff determine a predictive model for each target variable in the data set containing missing values. The model is based on the observed data and it is subsequently used to generate imputations for the missing values. The main types of model-based imputation used are mean imputation, ratio imputation, and regression imputation.

The mean imputation method is used to replace the missing values by the mean of the observed values computed for each variable. In the case of ratio imputation, it is assumed that there is an auxiliary variable observed that is more or less proportional to the target variable. The unknown ratio between target and observed variable is estimated from the units for which both target and observed variable are available. Regression imputation generalises mean and ratio imputation by assuming a regression model for the prediction of the target variable, based on a set of auxiliary variables. Different regression models can be used but the most frequently applied is the standard linear regression model. *The Memobust handbook on methodology of modern business statistics* <sup>(15)</sup> provides more explanations

<sup>(15)</sup> [https://ec.europa.eu/eurostat/cros/system/files/Imputation-03-T-Model-Based Imputation v1.0\\_0.pdf](https://ec.europa.eu/eurostat/cros/system/files/Imputation-03-T-Model-Based%20Imputation%20v1.0_0.pdf)

on model-based imputation.

The donor imputation method involves replacing the missing values for a given unit by copying the values observed for another unit, the donor. Usually, the donor is chosen in such a way that it resembles the imputed unit as much as possible, on the basis of one or more core characteristics.

An imputation based on longitudinal data can be applied in cases, in which the same variables of the same units are measured several times at different points in time. Data from registers, referred to as longitudinal data, are used to match historical data about the same units, when they are available with some degree of regularity.

In the process of data imputation, depending on the availability of information and the circumstances, SBS staff can apply single imputation methods, whereby one value is imputed to each missing item, or apply multiple imputation methods to the same variable, to allow for the assessment of imputation uncertainty.

The imputation of missing data may be performed at each level of the validation process:

- at microdata level, performed after the collection stage;
- at aggregated level.

It can be concluded that imputation is an important sub-process in the statistical data production process, which is time and resource consuming, and which has an important effect on survey data and their statistical properties. However, any imputation should be applied with care and the results be assessed, including through analysing the share of imputed values. Box 6.14 provides some country examples of data imputation.

### Box 6.14: Member State practice in data imputation

**Statistics Austria** applies data imputation methods both to unit and to item non-responses as follows: Unit non-response is imputed in the course of the model-based estimation of the smaller enterprises that are not covered in the SBS survey. If very large units have to be imputed, the results are carefully checked and possibly corrected in the data editing tool.

With regard to item non-response, a distinction is made between survey variables which must be given (e.g. purchases of goods, in the case of turnover from trade) and variables which could be given (e.g. expenditures for agency workers); in the first case, data are imputed using administrative sources or imputations based on information from the previous year or mean imputations. Non-mandatory variables are not imputed if there is no information from administrative sources.

**Statistics Belgium** carries out imputation procedures for unit non-response, for non-observation of SME's and for item non-response using model-based approaches. Both accounting data and VAT data are used for the imputation of financial variables. Employment variables, including labour costs and wages are calculated from social security data, which are very detailed for all employers.

Variables most often calculated using a model-based approach are the breakdown of gross investment in tangible non-current assets and the breakdown of turnover. Data on these variables are only available for responding enterprises.

**Statistical Service of Cyprus** uses for the unit non-response a replacement unit that closest matches the initial unit in terms of NACE activity, employment size class, turnover and, if possible, geographical region. The sources for finding the replacement units are the Department of Registrar of Companies and the Official Receiver where legal units submit their annual financial statements. The Statistical Service regularly gains access to this stock of financial statements. Most SBS variables can be derived from those annual statements.

The second method used for non-responding unit variables is imputation. Imputed data are based on a combination of other available administrative sources and data from previous surveys. The Tax Department provides VAT output and input data. The output value is used for the estimation of

turnover and the input value for the estimation of expenses (liable to VAT). Based on the unit's actual data from the previous year (if available) and the growth rate of the rest of the responding units of the same activity and employment size class, the remaining variables are estimated. Other information such as STS indices (e.g. for turnover) and Business Register data (employment data from Social Insurance Services) may be used to complement the estimations.

For missing variables related to expenses (including wages and salaries), a model has been developed that breaks down the total expenses value (which is usually available) into the different components (e.g. production costs, administrative costs, labour costs, etc.). The model is based on a time series of the shares of those components that made up total expenses in previous SBS surveys. A different model is calculated for each stratum (activity by employment band).

**Statistics Finland** imputes missing data using information from other data sources (e.g. monthly VAT data) as well as data of the other companies in the same industry.

**ELSTAT Greece** uses data that are derived from the published financial statements of the enterprise and from administrative sources at enterprise level, in case of unit non-response of the large enterprises. Economic data from financial statements are retrieved for each large enterprise separately. These data are imported into a database and the SBS variables are derived automatically, on the basis of the imported data.

Regarding item non-response economic data are retrieved from financial statements for each large enterprise separately and from administrative sources at enterprise level.

In cases in which enterprise data for active enterprises according to the Business Register are missing in the administrative sources, or they are not correct, while their complete correction is not feasible, the imputation method is applied.

The imputation method is a statistical estimation method which is based on the use of data from enterprises with similar characteristics for the cases of enterprises previously listed, such as activity sector and business size class in terms of turnover or employment.

More specifically, enterprise data that are not available in the tax data files or are partially available, they are replaced, on the basis of the application of statistical estimation methods, by the data of other enterprises that have submitted the tax data and have similar characteristics (activity sector and business size class in terms of turnover or employment).

**Hungarian Central Statistical Office** imputes the missing data for active legal units, for which no data from surveys are available or for which no taxation data are available for the given reference year, by allocating SBS data from the previous year (the imputed data may come from surveys or administrative data sources).

The imputation of incomplete tax data is estimated by parameters (from the data of legal units that can be considered similar according to the selected dimensions).

**ISTAT Italy** imputes missing data by using information from administrative data for core variables and donor/estimation methods for items that are not available in administrative sources.

**INS Romania** uses different data sources to impute missing information. In case of unit non-response, the main source of information used are administrative data, mainly financial statements. VAT tax data are used for the variable turnover when financial statements are not yet available. Additional statistical data are used in the case of missing data, such as STS or Business Register data.

For the item non-response deductive or logical methods are used for some variables while, for some others, ratio imputation is applied. In rare cases, historical data (employment or breakdown of turnover) are used to complete the missing data.



## 6.8. Preliminary and final data

The SBS data requirements include the transmission of preliminary data, 10 months after the end of the reference period, and the transmission of the final data, 18 months after the end of the reference period. Preliminary data only need to be compiled for three variables:

- 210101 Number of active enterprises
- 220101 Number of employees and self-employed persons
- 250101 Net turnover.

These variables should be broken down by detailed NACE activities (Table 10 of the EBS GIA) combined with size-class breakdown of number of employees and self-employed persons (Table 11 of the EBS GIA). The statistical unit for the preliminary data is the same as for the final data, namely the enterprise, and the first reference year is 2021.

**Table 6.2: Overview of SBS data requirements for preliminary data**

Variable	Table 10 of EBS GIA	Table 11 of EBS GIA <sup>(16)</sup>
210101 Number of active enterprises	Broken down by NACE Sections, Divisions and Groups	Broken down by NACE Sections, Divisions and Groups
220101 Number of employees and self-employed persons		and by size-class of number of employees and self-employed persons
250101 Net turnover		

At the time the preliminary data must be delivered, all basic data might either not yet be available or not fully validated. Thus, usually, some kinds of estimation need to be applied. The sources and estimation methods may differ, between the three requested variables. This can be challenging although the requirements for preliminary data are much below those for final data (fewer variables).

Some Member States are able to already compile the preliminary data from the same input information as will be used for the final data; they do not need any auxiliary information or estimation methods. Box 6.15 provides three examples of such Member States. Please note that these examples refer to the legal requirements for preliminary data in the 2008 SBS Regulation, which are considerably larger than those based on the EBS Regulation.

### Box 6.15: Examples of Member States that compile the preliminary SBS data without additional estimations

**Statistics Finland:** The Finnish NSI receive the majority of the data already before compiling the preliminary figures. To a large extent, the data are also checked and corrected before the preliminary submission. The checks are made mainly for the profit and loss account first, and the balance sheet is checked more precisely after the preliminary data have been delivered.

**Hungarian Central Statistical Office:** The deadline for reporting on the HCSO questionnaires are in March (annual investment and labour surveys) and June (annual surveys on performance). HCSO gets the preliminary taxation data from the NTCA (National Tax and customs Administration of Hungary) in August following the reference year. These deadlines ensure that preliminary data can be produced in due time.

In August, the IT colleagues set up the input databases of the Joint Database for legal units (JPDleu) from the administrative (taxation) data, then the JPD combines the data from the statistical surveys

<sup>(16)</sup> It should be noted that Table 11 contains also data requirements for business demography statistics.

(performance, investment and labour) with the administrative data. The JPDleu and JPDent are set up in separate databases both at the phase of preliminary and final data production time and the data are validated at the same time, at legal unit and at enterprise level.

From September to the end of October the NA and the SBS sections prepare and validate the data and produce the series of preliminary data with the cooperation of the IT departments and the Business Statistics Data Collection Department.

**Statistics Poland:** At the time of compiling the preliminary SBS data, the results of annual surveys are already available: an exhaustive survey of legal entities with a number of persons employed of 10 or more is performed, as well as a sample survey covering legal entities with a number of persons employed of less than 10, which contains the necessary financial data. Information from administrative sources on the number of employees and persons employed is also available, as well as data on the value of turnover for legal entities that are VAT payers. A pre-compiled list of enterprises delineated in the profiling process is also available in the business register. Thanks to this organisation, the population of active units and the values of SBS variables for medium and large units only differ slightly, between the preliminary and final data.

There might be bigger differences between the preliminary and final data of small and micro entities due to the fact that, for the final data, the estimations of values (especially in case of micro enterprises where economic data are based on sampling survey) are more precise, thanks to the use of information from additional administrative sources (from the tax system) that are not available at the time of the preliminary data elaboration. Additionally, after the deadline for submitting the preliminary data, work on enterprise profiling continues and hence differences between the statistical units for preliminary and for final data might appear.

However, in other countries the situation for the preliminary data is less favourable. In those cases, the preliminary data are mainly based on administrative data or on a combination of administrative and statistical data sources, combined with imputation or other estimation methods. In those countries, administrative data represent the core of the sources, especially data from the VAT (declaration) database.

Statistical data sources are used, most importantly the Statistical Business Register (SBR), but also sub-annual indices on turnover in certain service industries or the production index in manufacturing. The SBR is used for the number of active enterprises and the number of persons employed. Box 6.16 below provides information on national practices in four Member States. The examples refer to the data requirements of the 2008 SBS Regulation.

### Box 6.16: Examples of Member States using different sources and estimation methods to compile preliminary SBS data

**Statistics Belgium:** The preliminary SBS data are based on administrative data and imputations given that the NSI usually does not have enough survey data at the moment when the preliminary SBS data needs to be transmitted.

**Statistical Service of Cyprus:** In order to manage the time constraints and the timeliness of the source data, the Statistical Service of Cyprus employs a different method for each variable required for the preliminary data, either based on available administrative sources or on estimation models.

For Turnover, VAT data are used. For Number of enterprises and Employment, the Business Register – which is updated from the VAT and the Social Insurance registers – is used. For Wages and Salaries, STS data coming from the Department of Social Insurance Services is used. For each of those sources, the T/T-1 growth rate of the variable is calculated, and that growth rate is used on the T-1 final SBS data at group level.

For Production value a model based on Turnover is used, which is available from VAT data.

1. For both Gross Investment in tangible goods and Total Purchases of goods and services (which are the most difficult variables to estimate reliably), two estimation methods are employed:
2. Data collection for reference year T takes place during reference years T+1 and T+2. Therefore, a forecasting question for T+1 for those two variables is included in the questionnaire in order to use it for the preliminary SBS data. A growth rate of the final data of year T and the forecast given for T+1 can be calculated at group level. Not many enterprises though can provide such forecasts with adequate quality, if at all.

A model using long series of the relationship between each of those two variables and available variables such as Turnover, Employment and Wages and Salaries are used.

Depending on the source used to estimate the preliminary value of each variable, some variables are estimated based on the growth rates of legal units (those using administrative sources), while others are based on enterprise data. At the activity level needed for the preliminary data (group level), the growth rates based on legal units and on enterprises are not significantly different.

**CBS Netherlands:** The survey data for turnover, value added, production value, and wages and salaries cannot be collected in time. For this reason, other sources are used to extrapolate T minus 1 data. VAT turnover data and administrative data on wages are used to extrapolate the T minus 1 data.

Since different sources are used for preliminary and for final data, larger revisions are possible.

**Statistics Portugal:** The production of preliminary SBS data results from a process of administrative data integration, similar to that of final data, with an emphasis on IES (Simplified Business Information). Almost all company information is received by the end of July of each year, so there are no time constraints.

Information about individual enterprises is received later and cannot be integrated into the preliminary data. In the preliminary data, individual enterprises are estimated on the basis of the information known to those enterprises for the year N-1, applying a rate of change obtained on the basis of the behaviour of companies with less than 10 persons employed, considering for this purpose the finest 5-digit level of NACE Rev. 2.

The provisional data and the definitive data of the companies present the same statistical unit, which in Portugal is the legal unit. In the preliminary data, the basic information for companies is available at the level of the legal unit. In the case of information on individual enterprises, this is estimated at aggregate level (4 digits of NACE Rev. 2).

Currently, at the national level, SBS information is disclosed according to the following calendar:

- Preliminary data: 9 months after reference period (September N+1)
- Preliminary data: 14 months after reference period (February N+2).

Statistics Portugal is making efforts to bring forward the deadlines, as it already receives administrative information on individual enterprises earlier, with the aim of producing SBS results even earlier in the future.

The compilation of the requested preliminary data will be easier to achieve in the future. The data requirements of preliminary SBS data in the EBS Regulation are reduced compared to previous European legislation: only three variables need to be compiled (Table 6.2), whereas, based on the old legislation additional variables for the manufacturing sector were requested, such as production values, wages and salaries, total purchases of goods and services and gross investment in tangible assets. The compilation of preliminary data for those additional variables is certainly more complex as they are, in part, not covered by administrative data.

Data on all three variables (number of active enterprises, number of employees and self-employed

persons, net turnover) that are needed for the preliminary SBS data can nowadays be found in appropriate quality in the SBRs. Consequently, the SBRs have become an adequate source for the preliminary data. In accordance with the EBS Regulation and the GIA, the national SBRs should record the variable 3.11 Number of employees and self-employed persons as well as variable 3.14 Net turnover. The definition for these variables is the same as in the other domains of the EBS. Furthermore, these variables should be recorded at the level of the statistical unit enterprise.

Whether the data in the SBR can directly be used for the preliminary estimates, depends on the timeliness, completeness and accuracy of those data. Usually, the data in the SBR are mainly based on administrative sources. Data on employment will certainly be of higher quality, as such data are usually taken from complete administrative sources (social security register) which have a higher timeliness (e.g. monthly data). The situation might be a bit different in the case of net turnover data because the administrative source, the VAT database, usually only provides the declaration data but not the tax assessment notice, at the time of the transmission of the preliminary data. Moreover, the VAT data are based on legal units or even, in some cases, on aggregates of legal units (called 'Organschaften' in German). Such aggregates are however normally not the same combinations of legal units as the ones profiled for the statistical unit enterprise. Net turnover is a non-additive variable and the consolidation of internal enterprise transactions would be needed, in addition.

## 6.9. Data revision

Data revisions are broadly defined as any change in a value of a statistic released to the public. There are several reasons for which an already published statistic might be revised i.e. replaced by new data. A simple reason can be that an error is detected in the published data and that they thus (to some degree) become incorrect (non-scheduled revision). Clearly, such an error should be corrected as quickly as possible. The correction should be communicated through all relevant dissemination channels and appropriately explained. A second reason refers to scheduled data revisions, which is typically to national accounts and short-term statistics, where estimates for a specific reference period are updated according to a pre-set time schedule, before the data are considered final. The compilation of preliminary data and of final data in SBS can also be seen as a kind of scheduled revision. As explained in Section 6.8, some variables (number of active enterprises, number of employees and self-employed persons, and net turnover) should be transmitted to Eurostat already 10 months after the end of the reference year, whereas the same variables (and many more variables) should be transmitted again 18 months after the end of the reference year. The final data will probably deviate from the preliminary data as all necessary basic data were not (fully) available at the time of the release of the preliminary data and might therefore have contained estimations or other forms of imputations. As there are differences between the published preliminary and final data, this constitutes a data revision according to the general definition.

It can however happen that the final data (T+18 months) will further be revised outside routine revisions. Such non-routine revisions are often major revisions and result in breaks in the time series. They should only take place at longer intervals and require appropriate preparation and advance information to the data users, including an appropriate prior announcement in the release calendar.

A main reason for such a revision of SBS data is the change in or revision of a classification, especially of the activity classification NACE. Such a classification revision takes place around every 10 – 15 years. Currently NACE Rev. 2 is under review, and a revised version will be adopted in a few years and appropriately implemented in the ESS. Even if only the new classification is implemented in SBS, without any other methodological or conceptual changes, the new data will deviate from the current ones as the classification structure will be different. Also, the SBS totals can be affected if industries are defined differently. Certain activities might then become included in or excluded from the SBS coverage. A change in the classification clearly results in breaks in time series, at least at the level of the NACE activities. When a classification is revised, users will also require back-casting data, to bridge, to some extent, the breaks in time series. Thus, revising a classification entails a real revision to SBS data.

Major revisions can be required due to changes in general or domain-specific European definitions and concepts (including revisions of European classifications). Such changes usually go along with changes in European legislation, as the harmonised implementation of those changes is central for the statistics' comparability over the Member States. Legislation mostly contains provisions regarding the reference years, including double reporting reference periods and backward calculations.

Reasons for a major revision could be:

- Revision in the classifications or at least major changes in a part of a classification (see above).
- The entire SBS compilation process is also affected when statistical units are changed. Fortunately, changes in the choice of statistical units are quite seldom.
- Further, a revision could be caused by changes in the list of variables, through changes to the set of variables or changes in the definition of a variable. Such changes have less impact on the whole compilation process.
- Changes in the coverage of a statistical domain, such as additional activities to be covered, would not be viewed as a major revision, neither in terms of the amount of work nor in terms of the dissemination. However, there will be a break in time series of the domain totals. This represents less of a problem as those breaks can be described by subtracting the new additional coverage.

The reasons for major revisions explained in the above paragraph are connected with changes in European concepts and requirements. Such revisions should be executed in a harmonised way. Further reasons for revisions arise from occurrences at national level and usually will entail major revisions of the national SBS data with effect on the EU aggregates:

- New or improved data sources might have become available and need to be integrated, especially in case that these would increase the quality of the SBS data. Such sources might be new or improved administrative data, financial reporting data, or the like. This also includes sources that improve the identification of the statistical units. New or improved sources might also have some impact on the data collection, including adaptations in survey questionnaires.
- There might also be a need to redesign the whole or parts of the compilation procedures from data collection to dissemination. Changes in the sampling methods might be needed to better cover specific activities or to reduce response burden. As most of the Member States use a mixture of survey data and administrative data for their compilation of SBS statistics, redesign within this basic approach would probably also result into a major revision. It may also happen that an administrative source is no longer available or that it has been restructured so that it is no longer applicable and thus or so that the compilation process may require appropriate adaptations.

As major revisions should only be performed at longer intervals, it is advisable only to perform a major revision when several causes can be dealt with in one single revision process. This might not be possible in all cases as some of the causes might require faster treatment than others.

Another aspect is the timing of a major national revision. There should be as few breaks in time series as possible. If a European-level revision were to occur in one year and, in the next year (or a few years later), a further revision takes place at national level then two breaks in time series would occur within a relatively short period of time, having the consequence that comparability over time becomes nearly impossible, even if back-cast calculations were to be made. Back-cast calculations usually introduce a lesser level of detail, especially if the reason for the data revision is a revision in the classification.

In such a case, it is therefore advisable to align the event of a national major revision with an impending European-level revision. Usually, European based revisions are announced long in advance. The result is that there is only one break in time series, and a common backward calculation. It then however becomes more difficult to split the data changes into their different causes, as is often wished for by users, especially by the national accountants. It is therefore good practice that further detailing or estimating be carried out specifically for the purpose of alignments in national accounts.

# 7

## Metadata and quality

### 7.1. Introduction

This chapter provides an outline of quality aspects and dimensions, with the aim of guiding national-level data compilers in their reporting of metadata to Eurostat. The main aspects on reference metadata are presented in Chapter 12 of the [EBS Manual](#). It includes detailed information about the quality indicators to be complied with, the level of breakdown and the tools that can be used. The chapter also introduces the main concepts related to metadata and the ESS metadata handler tool.

The SBS metadata structure is described and explanation is provided about the content of each section of the national metadata report. A description of the quality framework and the quality dimensions is presented. This chapter also familiarises the SBS compilers with the quality indicators and data revision practices.

Quality is of highest importance in the European Statistical System (ESS). Producers of official statistics should therefore ensure that the statistics they produce and disseminate are based on harmonised methods and standards. Quality of statistics is achieved by taking the right measures, decisions or actions in all phases of the business process ([GSBPM](#)), from the specification of the needs up to the evaluation of the statistical output.

The assessment of data quality is a crucial step in providing the users with high quality statistical data and it is a precondition to informing the users about the possible uses of the data. Assessing data quality is therefore one of the core aspects of the ESS. The following steps should be considered, in managing the quality and risk of each quality dimension: define requirements for each quality dimension, define and implement quality indicators (measurements, evaluation), define relationships or dependencies with other focus areas or quality dimensions, analyse possible causes and effects of problems with a quality dimension (risk analysis), and define and implement measures (decisions, actions) to manage the quality dimension.

Metadata are essential to understanding the data, and they enable an assessment of the quality of data. Different tools were developed to be used within the ESS, for the production, dissemination and exchange of harmonised information. This chapter only presents the tools that are used in SBS.

The [Single Integrated Metadata Structure](#) (SIMS) was created to support the quality reporting on European Statistics. It provides a harmonised, integrated and comprehensible framework for metadata and quality reporting in the ESS. SIMS is structured on different levels of details and contains 22 quality concepts. Each of those concepts is broken down into further details. SIMS is used to define the ESS reference metadata report structure and quality report, which contain information about quality concepts, at different levels of detail. The reports that Member States should fill in are called producer-oriented quality reports.

The ESS metadata handler (ESS-MH) is the tool based on SIMS that allows Member States and

Eurostat to exchange and disseminate European and national reference metadata files. The main concepts of the ESS-MH are described so as to facilitate a better understanding of all the concepts and their content.

## 7.2. SBS Metadata

### 7.2.1. Concepts and definitions

The chapter 'Reference metadata in business statistics' of the EBS Manual provides a description of how data compilers report national-level reference metadata to Eurostat. It explains the relationship between metadata and quality.

The global exchange of data is continuously increasing. Data dissemination sites run by different organisations are offering an increasing number of services. These use data exchange standards that support the automation of data extraction. In order to be able to process all data efficiently, within the ESS, reference metadata describing the data need to be produced using a harmonised list of statistical concepts. Metadata are essential to understanding the data. They allow users to make cross-country comparisons and assess the quality of the data.

Metadata, also known as 'data about data', is the concept used in the ESS for providing comprehensive information about statistical data aspects. They describe data by defining populations, variables, the methodology and quality. Statistical metadata are categorised into two types: structural metadata and reference metadata.

Structural metadata cover the information that is used to identify and describe the data. Some examples of types of structural metadata are: variable names, variable codes, classifications used, technical descriptions of dataset (data formats, time dimensions, etc.), and dataset locations. The structural metadata need to be linked with the data, to enable data identification and searching.

Reference metadata are metadata that describe the contents and the quality of statistical data. According to the latest version of the European Statistical System handbook for quality and metadata reports, metadata are subdivided into:

- conceptual metadata (explain the concepts used);
- methodological metadata (refer to methods used in preparing the statistical data);
- quality metadata (refer to and explain quality dimensions of the statistical outputs).

The legal basis for designing and producing metadata is the [Commission Recommendation of 23 June 2009](#) on reference metadata for the European Statistical System. It defines the statistical concepts and sub-concepts for compiling reference metadata for different statistical areas and for the exchange of metadata within the European Statistical System. SBS metadata follows the above general framework of ESS.

The current structure <sup>(17)</sup> of the SBS reference metadata is the following:

- 1 **Contact:** Information about the organisation, contact name in the organisation and the coordinates (address, email, telephone number) to get in contact with the responsible person.
- 2 **Metadata update:** Dates when the metadata has been certified, posted and updated.
- 3 **Statistical presentation:** Description of the data and classifications used (NACE, NUTS, CPA), statistical concepts and definitions, coverage of the statistical domain, statistical population and statistical units data refer to, time coverage and reference area.

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<sup>(17)</sup> The SBS reference metadata will be revised and defined as part of the EBS Quality Framework.

- 4 **Unit of measure:** Structural Business Statistics are disseminated in units (number of enterprises and employment) and currency (national or Euro) in the case of monetary variables (expenditures, revenues, investments, etc.).
- 5 **Reference Period:** The SBS reference period is the calendar year.
- 6 **Institutional Mandate:** This provides information about the legal acts governing the statistical domain.
- 7 **Confidentiality:** Two main aspects of confidentiality are covered under this concept: confidentiality policy (the provisions concerning confidentiality, in the legal acts) and the data treatment (which rules are applied to keep the confidential data undisclosed).
- 8 **Release policy:** The main topics considered are the data release schedule/ calendar, and where the release calendar can be found. Release policy refers to a number of principles, such as objectivity, impartiality, confidentiality, and accessibility, as laid down in the Regulation on European statistics and in the Code of Practice.
- 9 **Frequency of dissemination:** Information about how often the SBS data are disseminated.
- 10 **Accessibility and clarity:** This element refers to various formats used in the dissemination of SBS data: news release, publication, online database, and access to microdata.
- 11 **Quality management:** Quality assurance and quality assessment describe the process of checking whether SBS data were compiled in accordance with the requirements.
- 12 **Relevance:** Main users and user needs taken into consideration when developing the SBS. Another aspect refers to user satisfaction (assessed by either carrying out a user satisfaction survey or by other methods).
- 13 **Accuracy:** Refers to the measurement of the sampling and non-sampling errors.
- 14 **Timeliness and punctuality:** Timeliness refers to the time elapsed between the occurrence of the event or phenomenon the data describe and the time at which the data become available; punctuality refer to the time lag between target and actual data delivery.
- 15 **Coherence and comparability:** These dimensions measure the geographical and inter-temporal comparability, and cross-domain coherence.
- 16 **Cost and Burden:** Provides information on the cost of collection and production of SBS and burden on respondents.
- 17 **Data revision:** The heading comprises two main subjects: the policy applied to SBS data revision and how that is practically implemented.
- 18 **Statistical processing:** This item provides information about the sources of SBS data, data collection frequency, type of data collection (paper, web, electronic), data compilation, data validation, and adjustments carried out in case the reference year is different to the calendar year.

The metadata report should be delivered by the Member States using the metadata handler. It should be submitted 20 months after the end of the reference year as stated in Article 11(2) of the GIA <sup>(18)</sup>.

## 7.2.2. European statistical system metadata handler (ESS MH)

The ESS-MH is the web application developed by Eurostat to support the production, management, exchange and dissemination of European and national reference metadata files, based on the Single Integrated Metadata Structure standard. The ESS MH supports the harmonisation of reference

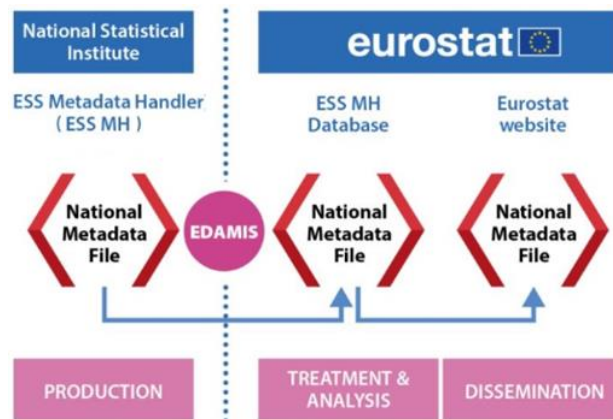
<sup>(18)</sup> Metadata and quality reports are now combined.



metadata and quality reports in the ESS. It provides definitions and guidelines that help Member States to create the reports in a structured way. It also provides storage, access and viewing facilities.

The current ESS-MH is built up, based on the [Single Integrated Metadata Structure SIMS v2.0](#) standard. It has been running since 2016. The diagram below (Figure 7.1) presents the high-level business process for reporting SDMX-compliant reference metadata and ESS MH usage.

**Figure 7.1: ESS Metadata**



This application is used by Eurostat and by NSIs, to produce metadata files. The application is accessible through a password system.

The information about SBS [metadata file](#) are the following:

- File name: RSBSBS\_ESMS\_A\_CC\_YEAR\_0000
- Domain: RSBSBS
- Metadata flow: RSBSBS\_ESMS\_A
- Typology: esms - ESMS (Euro-SDMX Metadata Structure)
- Country: country code
- Organisation – Provider:
- Reference year: yyyy
- Period: A0
- Status: Ready for validation, Validated
- Modified on: dd/mm/yyyy hh:mm:ss
- By: username
- Published on: dd/mm/yyyy hh:mm:ss
- Owner: username.

The main functions of the application for the users are:

- Copy an existing file to create a new one
- Recall the metadata file to make changes
- Download the metadata file
- View the history

- Preview the metadata file
- Print the metadata file.

After the changes have been made, the file is sent to the domain manager at Eurostat for validation. The domain manager approves if all information is clear, or she/he can ask for clarifications. In case that clarifications are asked, Member States will correct or add missing information and the file is submitted again for approval. The report can be generated as a 'flexible report' in several formats (html, pdf, doc, and docx), as a table, a list or as a 'metadata file'.

The layout <sup>(19)</sup> of the national reference metadata report is shown in Annex 2 which presents the headings that are already prefilled by Eurostat. Member States are asked to provide the information requested for the other headings.

## 7.3. Quality

### 7.3.1. Quality framework

Quality in statistics is defined as 'appropriateness' in relation to user needs. This subsection presents the General ESS quality framework and the specific Business Statistics quality framework that is derived from the General framework.

The general ESS framework for quality is the [Quality Assurance Framework of the European Statistical System \(ESS QAF\)](#), which is aligned with the European Statistics Code of Practice. The ESS QAF includes general quality management concepts and principles based on homogenous standards, as well as harmonised methods.

The quality dimensions are taken into account when developing, compiling and disseminating statistical outputs. Article 12 of Regulation (EC) No 223/2009 on European statistics amended by Regulation 2015/759 sets the quality criteria: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, comparability, and coherence. The quality dimensions are defined and further explained in Subsection 7.3.2.

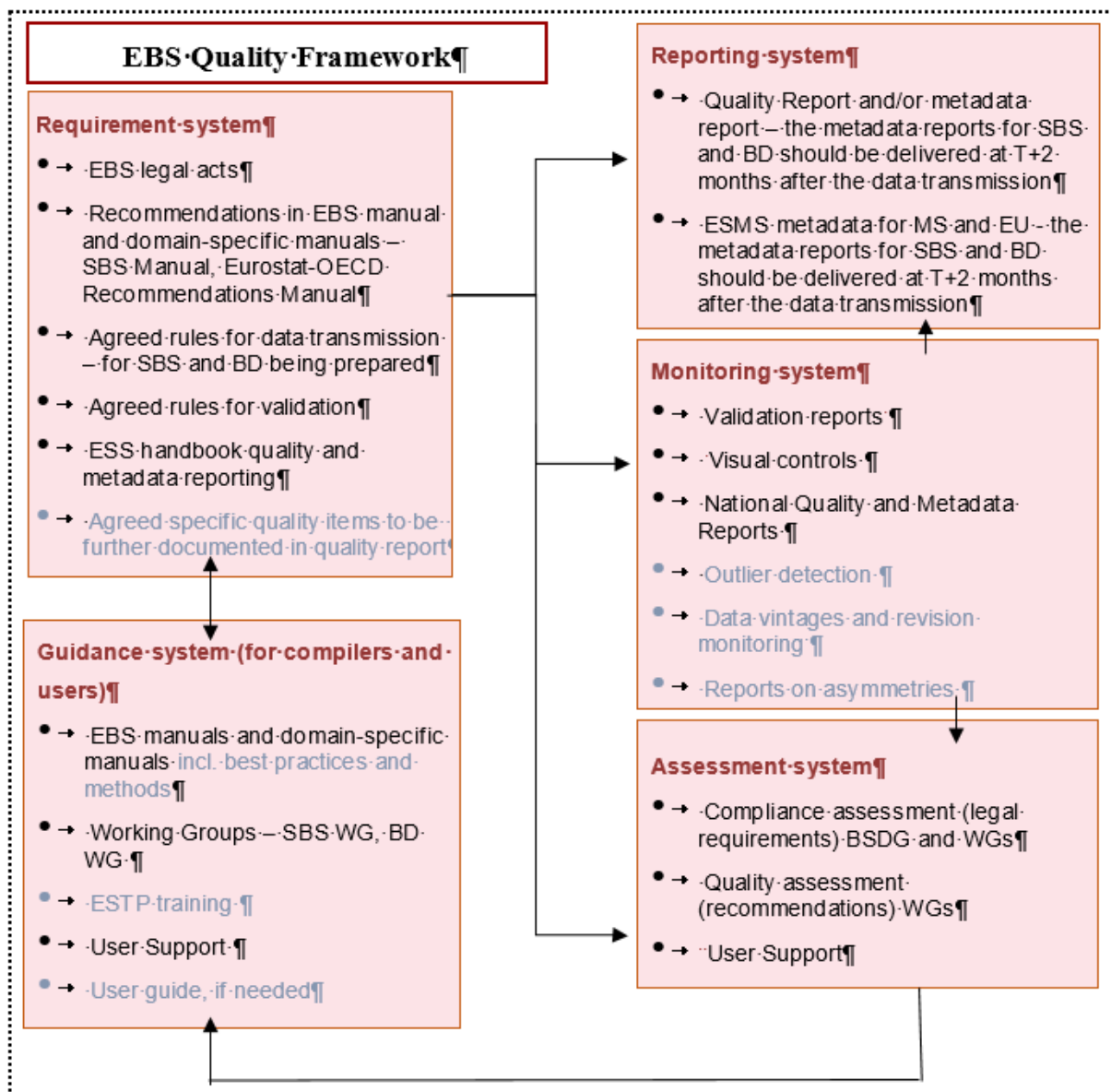
The Regulation (EU) 2019/2152 on European business statistics requests that Member States shall transmit annually to Eurostat quality and metadata reports for the data transmitted. For this purpose, the basic principles and details concerning the assessment of the business and trade statistics were included in the proposed core European business and trade statistics (EBS) quality framework.

The European Business Statistics (EBS) Quality Framework is built up on five interlinked systems: requirement system, guidance system (for compilers and users), reporting system, monitoring system, and assessment system. The diagram below (Figure 7.2) depicts the EBS Quality Framework for SBS. The instruments in black colour form the set of core instruments for ensuring the quality of business and trade statistics, which should eventually be in place for all business and trade statistics. The instruments in blue colour are optional.

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<sup>(19)</sup> Based on the [Commission Regulation \(EU\) No 446/2014](#)

Figure 7.2: EBS Quality Framework for SBS



The **requirements system** comprises, as mandatory instruments, all legal requirements and standards or rules, namely the EBS legal acts, EBS and domain-specific manuals, agreed rules for data transmission, agreed rules for validation, and the ESS handbook on quality and metadata reporting. The EBS legal acts contain quality targets and set the quality-metadata reporting, with a deadline for the metadata reporting and the assessment procedure. Optional specific quality items to be further documented in the quality report might be considered.

The **guidance system** consists of supplementary assistance that supports compilers in ensuring the quality of the data. The manuals (EBS and domain-specific) are important tools that provide guidelines, recommendations and detailed good practices and methods, to ensure the consistency, harmonisation and quality of the SBS data. The domain working groups are the component of the guidance system, that discuss the methodological and quality issues, and the outcome of their discussions can be used to update and improve the manuals.

The reporting system is used by Eurostat to report on the quality of the statistics it publishes. The two elements of the reporting system are: Quality Report and/or metadata report and the ESMS

metadata <sup>(20)</sup>. Quality Reports and/or metadata reports provide users with a tool to assess the quality of the business and trade statistics published by Eurostat. The data quality can be assessed on the quality dimensions/components. ESMS metadata - the Reference Metadata in Euro SDMX Metadata Structure - provides methodological and qualitative information in a standardised structure. ESMS Metadata need to be published at EU and Member-State level. Quality Report and/or metadata report and ESMS metadata for Member States and EU should be delivered at T+2 months after the data transmission.

The **monitoring system** comprises all instruments Eurostat uses for monitoring the quality of business and trade statistics. The main instruments are validation reports, visual controls and the National Quality and Metadata Reports. The EBS legislation requires the Member States to provide Eurostat with an annual quality report that covers all the quality dimensions.

The **assessment system** covers the quality assessment and the compliance assessment. The compliance assessment defines the instruments Eurostat uses for assessing the compliance of Member States with the data and metadata requirements set in European statistical legislation. The compliance assessment can refer to the outcome of the quality assessment.

### 7.3.2. Quality dimensions

The quality dimensions are relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, coherence and comparability.

#### Box 7.1: Definition of the quality dimension Relevance

**Relevance is the degree to which statistical information meets the current and potential needs of the users.**

Relevance is the extent and degree to which the content of a process satisfies the needs of different users. It depends on whether all the statistics that are needed are produced and the extent to which concepts used (definitions, classifications, etc.) reflect user needs.

*Source:* European Statistical System handbook for quality and metadata reports

In SIMS, relevance is divided into three sub-concepts:

- User needs which classify the users (Table 7.1) and their respective needs with respect to the statistical data;
- User satisfaction, comprising measures to determine user satisfaction;
- Completeness, measuring the extent to which all statistics that are needed are available.

<sup>(20)</sup> The SIMS defines the ESS reference metadata report structure along the ESMS. The ESMS is technically implemented as SDMX-compliant metadata structure definition (MSD) using the Levels 1 and 2 of the respective concepts of the SIMS ('user-oriented quality reports'). The 'producer-oriented quality reports' can refer to the Levels 1, 2, 3 and 4 of the SIMS. See also paragraph 7.6.

**Table 7.1: Classification and description of users**

User	Description of user
<b>Eurostat level</b>	
<b>DGs of the Commission</b>	Directorates General of the European Commission
<b>Other units within Eurostat</b>	National accounts, Labour force statistics
<b>Other users</b>	International organisations (ECB, OECD, etc.)
<b>Researchers</b>	Research institutions (universities, etc.)
<b>Public</b>	News agencies, branch organisations, businesses and other key users
<b>National level</b>	
<b>National Statistical Institute</b>	Different departments at NSIs: National Accounts, Short-term statistics, Business Register, Foreign Affiliates Statistics, Labour statistics, etc.
<b>Other users</b>	Ministries, Central Banks, etc.
<b>Researchers</b>	Research institutions (universities, etc.)
<b>Public</b>	News agencies, branch organisations, businesses and other key users

Relevance means that the available statistics answer the issues that are important to users. This dimension is measured by comparing the required datasets with ones that are available. Primarily, the relevance is addressed by the choice of data requirements as set by European legislation. However, the relevance also depends on how the data and metadata are disseminated, combined and/or flexibly prepared with a view to addressing user needs.

Particularly for ESS SBS, the user needs are seen in relation to the Commission policy DGs requests. At the national level, the relevance is measured by the degree of consultation with the main users of SBS data, which are national accounts, different ministries, Central Banks, and other appropriate users.

Regarding user satisfaction, the commonly used method is to perform surveys that measure the level of satisfaction regarding the availability of the data and their applicability.

## Box 7.2: Definition of the quality dimension Accuracy and Reliability

**Accuracy of data is the closeness of computations or estimates to the exact or true values that the statistics were intended to measure.**

The concept of accuracy relates a numerical estimate to its true value according to an agreed definition.

**Reliability is an attribute of statistics that measure as faithfully, accurately and consistently as possible the reality that they are designed to represent and implying that scientific criteria are used for the selection of sources, methods and procedures.**

*Source:* European Statistical System handbook for quality and metadata reports

Data accuracy is measured through two categories: sampling error and non-sampling error. Reliability requires the assurance and transparency in regard to accuracy. Revisions to correct inaccuracy shall be explained and regularly analysed in order to improve data sources, statistical processes and outputs.

Sampling error is defined as that part of the difference between a population value and an estimate derived from a random sample. Sampling errors arise from the fact that not all units of the targeted population are enumerated, but only a sample of them. Therefore, the information collected on the units in the sample may not perfectly reflect the information, which could have been collected for the whole population. The difference is the sampling error (Eurostat, Quality Glossary).

Non-sampling error refers to (unit and item) non-response error, imputation errors, frame coverage errors, and error due to units being out of scope. Missing, invalid or inconsistent responses could be resolved through an imputation procedure, by replacing the missing values or erroneous responses with value/response, to ensure correct and coherent records. The methodology used for imputation needs to be transparent, and its concrete application needs to be open to assessment.

In cases of unit non-response and there being no other information which can be utilised for imputation, reweighting based on auxiliary information (turnover, employment) might be applied to increase precision. The unit non-response rate is defined under the 'Quality indicators' part. The standard methods that are applied within ESS are post-stratification and calibration, methods that are the basis for the software developed in the past decades.

Framework coverage errors refer to over-coverage, under-coverage or misclassifications that might occur between the target population and the population frame. Usually, they can be discovered during data collection process. Over-coverage refers to those units that are found to be out of scope, due to being misclassified (e.g. market versus non-market activities) or resulting from duplication.

### Box 7.3: Definition of the quality dimension Timeliness and Punctuality

**Timeliness is the length of time between data availability and the event or phenomenon the data describe.**

**Punctuality is the time lag between the actual delivery of the data and the target date when it should have been delivered.**

*Source:* European Statistical System handbook for quality and metadata reports

Timeliness is measured as time elapsed between the last day of the reference period and the transmission, respectively publication, of results; in other words, it is the time needed to produce, transmit or disseminate the data.

In the case of SBS there are two categories:

- Timeliness for provisional data transmission – 10 months
- Timeliness for definitive data transmission – 18 months.

The punctuality of delivery/dissemination is calculated as the difference between the actual date of data delivery (according to the date of transmission to Eurostat) and the target date or dissemination calendar.

## Box 7.4: Definition of the quality dimension Accessibility and Clarity

**Accessibility and clarity mean the conditions and modalities by which users can access, use and interpret data.**

**Accessibility** is an attribute of statistical output describing the set of conditions and modalities by which users can obtain data and accompanying metadata.

**Clarity** is an attribute of statistical output describing the extent to which the data are accompanied by readily comprehensible metadata, including information on data quality, and the extent to which additional assistance is available to users to help them understand the data.

*Source:* European Statistical System handbook for quality and metadata reports

Accessibility or availability of statistical information refers to conditions and facilities available to the users to obtain or to access the statistical information (Table 7.2). To further assess the availability of SBS data, information is needed about national publication and any divergences of dissemination at national compared to the EU requirements.

**Table 7.2: Access facilities**

<b>Dissemination</b>	Press/News release, Tweet Publication: Statistical yearbook; Thematic publication Electronic publication Online database Microdata Other formats (tailor-made tables, email, etc.)
<b>Accessibility</b>	Documentation on methodology; documentation on quality management.

In the case of SBS, clarity refers to the existence of appropriate specific metadata that complement the given dataset and the location, where they can be found.

## Box 7.5: Definition of the quality dimension Coherence and Comparability

**Coherence and comparability mean the adequacy of statistics to be reliably combined in different ways and for various uses, and the extent to which differences between statistics can be attributed to differences between the true values of the statistical characteristics.**

**Coherence** refers to, and is measured in terms of, design metadata (i.e. concepts and methods) about the processes, whereas accuracy is measured and assessed in terms of operational metadata (sampling rates, data capture error rates, etc.) associated with the actual operations that produced the data.

**Comparability** can be seen as a special case of coherence, in which the focus is on comparisons between regions, countries, domains, and over time.

*Source:* European Statistical System handbook for quality and metadata reports

So as to assess the inter-temporal and geographical comparability of SBS data, it should be investigated whether the same concepts and methods were applied. In case data are not comparable there might be a break in time series. Particular reasons for breaks in time series in SBS data are changes in NACE classification and changes in the statistical units applied.

SBS and STS statistics measure – in broad terms – similar economic phenomena (performance of businesses) and they are related statistical domains. It is important to check whether the two domains do not diverge too much, as users frequently compare statistics from the two. Similar comparisons can be carried out between SBS and Business Demography.

Quality aspects of the (statistical-survey and administrative) input data used to produce Structural Business Statistics are more extensively presented in Chapter 5 of this manual.

### 7.3.3. Quality reports

The ESS Committee has endorsed an [ESS Standard for Quality Reports](#), in accordance with Article 12 of Regulation (EC) No 223/2009.

According to the General Implementing Act, Member States should provide standard metadata and quality reports for all business statistics, in accordance with Article 16 of Regulation (EU) 2019/2152 on European Business Statistics.

The SBS quality and metadata reports have been merged into one format covering the quality aspects that are useful, not only to the producers of the SBS statistics but also to the users.

The detailed contents of the quality reports are agreed in co-operation with the Member States. The Member States shall complete the quality reports and send them to Eurostat.

### 7.3.4. Quality indicators: non-response rate and coefficient of variation

The main quantitative quality indicators that Member States should compile and provide to Eurostat are non-response rates and coefficients of variation.

The variables for which the above indicators should be computed are: Number of active enterprises, Net turnover, Value added, Employee benefits expense, Gross investment in tangible non-current assets, and Number of employees and self-employed persons.

The non-response rate should be compiled as weighted unit non-response rates for the data collected through survey or extracted from administrative sources. Unit non-response shall be weighted, preferably by number of employees and self-employed persons. The net turnover may be used as an alternative.

The non-response rate is, generally, calculated as the ratio between the number of employees and self-employed persons of the non-respondent enterprises, and the total number of employees and self-employed persons for a given aggregate (NACE code).

The following formula is used:

$$\frac{\sum \text{weighted non - respondent units used in estimation}}{\sum \text{weighted total of units in the sample}} \times 100$$

The coefficient of variation (CV) measures the 'accuracy' of the estimates as the ratio of the standard deviation of the estimate to the value of that estimate. For SBS purposes, the coefficient of variation should be expressed as a percentage. The lower the value of the coefficient of variation, the more precise is the estimate.



The coefficient of variation is calculated as:

$$CV = \sqrt{\text{estimate of the sampling variance}} / \text{estimated value}$$

Within the ESS, different tools are used to compute the CV. They can be statistical software, such as SAS, or tailor-made software. Statistics Sweden has developed a SAS macro, CLAN/ETOS, which is freely available. Other kinds of statistical software such as R include special packages allowing the calculation of standard deviation and the CV.

The series of quality indicators that are to be compiled and delivered to Eurostat are:

- Coefficients of variation for Net turnover at NACE Rev. 2 3-digit level;
- Coefficients of variation for the variables Number of active enterprises, Net turnover, Value added, Employee benefits expense, Gross investment in tangible non-current assets, and Number of employees, at NACE Rev 2 Section level;
- Coefficients of variation for the variables Number of active enterprises, Net turnover, Value added, and Number of employees and self-employed persons, at NACE Rev. 2 Section level and by size class;
- Weighted unit non-response rates at NACE Rev. 2 3-digit level.

The record structure is also defined for the reporting of the two quality indicators coefficient of variation and unit non-response rate.

The dataset structure is: series, year, territorial unit, size class, economic activity, variable, indicator, and indicator value. Each record contains one and only one quality indicator to be reported.

The indicator value is the numeric value of the quality indicator multiplied by 10 and subsequently rounded to the nearest integer.

### 7.3.5. Data revision

Data revision refers to any change in the value of a statistic that has already been released to the public. Data may be subject to revision under planned reviews (regular revision), ad hoc revisions due to errors, or due to methodological reasons, such as changes of classifications, statistical units, changes in concepts and definitions, new data sources, or other changes in the compilation framework and methodology.

There are two aspects concerning data revision: data revision policy and data revision practice. Revision policy is the set of rules that assure transparency of disseminated data. Revision practice refers to the way in which the SBS data producers apply the revision policy.

According to the European Statistics Code of Practice, several principles should be applied in the case of data revisions, such as advance notice on major revisions or changes in methodology. Revisions should follow standard, well-established and transparent procedures, and revisions should be regularly analysed, in order to improve source data, statistical processes and outputs. For more details, see Section 18.3 of the EBS Manual.

In case an error is found after publication (non-regular revision), the error should be corrected as soon as possible. In the meantime, the corrected results are immediately published after their recalculation and validation, along with information on the causes of the error and on their impact on the results.

In the case of SBS data compilation, preliminary data are to be transmitted 10 months after the end of the reference year and final data 18 months after the end of the reference year. Thus, preliminary data are later revised, when more and better source data become available. The quality of the preliminary data is measured by comparing them with the final value.

Eurostat calculates Relative Mean Absolute Revisions (RMAR) for the variables Net turnover and Number of employees and self-employed persons, preliminary data and final data and RMAR Average

size of revisions.

The formula used to compile **RMAR**

$$RMAR = \frac{\sum_{t=1}^T |R_t|}{\sum_{t=1}^T |\hat{\theta}_{L_t}|} = \frac{\sum_{t=1}^T |\hat{\theta}_{L_t} - \hat{\theta}_{P_t}|}{\sum_{t=1}^T |\hat{\theta}_{L_t}|}$$

$\hat{\theta}_{L_t}$  = Final (latest) estimate  
 $\hat{\theta}_{P_t}$  = Preliminary estimate

This indicator is simply the mean absolute revision scaled in terms of the size of the earlier estimates. It is useful as a measure of the robustness of the first published estimates (preliminary data). The RMAR indicator facilitates international comparisons, and comparisons over time periods provide information on the stability of the estimates.

# 8

## Data transmission

### 8.1. Introduction

This chapter provides a general overview of data validation rules, confidentiality and data transmission rules. Section 8.2 deals with the validation of SBS data, the different validation levels and rules. Section 8.3 introduces the concept of confidentiality and the rules of flagging to compilers, providing them with examples of how to mark confidential data before their transmission to Eurostat. The compilers will be made familiar with how to transmit data to Eurostat in Section 8.4.

Further, Chapter 8 focuses on validating the data to ensure the quality of the statistical output as expected within the European Statistical System (ESS). Data quality can be improved by applying validation checks, which might be general or domain-specific. Data validation forms an essential part of the process of data collection, processing, compilation, and transmission, and it should be seen as being an important step in any statistical data workflow (see Section 6.5 of this manual).

The main aspects of data validation are described in [Chapter 11 of the EBS Manual](#). The [ESS Handbook – Methodology for data validation](#) and the [Business Architecture for ESS Validation](#) provide further guidance on validation concepts and their implementation in the statistical production process. The annexes further detail the Eurostat validation rules for SBS (see Annex 3)

This chapter refers both to European and national data validation. European validation takes place at Eurostat and at ESS level, while national validation is performed by the national compilers, in the Member States, before the data are submitted to Eurostat. This means that compilers of SBS bear the responsibility for the correctness of national data.

SBS compilers are made familiar with the transmission rules in place, developments and requirements in the SBS-EBS transmission of data. The transmission of data flows via [EDAMIS](#) (see also EBS Manual, Chapter 13) and SDMX (see also EBS Manual, Chapter 14) is explained.

### 8.2. Data validation

#### 8.2.1. At national and ESS level

The main goal of data validation is the achievement of good data quality. The main aspects of data validation rules (see Section 6.4 of this manual) are described in Chapter 11 of the EBS Manual, which defines data validation according to the Methodology for data validation manual as being: ‘an activity verifying whether or not a combination of values is a member of a set of acceptable combinations’ <sup>(21)</sup>

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<sup>(21)</sup> EBS-Manual, 2021 ed. p. 121

In this context, the EBS Manual relies on the outcome of the ESS Methodological handbook on validation and on the Business architecture for ESS validation. The [ESS Handbook — Methodology for data validation](#) — provides further guidance on validation concepts and their implementation in different statistical domains. Data validation, in this context, refers to the quality of national output data for European purposes, not to corrective actions. Prior to the transmission of data to Eurostat, Member States must apply the validation rules (validation under MS responsibility). After receiving the SBS data, Eurostat verifies that the Member States have performed their 'validation duties', by applying the same as well as additional validation rules (validation under Eurostat's responsibility) (see EBS Manual, Section 11.2). The annexes to this manual supplement the Eurostat validation rules. In the context of the ESS, data validation is assessed against quality standards for official statistics (see also [European Statistics Code of Practice - revised edition 2017](#) (ESCoP) and [EBS Manual](#), Section 11.1.2).

In addition to the description provided by the ESCoP, six further principles that apply to the validation process are detailed in Annex A to the [Business Architecture for ESS Validation](#). Additional information is also available under the dedicated section of the CROS portal.

Forming part of the quality framework for official statistics as defined by the European Statistics Code of Practice (ESCoP), data validation is based on '15 Principles covering the institutional environment, the statistical production processes and the output of statistics'. Data validation is also described in the Generic Statistical Business Process Model (GSBPM) (see Chapter 6 of this manual and [GSBPM](#)).

The ESCoP refers to the statistical output in its principles 11 to 15 and the [ESS Quality Assurance Framework](#) makes further references thereto. Validation principles are described in Annex A to the [Business Architecture for ESS Validation](#) with the aim of improving the validation process and, in particular, the designs of the IT and business architectures.

Data validation verifies whether or not variables and/or the combination of different variables are being transmitted in plausible combinations, in accordance with the definitions and the data requirements (Chapters 4 and 2 of this manual, respectively; see also ESS Handbook on Methodology for Data Validation, p. 8). A validation rule can also refer to a set of valid value combinations for a column, a data entry or to a larger set of data.

The ESS Validation process is based on a defined structure, standard code lists and a structure of the data files that are to be sent to Eurostat. In general, they apply to each statistical domain. The standard for Statistical Data and Metadata eXchange ([SDMX](#)) plays an important role in the formalisation and the standardisation of the exchange of data and metadata <sup>(22)</sup>. More detailed information on SDMX can be found under Section 8.4 below. In principle, validation rules are jointly agreed between Member States and Eurostat.

## 8.2.2. Data validation in the stages of the statistical production process

Data validation is performed at different phases of the statistical production process as described in the GSBPM (see [GSBPM](#) as well as Chapter 6 of this manual; for further details, see EBS Manual Section 11.1.4).

This subsection explains how SBS compilers ensure output validation rather than input validation. Input validation refers to a specific phase in the production process, which is linked to the activity of data collection (see GSBPM Sub-phase 2.5) and which also forms part of the compilers' work, in the statistical process. Output validation concerns the quality of the outputs produced (see GSBPM Sub-phase 6.2). There, validation is carried out in accordance with general quality frameworks. The flowchart in Figure 8.1 below describes the different GSBPM validation phases involving the statistical editing of data.

As laid down in GSBPM Sub-phase 2.5, data validation refers to validation in the design phase –

<sup>(22)</sup> <https://sdmx.org/>, [Euro-SDMX Registry](#) and the [SDMX Global Registry](#)

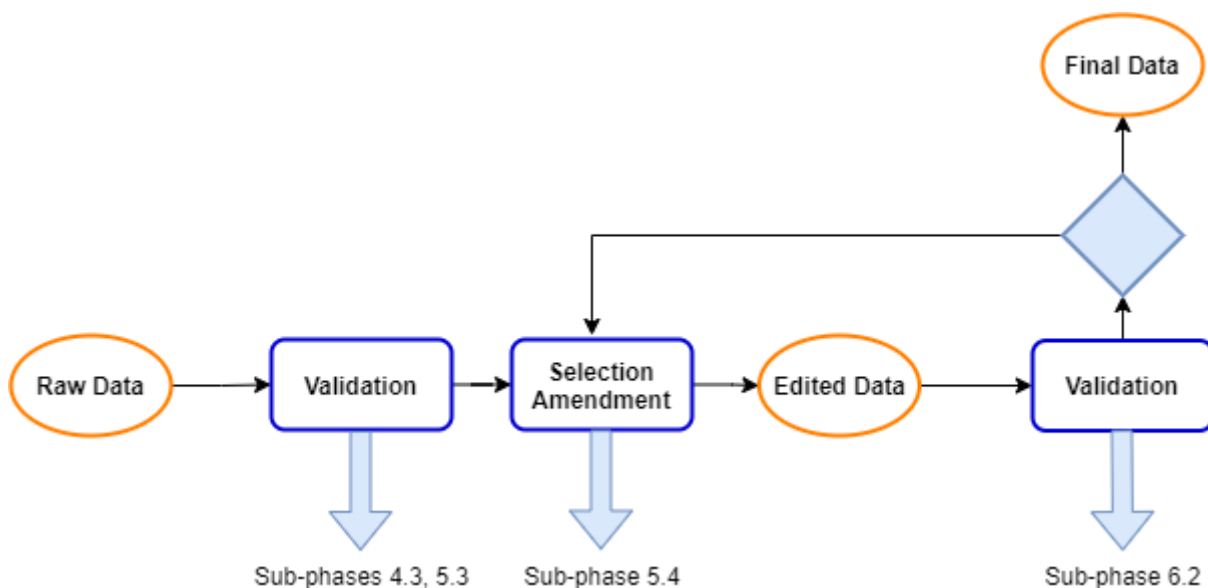
Design, processing and analysis. It includes routines for the coding, editing, imputing, estimating, integrating, validating, and finalising of data sets.

Validation is performed as a part of data collection, under GSBPM Sub-phase 4.3, which involves a basic validation of the files, not the actual validation of their content, e.g. checking that files have the correct format and that they contain the expected fields.

GSBPM Sub-phase 5.3 concerns examining the data, in order to identify potential problems, errors and discrepancies such as outliers, item non-response and miscoding. It may also be referred to as input data validation. This validation phase may be run iteratively. The data are validated against predefined edit rules, usually in a set order. It may involve the flagging of data for automatic or manual inspection or for editing. Review and validation can be applied to data from any type of source, both before and after integration. Whilst validation is treated as forming part of the 'Process' phase, in practice, some elements of validation may already take place alongside collection activities, particularly when modes such as web collection are being used. Whilst this sub-process is concerned with the detection of actual or potential errors, any corrective activities that actually change the data are carried out under Sub-phase 5.4 (Edit and impute).

GSBPM Sub-phase 6.2 entails output validation that falls in line with a general quality framework as well as with the expectations of the ESS. While the main difference between validation and editing is that corrections are performed in the editing phase, validation essentially ascertains whether there is a potential error or not.

**Figure 8.1:** Data validation during the production process



### 8.2.3. Validation levels

The validation service infrastructure is split into two groups, one for structural validations (STRUVAL) and one for content validations (CONVAL) (see SDMX <sup>(23)</sup>). Details of those two main forms of validations are presented below. Structural validation is referred to as validation Level 0 and a part of Level 1, while content validation refers to Levels 1 to 5. For further details, see [Chapter 11 of the EBS manual](#).

An overview of the different validation steps is presented in the EBS manual. It is summarised in Table 8.1, hereafter.

**Table 8.1: Overview of Validation Levels with contents and examples**

Validation level	Validation Content	Example
Validation level 0	Consistency with the expected IT structural requirements	Column has the expected format.
Validation level 1	Consistency within the dataset	Content of the first column (reporting country) is consistent with the data sender.
Validation level 2	Consistency with other datasets within the same domain and data source (including consistency over time)	New data referring to a new time period is not an outlier.
Validation level 3	Consistency within the same domain between different data sources (mirror checks)	Check whether data sent for quarterly sums to annual.
Validation level 4	Consistency between separate domains available within the same organisation	Check that the number of enterprises and employees are consistent for the same time period, in SBS and in Business demography.
Validation level 5	Consistency with data available in other organisations	Data sent to the ESS is consistent with data sent to the OECD.

Further information on validation levels can be found in the dedicated section of the Eurostat website. <sup>(24)</sup>

**STRUVAL** ensures that the files respect key elements by performing checks such as for: completeness errors, value errors or constraint violations. Those checks only focus on formal aspects of the data, and less on the content of the data files. This part refers to structural validation and it concerns the structure of the data.

A tutorial on structural validation is also available under the CROS portal of the European Commission. Please also see the information presented on SDMX in Section 11.2.2. of the EBS Manual – Standards for validation in the ESS.

During the process of structural validation, in a first phase (Level 0 and part of Level 1) <sup>(25)</sup> the compiler is required to perform checks. For example, at Level 0, one checks whether the files have the agreed format or whether the columns have the expected format (is the format alphanumeric or numeric, as expected?). Level 1 checks for consistency within the data set include:

- Checks for the completeness of files (in terms of mandatory fields). Are there:

<sup>(23)</sup> SDMX in chapter 2.2.

<sup>(24)</sup> [https://ec.europa.eu/eurostat/cros/content/validation-levels\\_en](https://ec.europa.eu/eurostat/cros/content/validation-levels_en)

<sup>(25)</sup> GSBPM Sub-phase 4.3

- Missing mandatory data items (data elements or attributes);
- Invalid data items;
- Duplicated series.
- Checks for the completeness of cells;
- Checks for invalid codes;
- Checks with respect to constraints defined in the data flow (e.g. a numerical value cannot exceed a certain value) and for any invalid numerical observation values;
- Checks for (other) consistency errors
  - e.g. do periods correspond to set frequencies?
  - e.g. do the confidentiality status/flags correspond to a set embargo date?

In a further example, the agreed format and template was used, the file contains the correct number of columns and rows, and no manual changes were performed on the file. Furthermore, the cells are found to have the correct format such as alphanumeric, numeric, etc. Through a number of steps, the systematic structural validation process results in the implementation of the SDMX standards in the SBS domain <sup>(26)</sup>. Through the application of STRUVAL, data validation is carried out with respect to the following key elements of SDMX compliance: in terms of checks of file format and completeness, in terms of the coding defined by the Data Structure Definition (DSD) and in terms of the constraints defined for respective data flows. For further information, see the section [Structural validation process](#) on the Eurostat website as well as Section 8.4 – Data transmission, below, which provides further details of SDMX.

EBS validation Levels 1 to 5 concern content validation (CONVAL). This group of steps of the validation process is based on 'validation rules and constraints formulated by the statistical domain managers responsible for the respective business processes and datasets. It is a generic validation service and may be utilised by production stakeholders as per operational preference: either by accessing the service through a centrally provided infrastructure or via integration with a local architecture. More information on the nominal content of this part of the validation process is available on [Eurostat's dedicated web page](#). CONVAL is based on EDIT, a validation tool used by over 20 statistical domains of the ESS. CONVAL is compatible with VTL 2.0 (see also Section 8.2.5 concerning tools and software).

The following checks can be carried out on the data file: basic logical checks, basic content checks, general plausibility and consistency checks, and advanced plausibility and consistency checks. Further information on content validation and the content validation process is available on Eurostat's dedicated [web page](#). The results of STRUVAL and CONVAL are presented in separate Validation Reports. For further details regarding the target state for validation in the ESS, please see Section 11.2 (in particular 11.2.2) of the [EBS Manual](#).

## 8.2.4. Tools and software for data validation

A number of services are available to SBS compilers for the validation of their statistical output, such as the SDMX, the Validation and Transformation Language (VTL), and the Common Statistical Production Architecture (CSPA) services (see also EBS Manual Chapter 11.2.2. – Standards for validation in the ESS). For further information please visit the SDMX info space.

SDMX is the pre-requisite for building up a validation framework to express the structure and the format of the data in a standardised and machine-readable way. The VTL has been developed under the SDMX Technical Working Group in order to express validation rules in a non-ambiguous language. In accordance with the CSPA standard, ESS members should develop relevant shared validation

<sup>(26)</sup> DSDs required for service execution are available in SDMX registries (e.g. Euro SDMX Registry, Global SDMX Registry). For more information, see Section 8.4 below.

services.

SDMX tools and services such as the SDMX registry, SDMX RI or SDMX converters should also be used by Member States, together with the validation tools and services that belong to their business architecture.

VTL is a standard defining validation and transformation rules (sets of operators, their syntax and semantics) for any kind of statistical data. More information can be found in Section 11.2.2 of the EBS Manual. For further information, it is also recommended to consult the dedicated [VTL web page](#) and to download the VTL 2.0 packages, including the [User manual](#), the [Reference manual](#) and the Grammar <sup>(27)</sup>.

CSPA is a reference architecture for statistical activity. It covers statistical production across the processes defined by the GSBPM. Eurostat and the ESS are currently working on the development of CSPA-compatible services for data validation. Eurostat hosts a catalogue of CSPA services available in the ESS, which may be accessed through the [UNECE CSPA Global Artefacts Catalogue](#).

Data validation can be performed on any IT system that is capable of managing multidimensional objects. A multidimensional object is a table, cube or hypercube that is defined in terms of its dimensions and its properties. The dimension values are used as a means of referencing cells in the object. Each cell belonging to the object is identified by a unique combination of the values of the object's dimensions. A multidimensional object has an optional code list for each dimension. The purpose of defining a code list is that of creating a constraint restricting the values that can be assigned to that dimension in the object. The decision, with which tools and services to perform the data validation, might depend on human and technical resources and it may vary from country to country. Using a common IT-infrastructure in the ESS would be of assistance in assessing the validation rules e.g. through the use of existing solutions integrated as CSPA-compliant services mentioned above.

The proposed validation service consists of several tools, which are orchestrated to perform the validation process. This includes eDAMIS (transporting the data files and validation reports), STRUVAL (the tool applied for the file's structural validation) <sup>(28)</sup> and CONVAL (the tool for content validation). STRUVAL and CONVAL together form what is referred as the 'InputHall'. This is the intermediate system, into which the data are delivered to Eurostat and validated before being submitted to the production system for processing and dissemination.

All data validation checks are performed in the InputHall (e.g. the file's structure, the number of columns, coding, data consistency rules, year-to-year comparisons).

SBS compilers have various options, when it comes to implementing the above-mentioned validation services by, for example, using autonomous validation services, replicated/shared validation services and a shared validation process. Those three different scenarios are further explained in Section 11.3 of the EBS Manual.

## 8.2.5. Validation checks and examples

SBS compilers must validate the data before transmitting them to Eurostat. For this purpose, they need to apply certain validation rules (see Annex 3). Eurostat verifies whether the validation rules have been applied correctly in the Member States. The results of this validation are then sent back to the Member States.

The validation rules relate to an acceptable combination of certain values. They take the following aspects into consideration: potential errors and discrepancies such as outliers, non-response or miscoding <sup>(29)</sup>.

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<sup>(27)</sup> available under: [VTL 2.0 | CROS \(europa.eu\)](#)

<sup>(28)</sup> as of the reference year 2021.

<sup>(29)</sup> GSBPM Sub-phase 5.3



The data validation can be performed on:

- Business population variables (e.g. Number of enterprises) by, for example, comparing the coverage and response rate to those of previous years, and checking the data provided for the variable against the previous year's;
- Output related variables (e.g. Turnover, Value added) by, for example, investigating the presence of outliers, in comparison to previous years, through comparing the data and checking their consistency;
- Input related labour input variables (e.g. Employment and Hours worked); Goods and services input variables (e.g. Total of purchases of goods and services); Capital input variables (e.g. Gross investment in machinery and equipment).

A number of logical checks are performed between different variables. The over-time consistency of data is also checked. This data validation mainly focuses on the validation of the SBS output variables. Validation checks are performed on or in the form of:

- Individual datasets and variables;
- Linked datasets;
- Year to year comparisons;
- Comparisons of final to preliminary data.

The most straightforward rules of data validation are consistency rules, e.g. the highest levels of NACE Rev. 2 Sections must equal the sum of the component levels. Consistency checks can also be performed across domains. If the same two variables, e.g. Value added, are included in two different datasets, the consistency checks should verify that those variables' numerical values are the same in both data sets.

The variable 'Number of enterprises' can be cross-checked against the corresponding variables in the Business register, by NACE or by size classes of enterprises. These cross-checks may also serve for grossing-up purposes, in cases of unit non-response.

In year-to-year comparisons, coefficients of variation can be calculated and compared for the data estimates made of a given variable for different reference years, e.g. relative growth of turnover. For the purpose of such calculations, outliers should be excluded. Missing values pertaining to enterprises that might have failed to report for the year in question can preliminarily be taken over from a previous year and replaced with the observed data or final estimates at a later stage.

Once basic completeness checks have been carried out, a time series analysis is carried out, so that abnormal observations (outliers) and revisions may be detected and further investigated. Doubtful confidentiality flags might require further investigation.

Revisions should be reported with the metadata files.

**Table 8.2:** Validation example – Structural validation (STRUVAL) <sup>(30)</sup>

Validation Structure	Validation Content	Status	Example
Completeness errors	<ul style="list-style-type: none"> <li>Missing mandatory data items (dimensions, data elements or attributes)</li> <li>Invalid data items (unexpected or undeclared dimensions, concepts or attributes)</li> <li>Duplicated series or observations</li> </ul>	Warning or error	<ul style="list-style-type: none"> <li>Reference year is missing.</li> <li>2018 data time series looks exactly the same as the 2017 series.</li> <li>Hierarchy for size-class breakdowns</li> </ul>
Value errors	<ul style="list-style-type: none"> <li>Invalid data formats or empty strings</li> <li>Invalid codes</li> <li>Invalid numerical (observation) values</li> </ul>	Warning or error	<ul style="list-style-type: none"> <li>Wrong product code</li> <li>Number of employees and self-employed persons does not seem correct.</li> </ul>
Constraint violations	<ul style="list-style-type: none"> <li>For content constraints, the tuple of the dimension concept values falls out of the allowed cube region (or falls in an explicitly excluded cube region).</li> <li>The required metadata from the metadata target region is missing.</li> </ul>	Warning or error	<ul style="list-style-type: none"> <li>File is missing.</li> </ul>
Consistency errors	<ul style="list-style-type: none"> <li>Periods do not correspond to frequencies.</li> <li>If EMBARGO_DATE is set, check that CONF_STATUS is 'N'</li> <li>SENDER_ID field from the header is inconsistent with REF_AREA</li> </ul>	Warning or error	<ul style="list-style-type: none"> <li>N is not flagged.</li> </ul>

<sup>(30)</sup> <https://ec.europa.eu/eurostat/web/sdmx-infospace/validation-transformation/content-validation>

**Table 8.3: Validation example – Content validation (CONVAL) <sup>(31)</sup>**

Validation Structure	Validation Content	Status	Example
Basic logical checks	Verifying expected relationships and consistency between cells within the same file	Warning or error	Value added not exceeding turnover  Different figures for value added and turnover
Basic content checks	Verifying whether observation values expected are present and data types are correct. Checks may include detection of:  a. Missing or unexpected series  b. Hole in time series  c. Zero values  d. Negative values  e. Fixed range checks.	Warning or error	A) Data for the latest year are missing Data for the previous year or the latest available year are missing, thus values are significantly abnormal.  B) Some data in the time series are missing.  C) Turnover for a given industry is "0", e.g. automotive industry in Germany displays the value "0".  D) Turnover is negative <sup>(32)</sup>
General plausibility and consistency checks	Vertical and horizontal validations within the dataset. Checks may include inspection of:  a. Additivity of breakdowns  b. Outliers  c. Consistency between values  d. Unadjusted and adjusted series	Warning or error	E ) Sum of the turnover of all NACE activities cannot exceed the reported total. Employment in specific industries cannot exceed a certain value.
Advanced plausibility and consistency checks	Perform validation checks between several related datasets	Warning or error	

<sup>(31)</sup> <https://ec.europa.eu/eurostat/web/sdmx-infospace/validation-transformation/content-validation/content-validation-process>

<sup>(32)</sup> 'A negative turnover will generate a warning despite the fact that, in rare cases, turnover can be negative (e.g. in a possible case of inventory management practices).'

**Table 8.4:** Validation rule example – Value added and turnover <sup>(33)</sup>

Validation Number	Validation Rule	Status	Example
1	Value added ≤ Net Turnover	Warning	<p>Value added should not exceed turnover (as, for example, costs are subtracted).</p> <p>Turnover comprises the totals invoiced by the observation unit during the reference period: this corresponds to the total value of market sales of goods and services to third parties.</p> <p>Includes:</p> <p>all duties and taxes on the goods or services invoiced by the unit with the exception of value-added tax (VAT) invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover;</p> <p>all other charges (transport, packaging, etc.) passed on to the customer, even if those charges are listed separately on the invoice.</p> <p>Excludes:</p> <p>income classified as other operating income, financial income and extraordinary income in company accounts;</p> <p>operating subsidies received from public authorities or the institutions of the European Union (EU).</p> <p>Gross Value Added (GVA) (ESA 2010, 9.31) is defined as output value at basic prices less intermediate consumption valued at purchasers' prices. GVA is calculated before consumption of fixed capita.</p> <p><b>Thus (usually) value added cannot exceed turnover</b></p>

In the next example (Table 8.5), the numerical figures show that the sizes of value added data do not exceed those of turnover data. For NACE 'Transportation and storage', the value for turnover is 40 000 for 2009, the corresponding value for value added is 13 000. Therefore, the figures can be considered to be correct and can go on to be validated. No error message will be appended to the dataset in this case.

<sup>(33)</sup> Validation rules Eurostat

**Table 8.5:** Example of value added and turnover figures

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Net turnover or gross premiums written (millions euro)</b>										
Member State	40 000	40 500	41 000	42 000	42 005	42 535	45 852	45 852	45 689	47 000
<b>Value added at factor cost (millions euro)</b>										
Member State	13 000	13 005	14 000	14 023	14 050	14 055	15 500	15 500	15 750	16 000

Source: Fictitious data

Table 8.6 gives a further example of value added and turnover figures. The value for value added is reported as being 45 000 (2009). As value added exceeds turnover, the compiler should receive an error message or warning during the data validation.

**Table 8.6:** Example of value added and turnover figures

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Net turnover or gross premiums written (millions euro)</b>										
Member State	40 000	40 500	41 000	42 000	42 005	42 535	45 852	45 852	45 689	47 000
<b>Value added at factor cost (millions euro)</b>										
Member State	<b>45 000</b>	13 005	14 000	14 023	14 050	14 055	15 500	15 500	15 750	16 000

Source: Fictitious data

Turnover jumps to 90 000 in 2018, in the next example (Table 8.7). This value can be considered to be an outlier and a warning should be signalled. It is not plausible for the turnover of an industry in a given country to have doubled, in comparison to the previous year.

**Table 8.7:** Example of value added and turnover figures <sup>(34)</sup>

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Net turnover or gross premiums written (millions euro)</b>										
Member State	40 000	40 500	41 000	42 000	42 005	42 535	45 852	45 852	45 689	<b>90 000</b>
<b>Value added at factor cost (millions euro)</b>										
Member State	13 000	13 005	14 000	14 023	14 050	14 055	15 500	15 500	15 750	15 750

Source: Fictitious data

In Table 8.8, value added figure reported for 2018 is remarkably high and that it does not fit in the series. It seems also not plausible for the value added of an industry in a certain country to be so close to turnover. This value can be considered to be an outlier.

**Table 8.8:** Example of value added and turnover figures

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Turnover or gross premiums written (millions euro)</b>										
Member State	40 000	40 500	41 000	42 000	42 005	42 535	45 852	45 852	45 689	47 000
<b>Value added at factor cost (millions euro)</b>										
Member State	13 000	13 005	14 000	14 023	14 050	14 055	15 500	15 500	15 750	<b>45 000</b>

Source: Fictitious data

A number of quality checks need to be performed on the SBS data: the compiler can automatically run arithmetic and logical tests (process of data entry) in order to attain greater data completeness, check

<sup>(34)</sup> Year-to-year checks should also include the number of enterprises in year t-1. Turnover for the number of enterprises for the reference year instead should be compared. The relation for year t with the relation calculated for t-1 has to be calculated.

the correctness of the codes used and see whether values have been introduced correctly (define whether the value of the cell can have value '0' and receive an error message if the cell is empty).

Quality checks may be run on values that are suspicious due to the fact that they lie outside a specific range, for example, when comparing to previous-year values. Inconsistencies that cannot be explained, e.g. a new enterprise unit in a NACE Section reporting considerable turnover, should be investigated by the compiler.

In order to also check cross-domain consistency, in the case of certain variables, comparisons can be performed with respect to other datasets: surveys including short-term and investment surveys, Prodcop, external trade statistics, and the Business register. For example, imports and exports of financial services could be compared to NACE Section K 66 figures, in order to detect whether erroneous data have been reported for the financial activities of enterprises.

Figures that appear implausible might be corrected automatically for small units, based on the previous year's figures for the same unit for example, if the impact on overall figures is negligible.

## 8.2.6. Transfer of data via eDAMIS

Validation using STRUVAL and CONVAL is performed automatically on each data transmission. The validation services send automated notifications bearing the validation results only (success or error) via email, while detailed reports are available for download from eDAMIS (see also EBS Manual, Section 11.3.2).

At Eurostat, the series are checked automatically for syntactical correctness, completeness and consistency.

The configuration of the EBS-SBS dataset and the validation workflow enable the automated checking of each data transmission to Eurostat. Two parallel sets of eDamis channels are foreseen: one is used for the process of pre-validation of the Member State files, and the other is used for the official transmission of the data. Prior to an official transmission, all data files should be pre-validated through eDAMIS. The files used for pre-validation are not forwarded to Eurostat's data production system, but rather deleted immediately after the pre-validation. eDAMIS sends feedback on the validation results. For further general information and for practical guidance, please consult the eDAMIS web portal <sup>(35)</sup>.

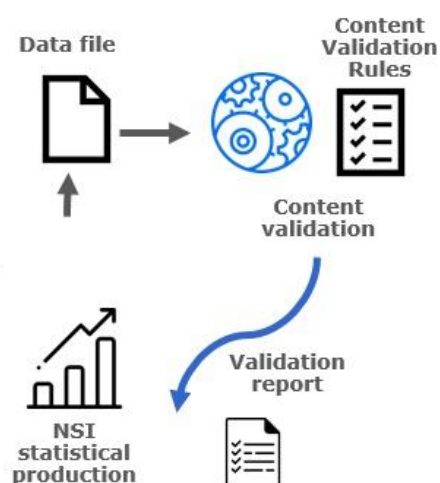
### 8.2.6.1. PRE-VALIDATION

Eurostat provides tools for pre-validation, where data are only submitted for the purpose of validation. Transmissions can be repeated for the purpose of validating the correctness of the data as a whole.

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<sup>(35)</sup> EU login authentication required.

Figure 8.2: Example of pre-validation



### 8.2.6.2. OFFICIAL DATA TRANSMISSION

Once validation problems have been resolved and the data are ready, the official transmission can go ahead. The data are considered as having been officially transmitted once there are no errors in the validation report.

Further examples of pre-validation and validation are provided in Annex 3.

### 8.2.6.3. INTER-SERIES VALIDATION FLOWS

The above-mentioned validation flows apply to single series, including year-to-year comparisons. New validation flows are to be used, in the case of the inter-series validations.

In case 'warnings' are emitted, senders are requested to provide a report with explanations (see Annex 4). This allows the domain manager at Eurostat to process the received data in the production system.

Table 8.9: Example of validation rules and results

Report metrics	Outcome
<b>ERROR &gt; 0</b>	<b>Automatic rejection</b> (not forwarded to Eurostat production)
<b>ERROR = 0</b> <b>WARNING &gt; 0</b>	<b>WARNING, file have to be reviewed manually by Domain Manager</b> (forwarded to Eurostat production if Domain Manager accepts the warnings, rejected otherwise)
<b>ERROR = 0</b> <b>WARNING = 0</b> <b>INFO &gt; 0</b>	<b>Automatically accepted – validation report contains INFO-level failures</b> (forwarded to Eurostat production)
<b>ERROR = 0</b> <b>WARNING = 0</b> <b>INFO = 0</b>	<b>Automatically accepted</b> (forwarded to Eurostat production)

## 8.3. Confidentiality

This section introduces the main aspects of confidentiality as a fundamental principle of European Statistics, as defined by [Regulation \(EC\) 223/2009](#), by [Commission Regulation \(EU\) No 557/2013](#) and by the [European Statistical Code of Practice \(ESCoP\)](#).

Regulation (EC) No 223/2009 on European statistics (recital 24 and Article 20(4)) of 11 March 2009 (OJ L 87, p. 164), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to those confidential data with due account for technical developments and the requirements of users in a democratic society.

**‘Confidential data’** means data which allow statistical units to be identified, either directly or indirectly, thereby disclosing individual information. Confidentiality aims at protecting data from unauthorised disclosure that could be prejudicial or harmful to the interest of the source or other relevant parties. To determine whether a statistical unit is identifiable, account shall be taken of all relevant means that might reasonably be used by a third party to identify the statistical unit.

Confidentiality rules are determined at national level. In order for Eurostat not to publish confidential data, the compiler needs to indicate with the data transmission, which data are confidential. In order to mark confidentiality through so-called ‘flagging’, compilers should make use of different attributes indicating the confidentiality status.

The labelling of different confidentiality status is commonly called ‘flagging’ as a certain code is introduced to the data entry submitted. That code allows Eurostat to process the data correctly, for the purpose of compiling the European aggregates, and for example not to publish data that are not supposed to be public. It is however recommended to make careful and restrained use of flags, i.e. most cells should not be flagged.

Different status can be attributed to data, e.g. ‘free for publication’ (no flagging), meaning data can be released, or ‘confidential’, meaning that data are flagged and should not be published. Furthermore, although data may have been flagged ‘confidential’, if so permitted, they may be shared internally and restricted use may be made of those data.

The confidentiality status attributes and their implications for the quality of EU/EA aggregates, as well as the coordination between SBS compilers in different Member States, are explained hereafter. Depending on the status of national confidentiality, there are several implications on how European aggregates are to be published.

Data used for the production of statistics by national and EU authorities are considered confidential if statistical units can be identified, either directly or indirectly), and if information about individuals or businesses can be disclosed as a result (see Annex 5).

- Direct identification means identification of the respondent (statistical unit) from their formal identifiers (e.g. name, address, identification number).
- Indirect identification means inferring a respondent's identity through a combination of variables or characteristics (e.g. age, gender, education, etc.).

Statistical disclosure control can be ensured through physical protection and statistical disclosure control (SDC). For further details, [refer to the Eurostat website](#) <sup>(36)</sup>.

Confidentiality rules are based on the number of enterprises. Two criteria are relevant to the confidential disclosure:

- Criterion A – data refer to less than three statistical units;
- Criterion B – one or a few enterprises contribute to more than 85 % of the total volume of aggregated data.

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<sup>(36)</sup> <https://ec.europa.eu/eurostat/web/research-methodology/statistical-confidentiality>



**Table 8.10: Most common criteria (confidentiality)**

Criterion	Context
A	The number of companies in the market is limited, e.g. fewer than three companies contribute to a single data cell.
B	The company is in a dominant position in the market (for instance, representing at least 85 % of total trade) or at least it is an important stakeholder for a specific data cell.

In its description of SDMX data exchange and the recommendations it makes, [Guidelines for confidentiality and Embargo](#) shows how to present flags for different use cases. The hierarchy applying to SDMX flags is available from Eurostat. The rules for flagging should be consistent with the requirements of SDMX and [Eurobase](#).

SDMX defines attributes for reporting flags, for example:

- CONF\_STATUS (and CONF\_STATUS\_1) to report information referring to confidentiality and restrictions in publishing and sharing the value;
- OBS\_STATUS (and OBS\_STATUS\_1) for other information on status.

Non-confidential national and EU data are released at the finest possible level of detail. Yet the general principle that 'the higher the level of aggregation (the more aggregated the data), the better the quality' applies to SBS. Detailed data for small countries need to be used with a certain caution.

For further details on how to apply confidentiality (technically), given that confidentiality flags form part of data transmission, see Section 8.4 – Data transmission.

For further information on the combination and the order of flags accepted in the SBS domain, see Annex 5.

Table 8.11 provides an overview of the flags that are accepted and used in SBS.

**Table 8.11: Overview of the flags accepted and used in Business Statistics and in the SBS domain**

Value	Cell	SDMX variable	Description
(No flag)	all	all	Standard situation
C	non-empty (empty)	CONF_STATUS	Confidential value
N	non-empty (empty)	CONF_STATUS	Not for publication, restricted to internal use only <sup>(37)</sup>
A	non-empty (empty)	CONF_STATUS_1	Confidential value: too few statistical units
M	empty	OBS-STATUS	Missing value, data cannot exist
G	non-empty	OBS-STATUS [1]	Experimental value
B	non-empty	OBS-STATUS [1]	Time series break
D	non-empty	OBS-STATUS [1]	Definition differs

<sup>(37)</sup> These observations, though not publishable, can be shared, for internal use only following the appropriate agreements. This flag should not be used with an observation that reveals data of individual respondents. In the latter case, the observation should be flagged as 'confidential statistical information' (see next row). No secondary confidentiality treatment is done for cells with N-flag.

Value	Cell	SDMX variable	Description
E	non-empty	OBS-STATUS [1]	Estimated value
P	non-empty	OBS-STATUS [1]	Provisional value
U	non-empty	OBS-STATUS [1]	Low reliability

OBS-STATUS [1] means either OBS-STATUS or OBS\_STATUS\_1

## 8.4. Data transmission

This section explains the transmission of SBS data by national data compilers to Eurostat. In accordance with the provisions of the EBS regulation, data transmission should take place in SDMX (this is the only format that will be accepted, from 2024 onwards). The transmission and the delivery of datasets is managed by eDAMIS (Electronic Data Files Administration and Management Information System).

Data should be transmitted to Eurostat through eDAMIS, Eurostat's single entry point for data transmission. Further details are available under: [Data exchange in business statistics \(Part 1\): eDAMIS](#). Section 13.2 of the EBS Manual describes the main features of eDAMIS.

The eDAMIS web portal offers automated transmission methods to send or receive data files of any format and size. One can access the [eDAMIS web portal \(EWP\)](#) via 'EU Login' user authentication. Eurostat's data transmission helpdesk – eDAMIS Support is the contact point for help with data transmission and data transmission tools. Further information is available on the [eDAMIS info space](#) <sup>(38)</sup>.

Sponsored by seven international organisations including Eurostat, Statistical Data and Metadata eXchange (SDMX) is an initiative designed to manage and automate the process of data and metadata exchange. This standard describes statistical data and metadata. It strives towards the more efficient exchange of data between organisations. SDMX is made up of the following key components: a) an information model describing the data and metadata, b) a standard for automated communication, and c) an IT architecture and set of tools.

The format for data exchange is described under: [Data exchange in business statistics \(Part 2\): SDMX](#) (see also [EBS Manual](#), Chapter 14). More details are available from [Eurostat's SDMX Info space](#). An overview of SDMX IT tools can be found [here](#). All [technical specification documents](#) are available on the official site for the SDMX community. Information on the [Validation and Transformation Language \(VTL\)](#), as well as the user manuals and different packages are also available to users. Additional training and tutorials can be accessed through the [Eurostat website](#) and as well as through the [official SDMX site](#).

The SDMX information model describes statistics in a standard way. It identifies objects and their relationships. A description is necessary to represent data, in order to make them meaningful. The descriptors are modelled according to whether they are dimensions (identifying and describing data), attributes (providing additional information about the data) or measures (representing the phenomenon to be measured). The structural descriptors are brought together in the Data Structure Definition (DSD). This identifies the dimensions, attributes and measures of a data set, associating them with common code lists and concepts <sup>(39)</sup>. The DSD provides all the information necessary to fully describe the data transmitted.

<sup>(38)</sup> EU login authentication service required; For questions or comments on Eurostat's data transmission helpdesk, please contact: [ESTAT-SUPPORT-EDAMIS@ec.europa.eu](mailto:ESTAT-SUPPORT-EDAMIS@ec.europa.eu)

<sup>(39)</sup> <https://ec.europa.eu/eurostat/web/sdmx-infospace/sdmx-explained/what-and-why/sdmx-information-model>

Under the EBS implementing act, the SBS data might be reorganised in a manner that puts all the indicators that are required to be reported annually into one data flow. Two data flows are established for biannual indicators for business services, one for each statistical activity coverage required under the same reference year and with the same frequency. The two indicators on subcontracting for industry and construction are to be reported on in a single data flow since they are required for the same reference year every three years and with the same frequency. Similarly, the number of data flows are reduced from 4 to 1 for the preliminary data and for regional data.

The data transmission of SBS data flows under EBS Regulation will, consequently, consist of several data flows to be submitted. The DSD (Data Structure Definition) for SBS is presented in the annex to this manual.

Chapter 14.6 of the EBS-Manual provides an overview of the principles for data exchange standards under the provisions of the EBS Regulation. It makes the following distinctions:

- (a) EBS concepts and code lists that will be rendered SDMX-compliant should be used as much as possible.
- (b) The minimum set of SDMX concepts should be used in all DSDs for business and trade statistics (and for all statistics in general).
- (c) SDMX recommended concepts for all data structure definitions (DSDs);
- (d) SDMX cross-domain concepts to be used where relevant;
- (e) Business statistics shared concepts.

The above-mentioned principles imply that codes will be updated in some domains, Common code lists and DSDs facilitate the implementation of validation checks.

The DSD for the EBS-SBS is presented in the Table 8.12 (Business statistics shared concepts are defined in bold).

**Table 8.12: Example of elements of a Data Structure Definition (DSD)**

Concept ID	Concept name	Representation
FREQ (1)	Frequency	CL_FREQ
TABLENAME	Annual enterprise statistics	EBSSBS_FENT_A
TIME_PERIOD	Time period	Time format
REF_AREA (1)	Reference area	CL_AREA CL_REGIONAL
<b>NUMBER_EMPL (3)</b>	<b>Size class of number of employees and self-employed breakdown</b>	<b>CL_NB_EMPL</b>
<b>ACTIVITY(3)</b>	<b>Economic activity</b>	<b>CL_NACE</b>
<b>INDICATOR (3)</b>	SBS Statistical Indicator	<b>210101</b>
	<b>Number of active enterprises</b>	<b>220102</b>
	<b>Number of employees</b>	<b>250401</b>
	<b>Value added</b>	
OBS_VALUE	Observation value	Double
OBS_STATUS	Observation status	CL_OBS_STATUS
OBS_STATUS_1	Observation status	CL_OBS_STATUS_1

Concept ID	Concept name	Representation
CONF_STATUS (1)	Confidentiality status	CL_CONF_STATUS
<b>DOMINANCE(3)</b>	<b>The percentage dominance of one or two enterprises which dominate the data</b>	<b>Integer</b>
<b>SHARE_SECOND (3)</b>	<b>Share second largest unit</b>	<b>Integer</b>
UNIT_MEASURE (1)	Unit of measure	CL_UNIT
UNIT_MULT (1)	Unit multiplier	CL_UNIT_MULT
DECIMALS	Decimals	CL_DECIMALS
<b>PRODUCT</b>	<b>Product</b>	<b>CL_CPA_PRODUCT</b>
<b>TURNOVER (3)</b>	<b>Turnover size classes</b>	<b>CL_TURNOVER</b>
CLIENT_RESIDENCE	Residence of client	
COMMENT_OBS (2)	Comments to the observation Value	String

The data transmission rules in this chapter provide a general overview on the data transmission format, especially eDAMIS and the data exchange in SDMX. Further information on the technical particularities of these transmission rules is laid down in the annexes. The SBS compiler should be in close contact with the IT-department of his/her organisation.

Before starting the data transmission to Eurostat, compilers should take into consideration the following aspects concerning the transmission format of the data, the structure of the data and the data set.

Data files should be sent to Eurostat in [SDMX-EDI](#) (GESMES/TS) or [SDMX-ML](#)<sup>(40)</sup> format.

For information about the SDMX-ML format, please consult:

- [https://sdmx.org/?page\\_id=16](https://sdmx.org/?page_id=16) (SDMX-ML 2.0)
- [https://sdmx.org/?page\\_id=5008](https://sdmx.org/?page_id=5008) (SDMX-ML 2.1)

In summary, for the time being, data compilers are able to use one of the **three following formats**:

- SDMX-EDI (GESMES/TS) – to be phased out
- SDMX-ML compact format version 2.0
- **SDMX-ML compact format version 2.1 (recommended).**

SBS-compilers should send data to Eurostat's single entry point. It is compulsory to use eDAMIS for all transmissions of regular datasets to Eurostat.

This can be done in two ways:

- By using the eDAMIS Web Application on one's intranet (available in all EU Member State National Statistical Institutes and National Central Banks, etc). The data file can be encrypted.
- By using the eDAMIS Web Portal: <https://webgate.ec.europa.eu/edamis>. The data file can be encrypted.

<sup>(40)</sup> Transmission of data files in GESMES format should be phased out as soon as possible.

For further information, please consult the portal <sup>(41)</sup>:

- eDAMIS 4 Web Portal: <https://webgate.ec.europa.eu/edamis> <sup>(42)</sup>

All methods of data transmission allow data file encryption. For more information on the migration process and the new features of eDAMIS 4, please refer to the eDAMIS 4 Migration Info Space: <https://webgate.ec.europa.eu/fpfis/wikis/display/EDAMIS4MIG/EDAMIS+4+Migration+Info+Space>

User guides and instructional videos for eDAMIS 4 are available under:

<https://webgate.ec.europa.eu/fpfis/wikis/display/EDAMIS4MIG/EDAMIS+4+How+To+Videos>

Explanations about sending encrypted files to Eurostat can be found on the eDAMIS Help Center Website: <https://webgate.ec.europa.eu/edamis/helpcenter/website/tools/ewp/index.htm>

The SBS DSD comprises **dimensions and attributes**. Dimensions are used to uniquely identify a time series and, when joined together, they provide the 'time series key'. When defining a time series key using SDMX, a valid code must be assigned to each dimension of the DSD. Codification following the SBS DSD should be used for the transmission of annual, bi-annual, 3-yearly and 5-yearly data. Two further primary concepts form part of the DSD: i) TIME\_PERIOD, the period which the measured information refers to (its presentation is a 'Date/time stamp' ObservationalTimePeriod); ii) OBS\_VALUE, which is a field for reporting the actual value of the observation. In addition to the dimensions defined above, other statistical concepts are covered by attributes. Attributes provide descriptive and technical metadata.

The SBS DSD shares several dimensions and attributes with the EBS. Those dimensions may therefore include codes other than those used for the transmission. Code lists are comprehensive dictionaries that try to cover all possible concepts used in SBS and EBS, independently of whether they are used in actual data transmissions or not. A full list of codes can be found in Annex 4.

Data requirements are defined Chapter 2 of this manual.

SBS compilers data should send as few data files as possible by the transmission deadline and they should avoid any unnecessary transmission by, for example, sending incomplete files. The transmission of data should be carried out following an 'updates and revisions' approach. In that context, MSs only need to report:

- the full data set for the (last) reference period (updates); and
- all revised observations for previous periods, ensuring that all validation checks are met for all updated or revised periods after each data transmission.

Appropriate measures should be introduced at the beginning of each year for each data transmission, in order to ensure a reasonable level of efficiency, security and oversight of data reception and processing at Eurostat. The transmission rules apply to SBS-compilers in EU Member States, EFTA countries and Candidate Countries. A reporting timetable for data transmission is set up by Eurostat at the end of each calendar year.

The complete set of tables related to SBS are available in the Annexes to the EBS Manual and in Chapter 2 of this manual.

It is recommended that the annexes to this manual concerning deadlines, revisions and release dates, etc. be updated at the beginning of each year.

The EBS-SBS concepts and code lists are SDMX compatible (see Annex 4), a common code list for the concept INDICATOR is available. Information is provided in the annex, on which SDMX recommended concepts should be used in all DSDs for business and trade statistics (and for statistics in general):

<sup>(41)</sup> <https://webgate.ec.europa.eu/fpfis/wikis/display/EDAMIS4MIG/EDAMIS+4+Migration+Info+Space>

<sup>(42)</sup> By using the eDAMIS Web Portal. The eDAMIS 3 Web Portal has been suspended by the eDAMIS 4 Web portal, which provides substantial improvements over its previous version. The eDAMIS 4 Web Portal has been providing data transmission functionality since November 2018. The eDAMIS 3 Web Portal is expected to be discontinued on 31 January 2020 (subject to change).

CL\_CONF\_STATUS belongs to a common set of variables, which is coded in the same way in all domains.

SBS compilers should also use cross-domain concepts in the implementation of the SDMX DSD. See also Table 8.13 below.

**Table 8.13: SDMX Cross-domain concepts**

	Concept ID	Description
<b>SDMX cross-domain concepts to be used, where relevant</b>	ADJUSTMENT	Adjustment indicator
	AGE	Age-group breakdown
	BASE_YEAR	Base year
	TRANSFORMATION	Transformation needed for dissemination of, e.g. m-o-m or y-o-y growth rates, annual aggregates
	PRE_BREAK_VALUE	Pre-break observation value; the 'would-be' observation value of the reason for the 'break' did not show up
	EMBARGO_TIME	Embargo date; date and time when the observation is no longer under embargo
	CURRENCY	Currency breakdown
	SEX	Gender breakdown
	COMMENT_DSET	Comment for dataset
	COMMENT_OBS	Comment for observation
	COMMENT_TS	Comment for time series (e.g. break in series)
	COUNTERPART_AREA	Counterpart area

Also, wherever applicable, business statistics shared concepts should be used (Table 8.14):

**Table 8.14: SDMX Concepts for business statistics concepts**

	Concept ID	Description
<b>Business statistics shared concepts</b>	INDICATOR	Indicator
		(Indicator may be presented longitudinally (see also principle 6: for ITGS and PRODCOM))
	ACTIVITY	Economic activity
	PRODUCT/COMMODITY	Product
	FLOW	Flow
	SOCIOECONOMICS	Socio-economic objective breakdown
	NUMBER_EMPL	Size class of number of employed persons breakdown
	NUMBER_EMPLOYEES	Size class of number of employees breakdown

	Concept ID	Description
	TURNOVER	Size class of turnover breakdown
	DOMINANCE	Dominance
	SHARE_SECOND	Share of second statistical unit
<b>SDMX recommended concepts for all DSDs</b>	FREQ	Frequency
	REF_AREA	Reference area
	TIME_PERIOD	Time period of the data
	OBS_STATUS	Status of the observation, such as normal, estimated or provisional
	CONF_STATUS	Confidentiality status of the observation
	DECIMALS	Decimals, Number of decimals
	UNIT_MULT	Value by which the observation value needs to be multiplied, given as a power of 10
	UNIT_MEASURE	Unit of Measure

ACTIVITY: the codes for (special) aggregates of NACE codes differ from those used in dissemination and they may have to be updated in some domains.

NUMBER\_EMPL/NUMBER\_EMPLOYEES/TURNOVER: (note this concerns size-class dimensions and not the variables) the codes for the size classes may need to be updated in some domains.

The code lists should be checked and updated regularly as some codes might undergo revisions at the beginning of the year, e.g. CPA codes at the beginning of the year, revisions to NACE Rev. 2, implementation of new ISO or GEO codes. Thus, SBS compilers should also liaise with the unit that is responsible for classifications in their institutions and, if required, they should implement new code lists. In addition, very often, national particularities make it necessary to establish a national code. Naturally, data on certain NACE activities might be available in much more detail at a national level than at European level. Certain CPA products may also be provided at a higher level of detail than requested by Eurostat.

If the value of a transaction is nil or negligible, it should be reported as being zero and the cell should not be left empty. If no transactions are recorded for a specific item or if the economic activity does not exist at all, this should be reported as zero with observation status code 'M' – Missing value, data cannot exist.

Finally, a checklist has been established, which may help compilers to execute each step of the data transmission correctly:

### Box 8.1: Data transmission checklist

- Does the file have the correct format?
- Does the file have the correct name?
- Where must one send SBS data to?
- Is eDAMIS being used for data transmission?
- When does one need to send the file to Eurostat?
- Will be the same file be sent to other domains or institutions? If yes, when?
- Who is sending the file to Eurostat?
- Has pre-validation been performed through eDAMIS?

- Will a notification be sent to the receiver?
- How many data files will be sent to Eurostat?
- How does one send the data files?
- Which DSI (Data set identification) needs to accompany the data file?
- Which sign convention should be used?
- What about empty cells? How are they marked?
- How is confidentiality dealt with?
- Does the file contain confidential data? If yes, have data been flagged? Has Eurostat been informed about the confidentiality?
- Has CONF\_STATUS been used to mark confidentiality? Is that correct?
- Have the correct OBS\_STATUS and OBS\_STATUS\_1 status been used?
- Is the flag hierarchy correct?
- Are data under embargo? Has the right flag been used?
- Does the data set contain empty cells? Has it been checked, whether they are not incorrectly filled with '0'?
- Does the data set contain missing values? Has the OBS\_STATUS been set to M?
- How are revisions being dealt with? Does the file contain revisions? How many revisions are there, and how far back in time do they reach?
- When does one need to inform Eurostat about revisions?
- Which geographical breakdown is being used? Are there any changes in the code lists?
- Are there any changes in this year's code lists? Have the changes been implemented? Is a correspondence table being used?
- When are the changes being implemented? Who has checked the changes in the SBS domain?
- Who is responsible for sending variables to Eurostat?
- Which data are being sent: annual, bi-annual, multiannual? Is the correct data flow being used?
- Which data quality controls have been performed?



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- Eurostat Data Transmission Helpdesk:  
[ESTAT-SUPPORT-EDAMIS@ec.europa.eu](mailto:ESTAT-SUPPORT-EDAMIS@ec.europa.eu)

# Annexes

## Annex 1: Two country examples illustrating methods of consolidation

**Statistics Austria:** With respect to the consolidation of non-additive SBS variables of complex enterprises (i.e. enterprises, which consist of more than one legal unit), Statistics Austria has already implemented or envisages to implement three different methods of consolidation:

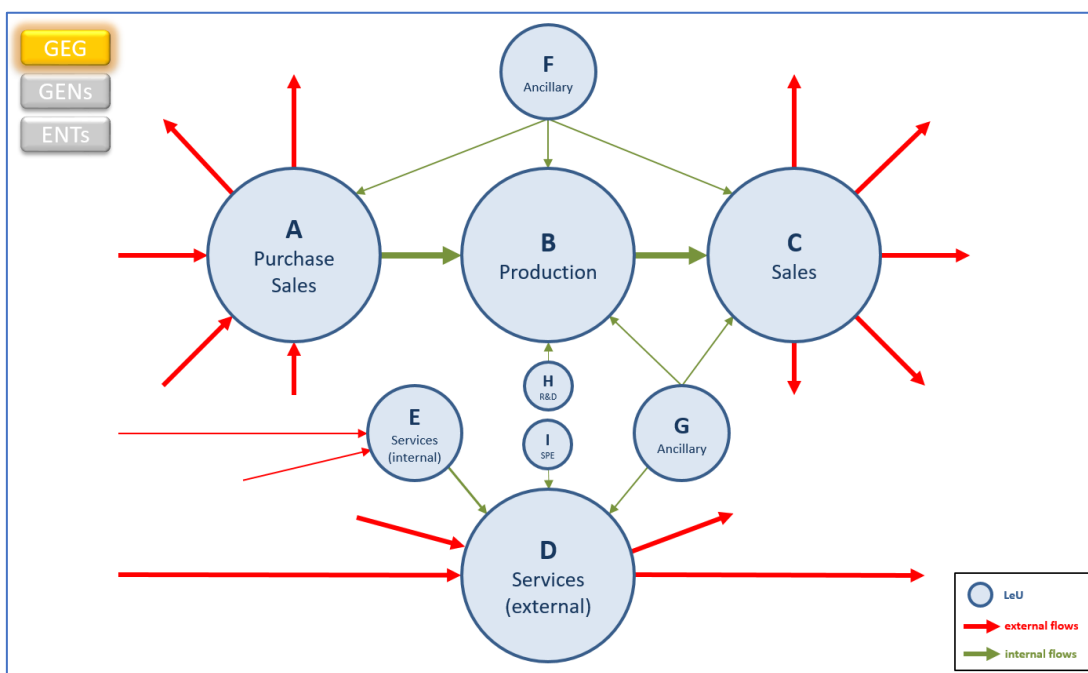
1. Manual consolidation by the profiling team based on an off-site analysis of all available data sources and additional information compiled from both the domestic legal units belonging to the enterprise group (obligatory) and its National Decision Centre (NDC) (voluntary),
2. Manual consolidation by the profiling team based on an off-site analysis of all available data sources and additional information compiled only from the domestic legal units belonging to the enterprise group (obligatory) and
3. Automatic consolidation. The first application of this method is envisaged for SBS 2021 at the latest.

Enterprise groups are allocated to these three consolidation methods based on their (1) size (number of employees and revenue of the global enterprise group (GEG)), (2) complexity (number of non-auxiliary activities in national ENTs, diversion of key functions across legal units of national ENTs) and (3) relevance of the GEG for GNI and related statistics. Consolidation methods (a) and (b) were implemented, beginning with SBS 2018.

### Example of enterprise group with consolidation method (a):

#### GEG-level

The consolidation process for intra-enterprise transactions of enterprises belonging to enterprise groups with consolidation method (a) starts at the global level by setting up a qualitative model of the group-internal flows and the role of each economically significant legal unit. The role of a legal unit is determined by both its main activity as well as by the nature of its suppliers and/or customers (are they part of the same statistical unit, i.e. internal, or not i.e. external) and can vary dependent on the perspective of the analysis ((GEG-level, GEN-level (global enterprise level) or national ENT-level)). The objective is to identify group-internal transactions (depicted as green arrows) at the GEG-level. These internal transactions might be consolidated at the final stage of the analysis (ENT-level).



In this example the non-ancillary activities of the GEG are each carried out by separate legal units. Hence, the roles within the GEG, such as purchase, production, sales or services, are also allocated across multiple entities.

Entity **A** for example buys raw materials exclusively on the free market (external) and sells them to a large extent to production entity **B**, which belongs to the same GEG (internal), but at the same time also supplies non-affiliated customers (external). From the perspective of the GEG, entity **A** thus carries out two roles: 'Purchase' and 'Sales'.

As mentioned, entity **B** is the production unit of the GEG, which means that it transforms raw materials to final products. Since the legal unit neither buys nor sells goods on the free market, its role cannot be 'Purchase' and/or 'Sales', but only 'Production'.

Entity **C** is the sales unit of the GEG, which means that it distributes all manufactured goods of the GEG on the free market (external). The exclusive supplier of entity **C** is entity **B**, which belongs to the same GEG. Therefore, entity **C**'s role must only be 'Sales' and not 'Purchase'.

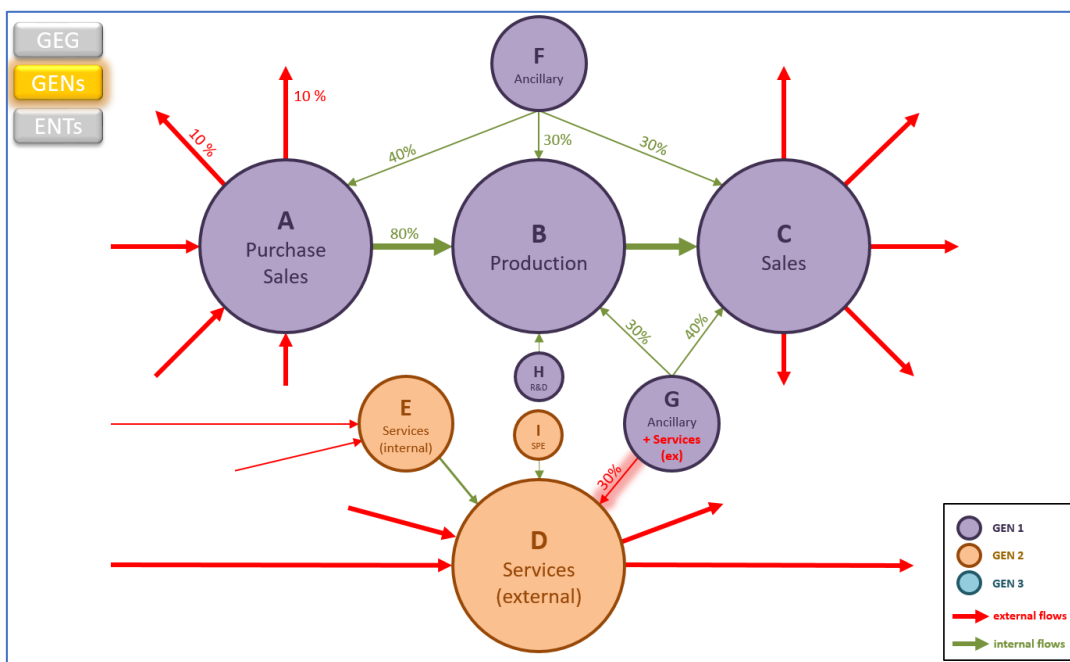
Besides manufacturing, the GEG also engages in the services industry. For this purpose, a separate legal unit, namely entity **D**, has been set up. It directly and exclusively serves customers outside the GEG (external) and accordingly exhibits the role of 'Services (external)'. However, there also exists a legal unit, which solely provides vertically integrated services to entity **D**, i.e. not to the free market, and thus executes the role 'Services (internal)'. This unit, entity **E**, does not perform plain ancillary activities but rather specialized and industry-specific services such as engineering, which regularly are not carried out in every GEG.

Last but not least, there are several legal units, which either perform all ancillary tasks (entities **F** and **G**) or engage in R&D (entity **H**) or serve purely as SPE (entity **I**) and exclusively support the actions of the main entities of the GEG and thus merely deliver internal services from the perspective of the GEG. In specific, entity **F** provides IT services to entities **A**, **B** and **C** whereas entity **G** is in charge of the strategic management <sup>(43)</sup> of the entire GEG.

<sup>(43)</sup> In order to simplify the example, only three legal units, namely entities B, C and D, were considered as consumers of entity G's strategic management services, although – in practice – all legal units of the GEG could be affected.

### GEN-level

After the analysis of the internal transactions at the GEG-level, all legal units of the GEG are allocated to their GENs according to the organisational structure of the GEG identified during the profiling process. At GEN-level, the role of an entity might differ from its role at GEG-level since transactions with legal units of the same GEG, but which belong to a different GEN, must be considered as external.



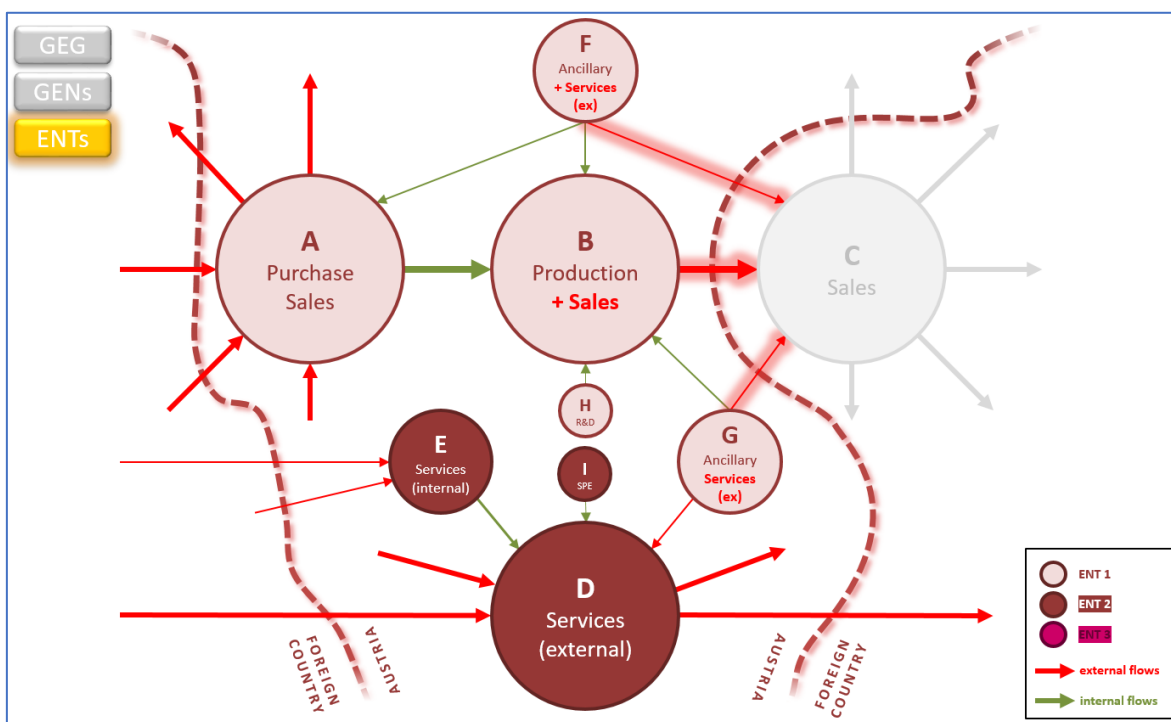
In the example, the GEG organises its operations via two separate reportable segments, which also were identified as the two GENs by the profiling team.<sup>(44)</sup> GEN1 incorporates all legal units directly engaged in the manufacturing and distribution of goods (entities **A**, **B** and **C**) as well as two legal units which exercise respective ancillary activities (entities **F** and **G**). GEN2, on the other hand, contains the legal units of the GEG's services division (entities **E** and **D**) and one associated SPE (entity **I**).

Notice that entity **G** also provides strategic management services to entity **D** (about 30 % in terms of revenue). However, since entity **D** belongs to a different GEN, all transactions with it have to be considered as external from entity **G**'s point of view. Thus, on the GEN-level, entity **G**, besides its ancillary services to members of the same GEN, also executes the role of 'Services (external)'. Consequently, revenues of entity **G** with entity **D** must not be consolidated at the final stage of the analysis (ENT-level).

### ENT-level

At the final stage of the analysis, all domestic legal units are allocated to their respective ENTs. In most cases, the ENTs of a GEG are identical to its truncated GENs, which means that all domestic legal units of a GEN constitute one domestic ENT. At the ENT-level, the role of an entity might differ from its role at GEG/GEN-level since transactions with legal units of the same GEN, but which are resident abroad, must be considered as external.

<sup>(44)</sup> Statistics Austria has decided not to split legal units across multiple GENs/ENTs.



In the example, there exist two ENTs. ENT1, which represents the domestic entities of GEN1, and ENT2, which incorporates all domestic entities of GEN2. GEN2 only consists of domestic legal units and hence there is no difference in the analysis when shifting from the GEN- to the ENT-level. However, this is not the case for GEN1, since it exhibits one foreign legal unit, namely entity **C**, which does not belong to ENT1. Consequently, all transactions of entities of ENT1 with entity **C** must be considered as external. Three entities, namely entities **B**, **F** and **G**, generate revenues with entity **C** and therefore their roles are affected when shifting to the ENT-level.

The most significant impact can be observed with respect to entity **B**. Since entity **B** relies on entity **C** as its sales unit, entity **C** represents the sole purchaser of its goods. However, at the ENT-level, entity **B**'s revenues have to be considered as purely external, which means, that entity **B** also exercises the role of 'Sales'.

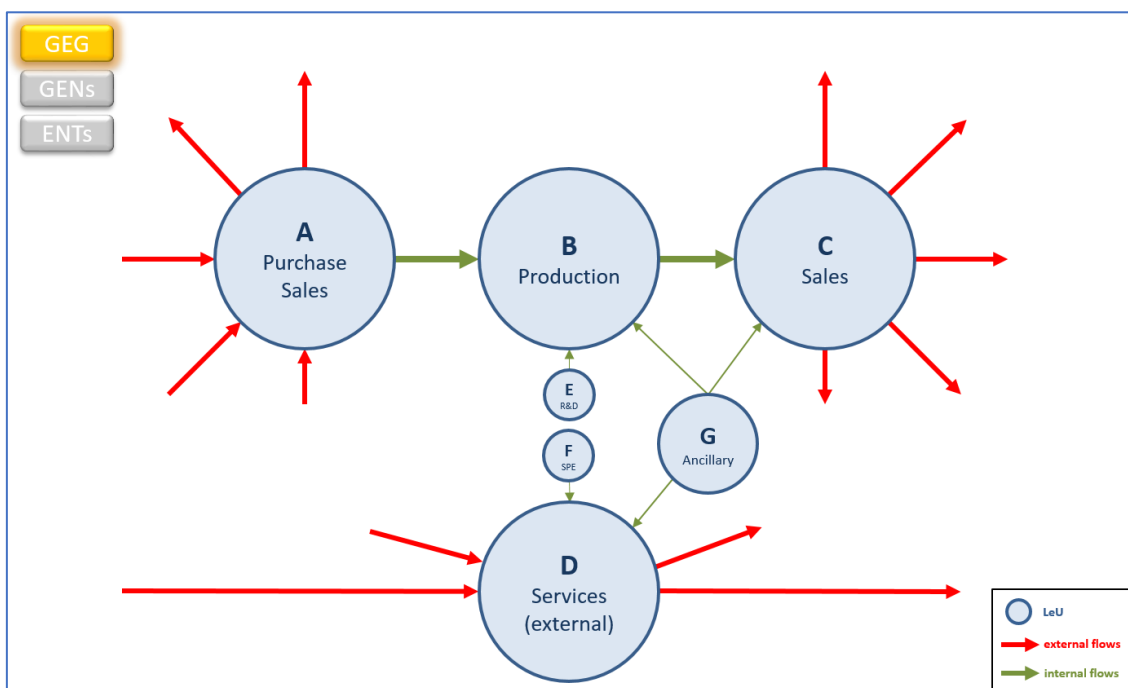
Entities **F** and **G** also generate revenues with entity **C**. Since they provide ancillary services, they must also exhibit the role of 'Services (external)' at the ENT-level.

As a result, the ENT-internal flows, which have to be excluded from the calculation of the SBS variables of each ENT of the GEG during the consolidation process, have been identified. For ENT1 revenues and related expenses from entity **F** to entities **A** and **B**, from entities **G** and **H** to entity **B** as well as from entity **A** to entity **B** have to be consolidated. With respect to ENT2, revenues and related expenses from entity **E** to entity **D** as well as from entity **I** to **D** must be consolidated.

#### Example of enterprise group with consolidation method (b):

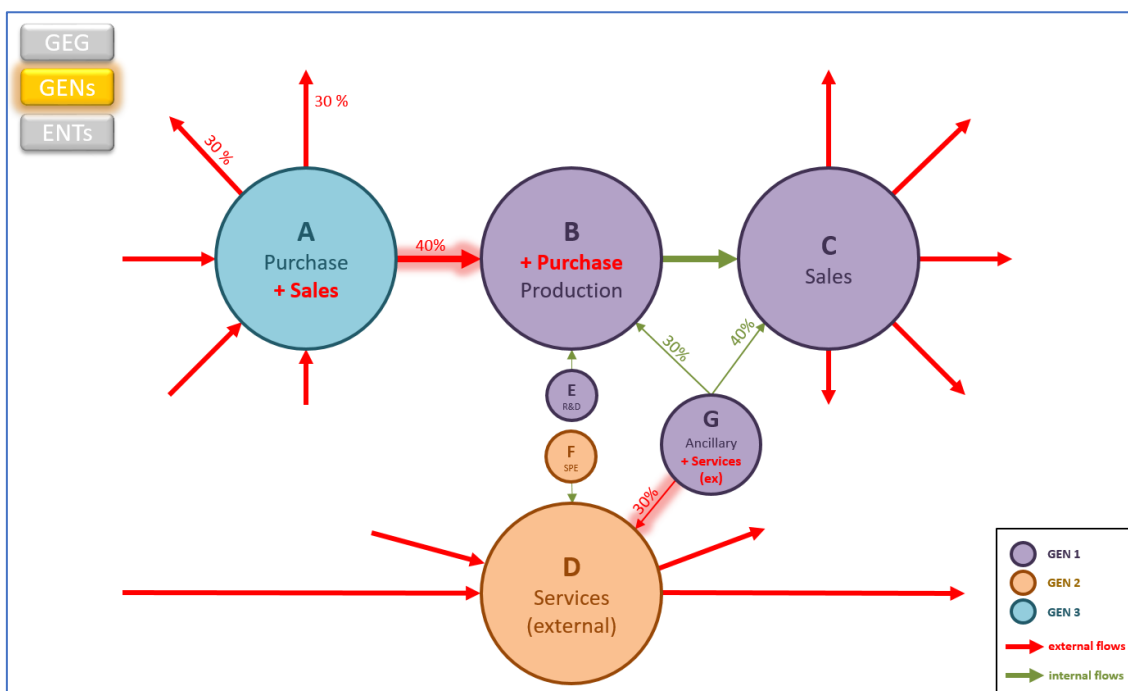
The consolidation process for intra-enterprise transactions of enterprises belonging to enterprise groups with consolidation method (b) is in principle similar to the process described for method (a). However, there are differences in terms of complexity and associated workload.

## GEG-level



At GEG-level, the case is, except for some simplifications, nearly similar to the example depicted for method (a). Please see above for further explanations.

## GEN-level





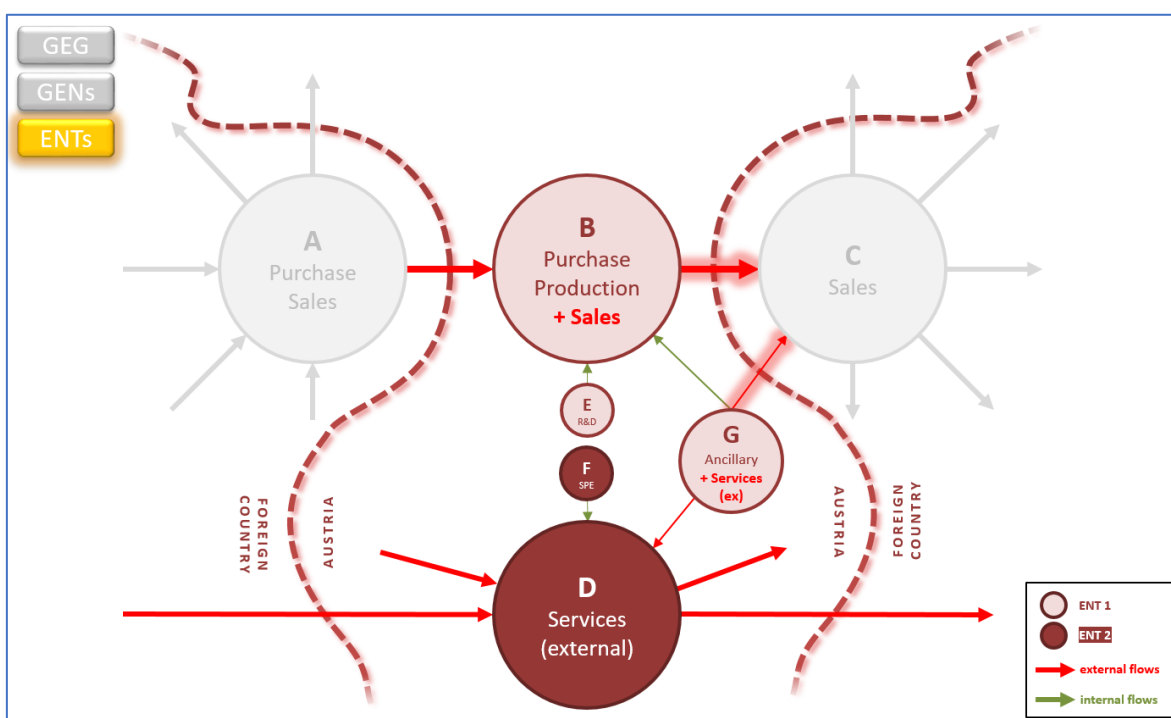
The GEG exhibits three GENs.

GEN1 incorporates the production unit (entity **B**), the sales unit (entity **C**), R&D (entity **E**) as well as one ancillary unit (entity **G**). However, at the GEN-level, entity **B** also exhibits the role of 'Production' since entity **A**, which is its sole supplier of raw materials, belongs to another GEN. Moreover, notice that entity **G** also provides management services to entity **D** (about 30 % in terms of revenue). However, since entity **D** belongs to a different GEN, all transactions with it have to be considered as external from entity **G**'s point of view. Thus, at GEN-level, entity **G**, besides its ancillary services to members of the same GEN, also executes the role of 'Services (external)'. Consequently, revenues of entity **G** with entity **D** must not be consolidated at the final stage of the analysis (ENT-level).

GEN2 contains the legal unit of the GEG's services division (entity **D**) and one associated SPE (entity **F**).

The third GEN of the GEG is GEN3. Entity **A** may be the central purchasing unit of the GEG, however, it ultimately sells the majority of its purchases (60 %) directly on the free market. Therefore, it has been assigned to a separate reportable segment by the group management and, as a result, to a separate GEN, namely GEN3, by the profiling team as well. Consequently, all revenues of entity **A**, including transactions with entity **B** (40 %), have to be treated as being external and thus must not be consolidated at the final stage of the analysis (ENT-level).

#### ENT-level



At the ENT-level the analysis becomes less complex. GEN3 does not consist of any resident entity and, therefore, exhibits no national ENT, and thus is not (directly) relevant for national SBS purposes. With respect to GEN1, only its production unit, entity **B**, and two supportive units, entities **E** and **G**, are resident domestically and constitute ENT1. Entity **B** also exhibits the role of 'Sales' at the ENT-level, since all of its products are sold cross-border to entity **C**. Moreover, entity **G**'s role of 'Services (external)' is emphasized by the fact, that its cross-border revenues to entity **C** must also be considered as external. Last but not least, the roles of entities **D** and **F** do not change, because GEN2 is identical to ENT2.

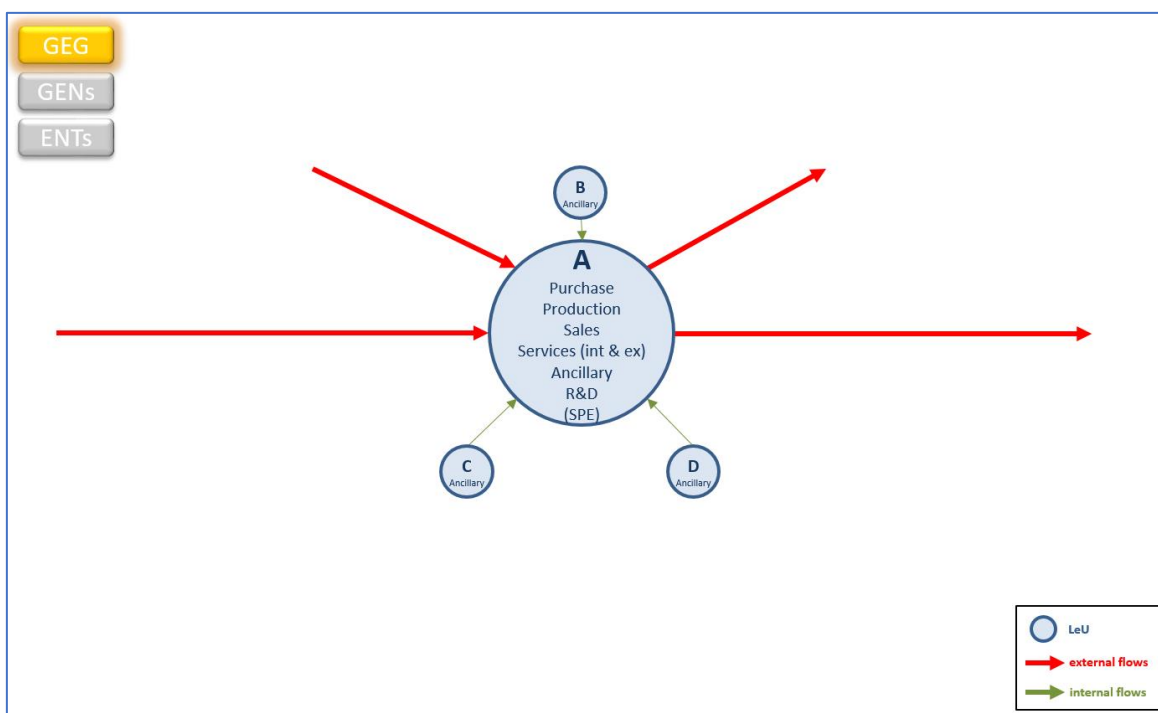
As a result, the ENT-internal flows, which have to be excluded from the calculation of the SBS variables of each ENT of the GEG during the consolidation process, have been identified. For ENT1,

revenues and related expenses from entities **E** and **G** to entity **B** have to be consolidated. With respect to ENT2, revenues and related expenses from entity **F** to entity **D** must be consolidated.

#### Example of enterprise group with consolidation method (c):

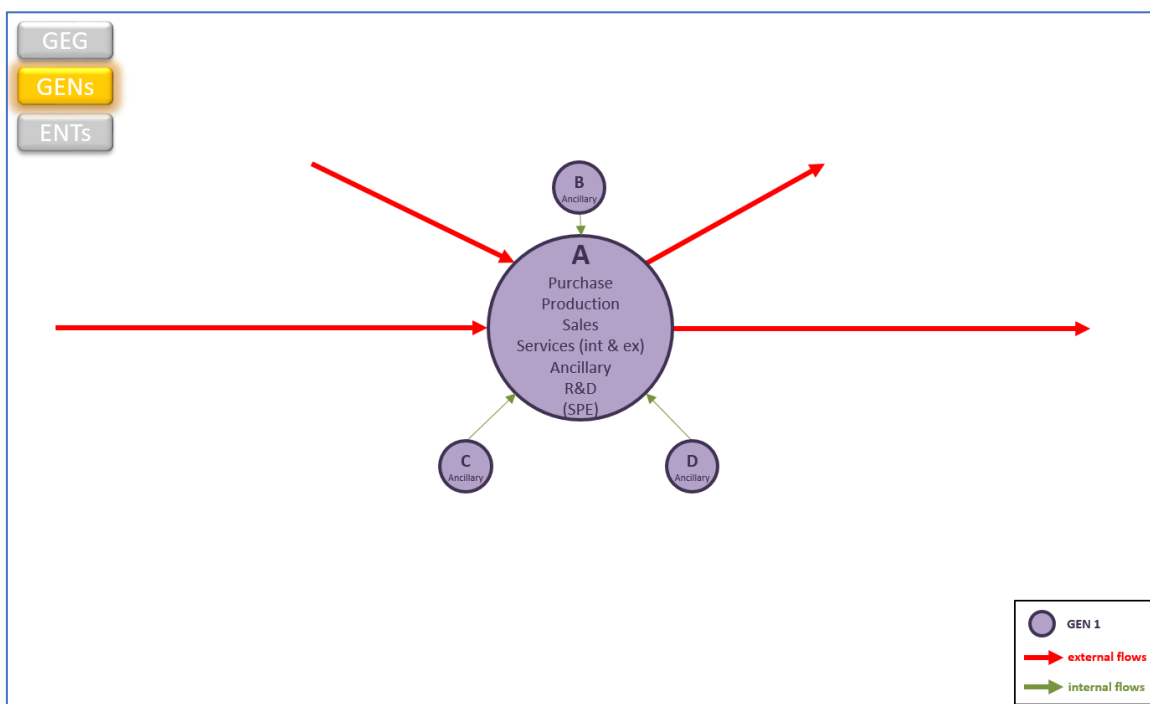
The consolidation process for intra-enterprise transactions of enterprises belonging to enterprise groups with consolidation method (c) will start at the ENT-level. The automatic consolidation will most likely be based on the main activities as well as the roles of the ENT's entities and take specific, predefined model cases (for example NACE combinations) within the ENT into account. Please note, that since the final algorithm has not yet been implemented in Austrian SBS, only a simplified example can be provided for consolidation method (c) at this stage.

GEG-level



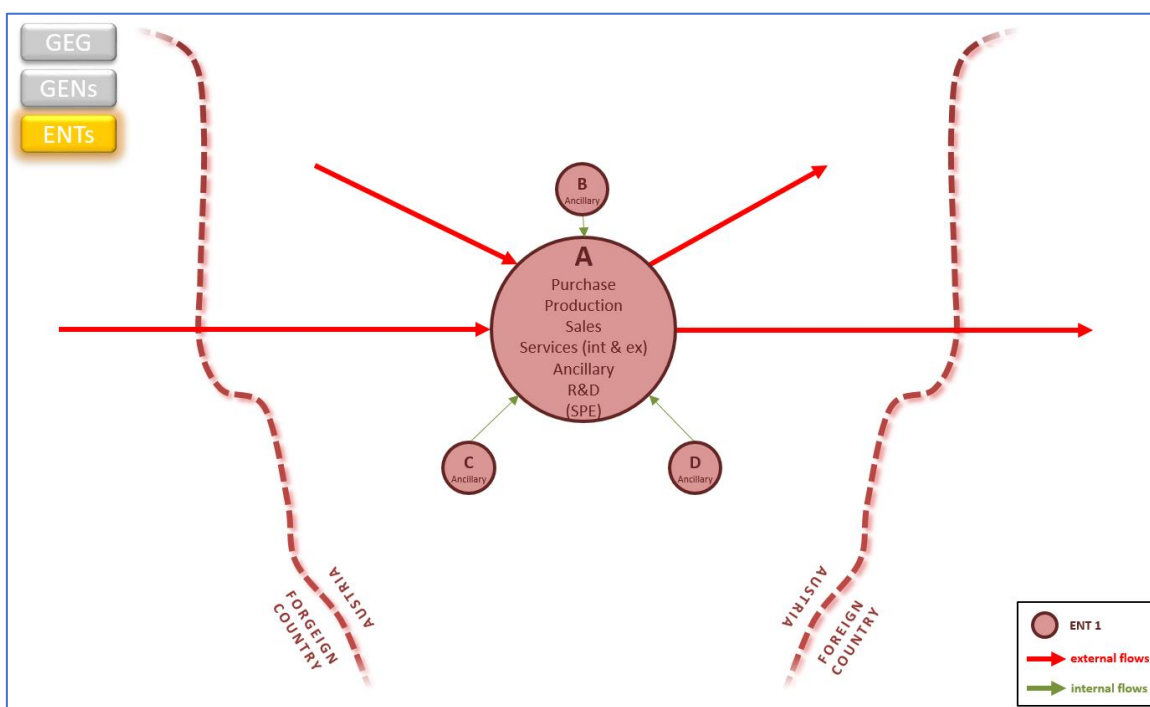
The GEG engages in two business areas: the manufacturing of goods and in the services industry. It consists of one dominant legal unit, namely entity **A**, which executes all non-ancillary activities as well as the strategic management, R&D and other ancillary services. Entity **A** thus occupies all respective roles ('Purchase', 'Production', 'Sales', 'Ancillary', etc.). However, some supportive activities have been outsourced to other legal units of the GEG (entities **B**, **C** and **D**), which exclusively exercise these ancillary services and therefore all exhibit the role 'Ancillary'.

## GEN-level



The GEG only consists of one GEN. Consequently, there are no differences of the analysis compared to the analysis at the GEG-level.

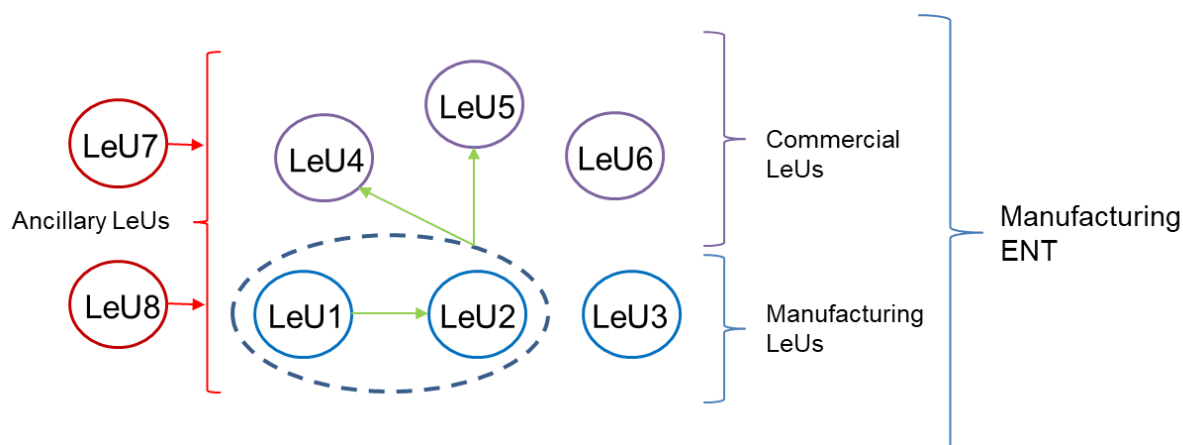
## ENT-level



The GEG only exhibits one national ENT, ENT1, which is similar to the GEG and the only GEN, namely GEN1.

Based on their roles within the ENT, the automatic consolidation algorithm will exclude all revenues and related expenses of entities **B**, **C** and **D** from the final calculation of the SBS variables for ENT1. Since all of entity A's revenues are generated externally, they will not be consolidated.

**ISTAT Italy** Example: the ENT belonging to manufacturing type is composed of 8 LeUs and based on the following structure:



The flows among the LeUs are defined as follows:

1. LeU1, belonging to manufacturing type, is vertically integrated to LeU2, belonging to manufacturing type, identifying ENT NACE code;
2. LeU1 and LeU2, belonging to manufacturing type, are vertically integrated to LeU4 and LeU5, belonging to commercial type;
3. The LeU7 and LeU8 as ancillary LeUs provide ENT LeUs with services.

The table shows the values of the main economic variables included in the consolidation process for each LeU:

LeU	TYPE	Turnover	Purchases of goods	Expenses for services	Use of third-party assets
LeU1	M	580	250	20	5
LeU2	M	2,140	1,100	150	10
LeU3	M	115	80	15	0
LeU4	C	280	145	45	15
LeU5	C	390	165	86	7
LeU6	C	175	80	28	3
LeU7	A	120	0	0	0
LeU8	A	160	0	0	0
<b>ENT</b>	<b>M</b>	<b>3,960</b>	<b>1,820</b>	<b>344</b>	<b>40</b>

The Value added is 1,756 (3,960 – (1,820+344+40)).

The first step consolidates the sub-group composed of two manufacturing LeUs, whereby the turnover of the servant LeU1 and the related purchases of goods of the recipient LeU2 are deleted.

LeU	TYP E	Turnover	P. of goods
LeU1	M	580	250
LeU2	M	2140	1100

Flow = 580

Flow = min(580, 1100) = 580

LeU	TYP E	Turnover	Purchases of goods	Expenses for services	Use of third-party assets
LeU1	M	0	250	20	5
LeU2	M	2140	520	150	10
LeU3	M	115	80	15	0
LeU4	C	280	145	45	15
LeU5	C	390	165	86	7
LeU6	C	175	80	28	3
LeU7	A	120	0	0	0
LeU8	A	160	0	0	0

The next step is to consolidate the LeUs belonging to manufacturing 'M' type with 'C' type LeUs, commercial type, whereby an amount equal to the minimum of sub-group LeU1-LeU2 turnover and the purchases of goods of the commercial units LeU4 and LeU5 is subtracted to the turnover and the purchases of good of the commercial units, according to the criteria of keeping the manufacturing structure.

LeU	TYPE	Turnover	P. of goods
LeU1	M	0	250
LeU2	M	2140	520
LeU4	C	280	145
LeU5	C	390	165

Flow = 310

Flow = min(0+2140, 145+165) = 310

LeU	TYPE	Turnover	Purchases of goods	Expenses for services	Use of third-party assets
LeU1	M	0	250	20	5
LeU2	M	2140	520	150	10
LeU3	M	115	80	15	0
LeU4	C	135	0	45	15
LeU5	C	225	0	86	7
LeU6	C	175	80	28	3
LeU7	A	120	0	0	0
LeU8	A	160	0	0	0

The third step is to consolidate the ancillary units. Their turnover is allocated to the expenses for services of recipient units, proportionally to the own expenses.

LeU	TYP E	Turnover	P. of services
LeU1	M	0	20
LeU2	M	2140	150
LeU3	M	115	15
LeU4	C	135	45
LeU5	C	225	86
LeU6	C	175	28
LeU7	A	120	0
LeU8	A	160	0

Flow = 280

Flow = min(120+160, 20+150+15+45+86+28) = 280

LeU	TYPE	Turnover	Purchases of goods	Expenses for services	Use of third-party assets
LeU1	P	0	250	4	5
LeU2	P	2140	520	28	10
LeU3	P	115	80	3	0
LeU4	C	135	0	8	15
LeU5	C	225	0	16	7
LeU6	C	175	80	5	3
LeU7	As	0	0	0	0
LeU8	As	0	0	0	0

The procedure, at the final step, verifies as the ENT value added calculated over the turnover and initial expenses (3,960 - (1,820+344+40) = 1,756) matches with the value added calculated over the consolidated turnover and expenses (2,790 - (930+64+40) = 1,756).

LeU	TYPE	Turnover	Purchases of goods	Expenses for services	Use of third-party assets
LeU1	M	0	250	4	5
LeU2	M	2,140	520	28	10
LeU3	M	115	80	3	0
LeU4	C	135	0	8	15
LeU5	C	225	0	16	7
LeU6	C	175	80	5	3
LeU7	A	0	0	0	0
LeU8	A	0	0	0	0
		<b>Consolidated Turnover</b>	<b>Consolidated Purchases of goods</b>	<b>Consolidated Expenses for services</b>	<b>Consolidated Use of third-party assets</b>
<b>ENT</b>	<b>M</b>	<b>2,790</b>	<b>930</b>	<b>64</b>	<b>40</b>

## Annex 2: Structure of the national metadata report

As not all provisions relevant for the content of this annex have been adopted yet, this annex is currently empty.

## Annex 3: Eurostat validation rules for SBS

As not all provisions relevant for the content of this annex have been adopted yet, this annex is currently empty.



## Annex 4: Data transmission structure and code lists

As not all provisions relevant for the content of this annex have been adopted yet, this annex is currently empty.

## Annex 5: Confidentiality and flagging rules

As not all provisions relevant for the content of this annex have been adopted yet, this annex is currently empty.

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# Methodological manual on European Structural Business Statistics

Structural Business Statistics (SBS) describe in detail the economic activity and performance of businesses in the EU, its Member States and regions. This manual serves producers or users of SBS as a comprehensive reference: It describes the relevant concepts of SBS as well as the tools and activities of production, like statistical units and enterprise profiling, statistical concepts, variables, definitions and classifications, data processing, statistical disclosure control and data transmission. The manual highlights the features introduced by the new regulatory framework for European Business Statistics (EBS Regulation).

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