United Nations | Department of Economic and Social Affairs

Manual on Principal Indicators for Business and Trade Statistics

Volume 1

ST/ESA/STAT/SER.F/126

Department of Economic and Social Affairs
Statistics Division

Studies in Methods

Series F No. 126

Manual on Principal Indicators for Business and Trade Statistics, Volume 1

United Nations
New York, 2024

Department of Economic and Social Affairs

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ST/ESA/STAT/SER.F/126
United Nations publication
Sales No. E.22.XVII.16
ISBN: 978-92-1-259220-6
eISBN: 978-92-1-002343-6

Preface

The *Manual on Principal Indicators for Business and Trade Statistics, Volume 1* was prepared by the task teams on business dynamics, demography and entrepreneurship; globalization and digitalization; and well-being and sustainability of the Committee of Experts on Business and Trade Statistics. The manual presents the Committee's strategic view on business and trade statistics, including policy needs and data gaps. It sets forth a list of principal indicators for business and trade statistics, which are designed to meet users' needs in terms of better quality and increased data granularity for business and trade statistics.

The list of principal indicators is intended as a reference to guide development at the country level of business and trade statistics programmes to address the priority areas, namely, business dynamics, demography and entrepreneurship, globalization and digitalization, and well-being and sustainability, in support of the 2030 Agenda for Sustainable Development. The present volume focuses on indicators for business statistics and business-related trade statistics. It will be complemented by a second volume that will focus on indicators for international trade statistics and the integration of business and trade statistics.

The present manual reflects the work undertaken by the Committee's task teams since its establishment in 2018. The Committee was established in response to a request by the Statistical Commission at its forty-eighth session to create "a committee of experts with balanced geographical representation and with terms of reference to prepare the guidelines for statistical business registers and give guidance on issues of business and basic economic statistics, taking into account the use of administrative data, the choice of statistical units in the context of globalization, and issues related to a large informal sector".[1]

At its first meeting in 2018, the Committee identified five workstreams to enhance the relevance, accuracy and coverage of business statistics: business dynamics, demography and entrepreneurship; globalization and digitalization; well-being and sustainability; exhaustive business registers; and capacity-building – each led by a task team.[2] In 2021, the Committee proposed a workplan that included the preparation of a manual on the core set of principal indicators for business and trade statistics, and a manual on the maturity model for statistical business registers. The workplan was endorsed by the Statistical Commission at its fifty-second session.[3] The Statistical Commission took note of the draft manual on principal indicators for business and trade statistics, volume 1, at its fifty-third session in March 2022, and encouraged the preparation of volume 2 focusing on international trade indicators.[4]

From January to April 2022, the draft of the present manual was subject to a global consultation with national statistical offices, and international and regional organizations to gather feedback on the list of indicators, the feasibility of compiling and disseminating the indicators in an internationally comparable and sustainable manner, the recommendations in the manual, and the methodological guidance for each principal indicator. The feedback from the global consultation was very positive and several suggestions contributed to improving the presentation of the material and addressing specific issues.

1 United Nations (2017a).

2 In March 2023, the task teams on exhaustive business registers and capacity-building were merged into one task team on statistical business registers, further to Statistical Commission decision 54/108 (b) (see United Nations, Economic and Social Council (2023)).

3 United Nations (2021b).

4 United Nations (2022).

An editorial board made up of members of the Committee was established to review and address the comments received from the global consultation, and to incorporate them into the final version of the manual.

Acknowledgement

The *Manual on Principal Indicators for Business and Trade Statistics, Volume 1* was prepared by the Committee of Experts on Business and Trade Statistics with the support of, and in collaboration with, the Statistics Division of the Department of Economic and Social Affairs of the United Nations.

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The Statistics Division is grateful to the countries and organizations that provided valuable comments on the draft of the manual during the global consultation. Special thanks to the members of the editorial board, which carefully reviewed all the comments received from the global consultation and guided their incorporation into the final version of the manual. The editorial board was made up of the following experts: Manpreet Singh (Australia); Thiego Gonçalves Ferreira (Brazil); Mark Uhrbach (Canada); Peter Bøegh Nielsen (Denmark); Ole Olsen (Denmark); Ricardo Gutierrez (Mexico); and David Talan (United States).

The preparation of the manual was facilitated by a team within the Statistics Division, consisting of Ilaria Di Matteo, Nancy Snyder, Zhiyuan Qian, Pedro Farinas, Shirly Ang, Aida Diawara and Htu Aung.

Abbreviations and acronyms

AI	artificial intelligence
CPC	Central Product Classification
EBOPS	Extended Balance of Payments Services Classification
EDI	Electronic Data Interchange
Eurostat	European Union statistical office
FATS	foreign affiliates statistics
FDI	foreign direct investment
f.o.b.	free on board
G20	Group of 20
GDP	gross domestic product
GRI	Global Reporting Initiative
GVC	global value chains
HS	Harmonized System
ICT	information and communications technology
IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
IMTS	international merchandise trade statistics
IP	intellectual property
ISIC	International Standard Industrial Classification of All Economic Activities
ITU	International Telecommunication Union
MNE	multinational enterprise
NSO	national statistical office
OECD	Organisation for Economic Co-operation and Development
R&D	research and development
SBR	statistical business register
SDG	Sustainable Development Goal
SEEA	System of Environmental-Economic Accounting
SNA	System of National Accounts
STEC	services trade by enterprise characteristics
TEC	trade by enterprise characteristics
UNCTAD	United Nations Conference on Trade and Development
WIPO	World Intellectual Property Organization
WTO	World Trade Organization
XBRL	eXtensible Business Reporting Language

Contents

Chapter I
Introduction

A. Background

1. The present *Manual on Principal Indicators for Business and Trade Statistics, Volume 1* presents a strategic view on business and trade statistics, including policy needs and data gaps, and sets forth a list of principal indicators for business and trade statistics, which are designed to meet users' needs in terms of better quality and increased data granularity for business and trade statistics. The principal indicators were identified by the Committee of Experts on Business and Trade Statistics[1] and are intended as a reference to guide development at the country level of business and trade statistics programmes to address the priority areas, namely, business dynamics, demography and entrepreneurship; globalization and digitalization; well-being and sustainability; and international trade, in support of the 2030 Agenda for Sustainable Development. The manual focuses on indicators for business statistics and business-related trade statistics. It will be complemented by a second volume which will expand on indicators for international trade statistics and the integration of business and trade statistics.

[1] The present manual was prepared by the Committee in response to a request by the Statistical Commission in 2019 to provide coordination and guidance for the development of business and trade-related statistics.

B. Structure of the manual

2. The manual contains four chapters: chapter I introduces the manual; chapter II presents the frameworks applied to the selection of the principal indicators, including the Committee's strategic view on business and trade statistics, and the analytical and policy framework. It also describes the main concepts for business and trade statistics, covering the scope of business statistics, statistical units, and the importance of adding granularity to existing statistics by exploring breakdowns to address relevant policy questions. Chapter III presents the indicators and specific methodological considerations relevant for compiling them. It also considers the process of producing the indicators, including data availability, matters of consistency and international comparability, and the institutional coordination mechanisms and governance needed for the compilation of the indicators. The latter is especially important given that several institutions may be responsible for the compilation of the indicators. Chapter IV outlines areas identified by the Committee for future development and suggests measures to be improved so as to extend the recommendations provided in the manual. The annex contains technical sheets for each indicator, organized by priority area; they present methodological guidance such as definitions, classifications, breakdowns, algorithms, source data and other metadata. A glossary of terms used and a list of references complete the volume.

C. Preparation of the manual

3. The present manual reflects the work undertaken by the task teams of the Committee of Experts on Business and Trade Statistics since its establishment in 2018. The Committee was established in response to a request by the Statistical Commission at

its forty-eighth session to create "a committee of experts with balanced geographical representation and with terms of reference to prepare the guidelines for statistical business registers and give guidance on issues of business and basic economic statistics, taking into account the use of administrative data, the choice of statistical units in the context of globalization, and issues related to a large informal sector".[2] At its first meeting in 2018, the Committee identified five workstreams aimed at enhancing the relevance, accuracy and coverage of business statistics, namely, business dynamics, demography and entrepreneurship; globalization and digitalization; well-being and sustainability; exhaustive business registers; and capacity-building, each led by a task team. The latter two workstreams were subsequently merged to form the task team on statistical business registers (SBRs).[3]

[2] United Nations (2017a).

[3] United Nations, Economic and Social Council (2023), Statistical Commission decision 54/108 (b).

4. The task teams on business dynamics, demography and entrepreneurship; globalization and digitalization; and well-being and sustainability identified a set of indicators that could serve as a reference for countries developing business and trade statistics in relation to those priority areas. The task team on SBRs focused on developing a vision for exhaustive business registers and methods to guide the development of SBRs towards more mature and comprehensive attributes. Following the release of the draft United Nations guidelines on SBRs in 2019 (subsequently published as the *Guidelines on Statistical Business Registers* in 2024),[4] the task team on SBRs prepared a manual on a maturity model for SBRs, the draft of which was circulated for global consultation at the same time as the present manual.

[4] United Nations (2024).

D. Target audience

5. The main target audience of the present manual are national statistical offices (NSOs) and statisticians responsible for compiling business and trade statistics. However, as compilers in various statistical domains and institutions may also be involved in the collection and compilation of data needed to produce business and trade indicators, they may also benefit from the information provided herein. Data users outside of NSOs would also benefit from the information on interpretation and use of the principal indicators presented, as well as the data sources and methods of calculation.

6. The principal indicators presented in the manual are intended as a reference to guide and inform the role of businesses in relation to globalization, digitalization, well-being and sustainability and business demography. The Committee will consider the possibility of developing global databases of the indicators (or a selection thereof), building on existing initiatives and in cooperation with relevant international and regional organizations.

Chapter II

Strategic view and data production framework for developing business statistics

A. Introduction

7. The strategic view and the data production framework for developing business statistics were designed, and have been progressively implemented, by the Committee of Experts on Business and Trade Statistics to enhance the relevance, accuracy, coverage and coherence of business statistics, in accordance with an internationally comparable, results-oriented and sustainable approach. The strategic view expands on the traditional scope of official business statistics by including all relevant environmental and social issues. It recognizes that NSOs may achieve relevant improvements by focusing their efforts on specific global goals that are consistent with their national goals, and by engaging in knowledge-sharing with other countries and with international coordination. The strategic view also highlights the relevance of an enterprise-centred approach for a better understanding of emerging phenomena by official statisticians, and for priority-setting in improving the quality of business statistics. The data production framework is dominated by the crucial role of the SBR as the backbone of any current and future improvements in the relevance and accuracy of business statistics.[5] All of these elements are described in this chapter.

[5] Menghinello, S., and others (2020).

8. Businesses today navigate a complex and fast-evolving economic and regulatory environment in which they continuously arrange and rearrange their legal structures through principal and outsourced business functions that are facilitated by an ever-changing technological production environment. This business environment is increasingly dominated by international trade in goods and services and cross-border legal ownership relationships between businesses, where underlying transactions are often identifiable only in relation to the enterprise. Indeed, in today's global and digital economy, business operations of production, investment, ownership and finance require an integrated approach at the enterprise level to optimize domestic and international business operations.

9. Businesses not only play a crucial role in economic development, but also impact individuals, the environment and society through various channels. Businesses have a direct impact on individuals through job creation, their hiring practices, and the wages and benefits they provide. For employees, the impact includes various aspects of well-being, such as work-life balance, mental health, a sense of purpose and subjective well-being. Businesses also affect various dimensions of consumers' well-being. They impact the environment and society through their production activities, employment creation, energy use and emissions, research and development (R&D), investments in green technology, payment of taxes and the sustainability of their activities, which must be monitored.

10. Many users now seek statistics on business activity that are multidimensional in nature, such as measurement of the social and environmental impacts of the activity. Such new users' needs challenge the scope of business statistics; the characteristics of the measurement of business activity have broadened to include units from the non-profit and informal sectors and measurement of the impact of new technologies on entrepreneurial activities and self-employment. Coupled with this is the need for the business statistics community to better measure globalization and digitalization. These trends raise challenges related to cross-border fragmentation of business activities, the adoption of new business models, the way in which businesses are defined, measured and classified, among others. Businesses have to address these challenges while being mindful of budget constraints and response burden.

11. Traditionally, the production and dissemination of business statistics focused primarily on relevant industry-level business characteristics, such as employment, turnover, value added, labour costs, fixed investment and related productivity and profitability indicators in support of the compilation of national accounts. Additional indicators, such as R&D expenditure, technological innovation, and information and communications technology (ICT) usage, mainly focus on technology as a part of the enterprise or the industry's production function. Data quality and timely availability of short-term indicators also play a crucial role in the production of official business statistics.

12. Business and trade statistics need to remain relevant in the new data environment that is driven by new and increasingly complex user demands, especially given the increased "competition" from the emerging data ecosystem, which offers a wide variety of new data from both public and private entities. Compared to traditional data sources on business activity, these new public and private data sources often have higher granularity but are less often able to meet the quality standards of official statistics. More granular and/or multidimensional measurement of business activity and adaptability to the measurement of emerging phenomena were not traditionally considered. The increasing use of administrative sources and non-traditional data sources (including big data) and the use of techniques, such as microdata linking, have opened the opportunity to investigate new ways of producing more granular statistics while ensuring the same high-quality standards.

13. For analytical purposes, it would be useful to cluster enterprises based on certain characteristics (such as enterprise size, trade characteristics, etc.) so as to understand if a specific phenomenon applies to all enterprises or to a specific subgroup only. For example, the dynamics of small, younger enterprises may be different from those of larger and well-established enterprises; exporting and importing enterprises and enterprises that are part of an enterprise group typically have a higher growth potential than other enterprises because their markets are bigger or they have greater access to finance and knowledge. For policy purposes, the availability of such breakdowns would be useful for designing targeted policy initiatives. More granular business and trade statistics, alternative aggregations and versatile data linking would allow for new and more targeted analysis of policies directed at specific sectors, business activities, geographical areas, or entrepreneurship.

14. For the purposes of the present manual and the principal indicators, the term "business" refers to a commercial enterprise undertaking market activities. The indicators concern legal units engaged in commercial economic activity; they are referred to as "businesses" to reflect the fact that, although the statistical units observed are mainly enterprises, they may also be establishments[6] or local units, depending on how they are classified in the SBR and the data sources used to maintain the register.

[6] An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added (United Nations and others (2009)).

Regarding the principal indicators, the scope of the business sector covers market activities pertaining to sections B to N and P to R, and divisions 95 and 96 of the International Standard Industrial Classification of All Economic Activities (ISIC), Revision 4. These categories are in line with those defined in the Statistical Classification of Economic Activities in the European Community (NACE), Revision 2.[7] Although the principal indicators have been prepared mainly for structural business and trade statistics, reference to short-term information is made in response to the need for higher frequency indicators. However, the concepts and data sources may differ from those used for the structural indicators. There may also be a trade-off between timeliness and data coverage and quality.

[7] Eurostat (2021a), p. 24.

15. The 2030 Agenda for Sustainable Development provides the overarching framework for the work of the Committee. The Sustainable Development Goals (SDGs) are at the heart of the 2030 Agenda that was adopted by the Member States of the United Nations in 2015, in which they resolved, by 2030, "to end poverty and hunger everywhere; to combat inequalities within and among countries; to build peaceful, just and inclusive societies; to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources". The Member States also resolved "to create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities".[8]

[8] United Nations (2015b), para. 3.

16. Businesses play an important role in the achievement of many of the targets of the 2030 Agenda for Sustainable Development. The Committee's task teams therefore focused on the measurement of business contribution to the SDGs, taking into account the availability of information at the business level (in particular the non-financial reporting of businesses) and the consistency of the information in relation to existing macroeconomic frameworks, such as the System of National Accounts (SNA) and the System of Environmental-Economic Accounting (SEEA), so that the information compiled could also inform these frameworks.

B. Adoption of an enterprise-centred approach for official business statistics

17. The adoption of an enterprise-centred approach plays an essential role in the strategic view on business and trade statistics. The highly fragmented nature of business statistics, in particular because they are based on large-scale independent sample surveys and a relatively wide range of concepts, definitions and classifications, calls for a unifying statistical unit before a feasible and common data production framework can be defined. The adoption of an enterprise-centred approach for official business statistics stems from the fact that enterprises are considered the economic agents with the capacity to decide on all their business activities. The term "enterprise" is defined as a legal unit (or the smallest set of legal units) producing economic goods and services with autonomy in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services. It may be engaged in one or more productive activities.[9] More specifically and typically, the enterprise is the organizational unit of a business that directs and controls the allocation of resources relating to its domestic operations. Within the structure of a business, strategic decision-making is typically made at the enterprise level and, often, the majority of the information sought through business surveys will be held at this level. This is particularly true for issues that extend across all profit centres or establishments of the business. Some examples of this is information related

[9] See glossary for the full definition of "enterprise".

to exports and imports or e-commerce sales, which would not be allocated to any one particular establishment.

18. However, depending on the type of analysis, other statistical units may be considered. For example, an "establishment" would be particularly appropriate when spatial considerations are important or when analyses on type of activity are carried out. For example, data at the establishment level are generally needed in order to integrate business data with environmental data, or establishment-level labour force data may be needed to compile some of the principal indicators. It is important to note that the choice of the enterprise as the chosen analytical unit does not mean that the observation unit is also necessarily the enterprise; however, it does require that the observation units and the collected data can be consolidated and aggregated to provide a comprehensive view of the enterprise.

19. As already mentioned, enterprises have to navigate a complex and fast-evolving environment that is increasingly dominated by international trade in goods and services and cross-border legal ownership relationships between businesses, where underlying transactions are often identifiable only in relation to the enterprise. In today's global and digital economy, the business operations of production, investment, ownership and finance require an integrated approach at the enterprise level to optimize the domestic and international business operations. In addition, many areas of policy interest, such as R&D, adoption of new technologies, orientation towards green investment, among others, can only be measured at the enterprise level where decisions for such strategic work takes place. The enterprise has therefore become the common statistical unit for data integration on business activities in today's global and digital economy. Consequently, the SBR should contain the appropriate characteristics of the enterprise as a statistical reference unit and delineate the relationships between the different statistical units to guide the choice of the observation and reporting units.

20. The enterprise-centred approach addresses the following methodological and conceptual aspects:

(a) **Data integration within the business sector:** the enterprise serves as the statistical reference unit for data integration processes and for the assessment of data quality across different statistical domains related to production, employment, trade, investment, finance and ownership. Sound data linking processes between two or more data sources should be used, such as the "spine" approach in which the "spine" is the minimum set of information required to link two sets of data, which will often be the identifier that the enterprise is considered as the reference unit for data integration. In addition, the inconsistency between variables related to different data sources after data integration (e.g. the link between business characteristics, export values and product details) is usually resolved when managed at the enterprise level;

(b) **Setting priorities:** this allows for the identification of enterprises with the highest impact on national business-related statistics in order to prioritize data collection and quality control. Even in developing countries, while the availability of a limited number of units in the statistical business unit can result in partial coverage of the economy, the quality of the data collected can still be high for national business-related statistics if the quality and coverage of leading businesses resident in the country are assured by automatic or manual quality checks;

(c) **Linking relationships between units of the enterprise:** this describes the link between statistical units of the enterprise and provides the key

to scale up or scale down business-related information according to a well-defined set of statistical units, such as an establishment, an enterprise, an enterprise group or a multinational enterprise (MNE) group. In particular, inclusion in the SBR of other statistical units, such as local units (establishments) or enterprise groups will allow for both a horizontal (across variables) and vertical (across units) coherence from microdata up to aggregated figures. This coherence will guarantee the production of high-quality and fully consistent business statistics across statistical units;

(d) **Ensuring data quality, consistency and coherence** provides the possibility to more easily detect and correct major bias in the data by comparing different data sources on an enterprise's business operations related to production, trade, employment, finance and ownership. It facilitates the integration of information that is normally collected at the enterprise level (such as R&D expenditure, ownership, innovation and balance sheets) with production, income and expenditure data, which are collected at the establishment level;

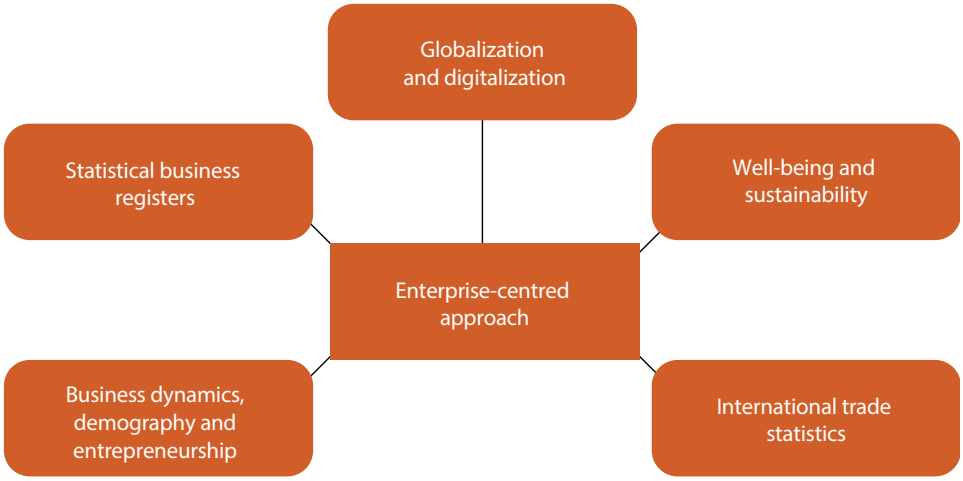
(e) **Facilitating data exchange and sharing arrangements** provide a better opportunity for NSOs and international organizations to collect, share and analyse enterprise-level information to address asymmetries and thereby ensure global coherence of cross-border transitions and positions;

(f) **Monitoring the legal structures of enterprises:** with the choice of the enterprise as the statistical reference unit created from legal units in administrative registration records, this allows for better monitoring of relatively rapidly changing legal structures of enterprises, as well as their evolution;

(g) **Linking micro and aggregated data** provides a fully consistent data production framework to fully exploit the information content of microdata in the SBR for the dissemination of new outputs through aggregation of microdata.

21. It should be emphasized that the proposed approach for official business and trade statistics is not intended to affect the standard definitions of statistical units or traditional classification schemes. However, the adoption of an enterprise-centred approach and strong focus on a specific set of thematic areas for the enterprise as the statistical reference unit has broadened the description of the enterprise as a statistical analytical unit in business and trade statistics, as shown in figure 1. Indeed, the traditional definition of the enterprise in official statistics as an economic agent exclusively oriented in making profit, dominated by domestic and local business operations, and characterized by a high degree of homogeneity in the use of industry-specific inputs and technology, should be revisited.

Figure 1
Five thematic areas for the business and trade statistics programme led by the Committee of Experts on Business and Trade Statistics



22. By and large, the diverging patterns in both the organization and economic performance of businesses included in the same industry call for a review of the traditional assumption of the existence of a representative business activity classified by its production process. Additional characteristics of business activity must be identified for the measurement of the heterogeneity in business structure and performance by official statistics.

23. Moreover, the pervasive role of MNEs (led by a controlling unit) as dominant actors in the domestic and globalized economy calls for reconsideration of the traditional role of the enterprise as the controlling unit of business behaviour, and the establishment (or local unit) as the place where production-related decisions are made. For instance, the controlling unit of the enterprise group is defined in different ways in different contexts (e.g. ultimate controlling institutional unit, global decision centre, holding company, among others) and it is the economic entity that makes most of the strategic decisions, while enterprises that are not responsible for operating the business lines of the enterprise group hold limited decision-making capabilities. In contrast, local industrial establishments may substantially differ from each other in terms of type of products produced, technology used and geographical market orientation, and may have a degree of operational autonomy. In addition, there is increasing policy interest in the role played by start-ups in job creation and innovation, particularly among rapidly scaling-up enterprises. It is increasingly acknowledged that national policies and market conditions can have strong impacts on the formation and success rate of start-ups and scale-up enterprises. The Committee acknowledges that more granular data on the relative growth and productivity, and innovation among start-ups is of high policy relevance. This area, as well as entrepreneurship more broadly, is part of the future planned work programme of the task team on business dynamics, demography and entrepreneurship.

C. Statistical business registers: core of the new data production framework for official business statistics

24. The SBR plays a crucial role in official statistics. It provides the framework to correctly identify the target population for business surveys, select the sample of units under investigation, and gross-up the sample of survey respondents. However, with a few limited exceptions, such as in the case of business demography indicators, NSOs have usually paid little attention to the SBR as a direct source of information for producing business statistics. Indeed, the SBR contains some highly desirable characteristics for data dissemination, given its exhaustive nature and high level of coherence of information on business units. Because SBRs are not constrained to survey-specific sample designs, the information included therein can be disseminated with a high degree of granularity (e.g. breakdown by industry, location or enterprise size), reclassified ex post according to non-standard classification schemes, and consistently integrated with other data sources. In addition, the establishment and maintenance of SBRs increasingly rely mainly on administrative or fiscal data sources. This reduces the response burden and lowers data-collection costs as compared to survey collection.

25. As a result, the SBR can play a pivotal role in the process of integrating data from different and multiple data sources, by generating new information with the desirable characteristics described above. Appropriate microdata linking methodologies based on unique identifiers could be applied to produce consistent information that is scalable from micro to aggregated figures. The linked employer-employee data (LEED) approach,[10] in which business microdata are linked to jobs and other social statistics, is an example of data linking between statistical business and household units.

26. However, the ability of the SBR to easily generate consistent and extended data sets through data linking crucially relies upon successful matching of microdata sources that hold similar characteristics. An example is the linking of the SBR with census-like administrative data sources that have been harmonized for statistical definitions of the statistical units and variables. In addition, the SBR can be linked with other company lists or registers, such as the list of exporting and importing enterprises in customs records, as demonstrated by the production of trade by enterprise characteristics (TEC) statistics in many countries.

27. Provided that there is sufficient investment and funding in an SBR, innovative approaches can be developed to fully exploit the SBR to enhance data integration, such as using a spine model consisting of the minimum set of information required to link two sets of data (which is usually an identifier). The integration of business registers at the global level, while taking into account confidentiality constraints of the information in the individual SBRs, will also be explored for the development of global registers, such as the Global Groups register[11] developed by the Statistics Division of the United Nations[12] and the Analytical Database on Individual Multinationals and Affiliate developed by the Organisation for Economic Co-operation and Development (OECD),[13] which are registers of the world's largest MNEs built solely on publicly available sources (such as the Global Legal Entity Identifier Foundation,[14] companies' annual reports, corporate websites, among others), with no confidential data input from NSOs. They contain the legal structures of the MNEs, namely, their affiliates and subsidiaries, their locations and the detailed types of relationships between the enterprise's head office and its affiliates.[15] The concepts and methods for profiling MNEs will continue to be improved under the guidance of the Committee. The

[10] See, for example, Seghir (2021).

[11] See https://unstats.un.org/unsd/business-stat/GGR/.

[12] At its forty-sixth session in 2015, the Statistical Commission endorsed the creation of a global register of MNE groups to improve the understanding and the measurement of international trade and globalization statistics (see United Nations (2015a)).

[13] See https://web-archive.oecd.org/2019-07-05/524907-statistical-insights-the-adima-database-on-multinational-enterprises.htm.

[14] See www.gleif.org/en/.

[15] It should be noted that public data on legal structures of MNEs that do not consolidate the legal entities may be insufficient for use in SBRs.

EuroGroups register[16] of the European Union is an example of microdata (including confidential data) exchange between national SBRs (based on Regulation 2019/2152 of the European Parliament and of the Council). The concepts and methods for profiling are laid out in the European business profiling recommendations manual.[17]

28. In order to improve the quality and granularity of business and trade statistics, and understand the increasingly complex role of businesses and MNEs in global production and employment, more efficient ways of producing statistics must be developed. Strategies include microdata linking, profiling large and complex MNEs; and data-sharing or data exchange. Microdata linking, that is, combining microdata on different entities, such as enterprises, jobs and people, not only reduces respondent burden, but also supports analysis of both business and employee characteristics and can help in answering questions on job dynamics, income and welfare.

29. Furthermore, to ensure meaningful and correct measurement of global production and trade, many NSOs are considering how to improve data on large and complex MNEs specifically. At the national level, large case units[18] are increasingly being established in NSOs to improve the quality, consistency and coherency of data on MNEs by coordinating data collection and compilation, ensuring data consistency across all data sources, and building client relationships with the respondent MNEs. When producing statistical data related to MNEs, the use of new and innovative data sources for reducing the statistical burden and cost to NSOs, including direct data collection from MNEs, an improved legal framework and more intensive use of administrative data should be supported.

30. High-quality business statistics depend on high-quality SBRs. International guidance, such as the United Nations *Guidelines on Statistical Business Registers*,[19] provide practical guidance on the core issues of establishing and maintaining the SBR, as well as guidance on issues that are of particular relevance for developing countries. However, the Committee acknowledges the ongoing need for capacity-building activities on SBRs, especially in developing countries. To reflect this strategic view, the Committee established a task team on SBRs – covering the workstreams on exhaustive business registers and capacity-building – to advance the conceptual and practical development of SBRs. The maturity model for SBRs was developed as a tool to assist countries in identifying areas for improvement to enhance their SBRs. The Committee also developed an assessment of the implementation of SBRs in Member States to identify gaps and support the development of training material to address these gaps. The main objective of the work was to reduce the gap between advanced and less advanced countries in the implementation of SBRs.

1. *Exchange of microdata*

31. Bilateral exchange of business microdata between NSOs, and possibly with other producers of official statistics, would be another way forward in improving the understanding of business dynamics and the operations of MNEs at the global level. While data-sharing of microdata at the international level has proven to be limited owing to strict privacy and confidentiality laws, there are ongoing initiatives to improve data-sharing across countries, such as the Group of 20 (G20) Data Gaps Initiative, the Economic Commission for Europe's *Guide to Sharing Economic Data in Official Statistics*[20] and the EuroGroups register,[21] which is used to exchange microdata between national SBRs of European Union member States in accordance with the provisions of Regulation (EU) No. 2019/2152 of the European Parliament and of the Council. To date, most business statistics-related projects to compile internationally comparable statistics have utilized

[16] See https://ec.europa.eu/eurostat/statistics-explained/index.php?title=archive:EuroGroups_register.

[17] Eurostat (2020b).

[18] For more information on large case units, see United Nations, Economic Commission for Europe (2015).

[19] United Nations (2024).

[20] United Nations, Economic Commission for Europe (2020).

[21] See https://ec.europa.eu/eurostat/statistics-explained/index.php?title=archive:EuroGroups_register/.

"coordinated microdata linking" or "distributed microdata research", which require central coordination of the database construction, analysis and publication, respecting subsidiarity and national legislation. In any event, shared data or central coordination of databases often requires resources to reformat the data into a usable format.

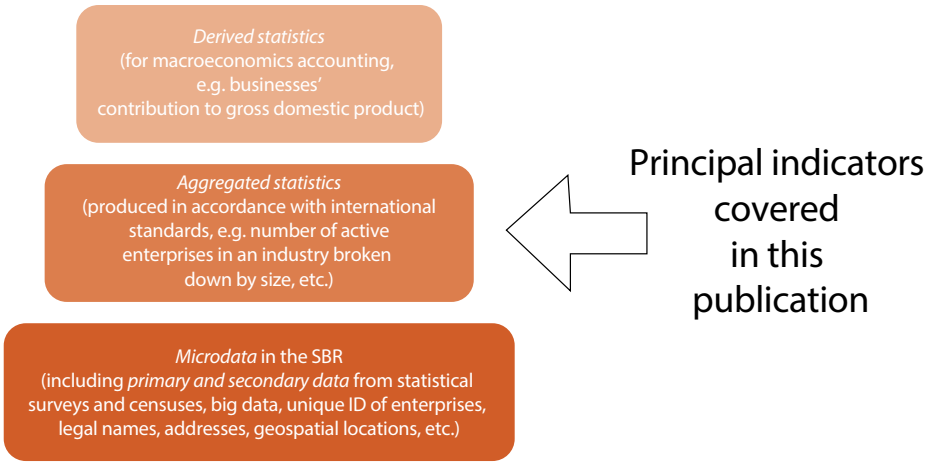
32. One possible way of addressing the legal obstacles associated with data exchange in the short term is to agree memorandums of understanding[22] to facilitate the exchange of data. For the longer term, countries can draft legislation to amend the treatment of data confidentiality. For example, it may be useful to consider an exemption to data confidentiality to allow the exchange of business-level data that may have already been made publicly available by the respondent itself in published annual reports or filings with financial regulators, if the data meet the statistical definitions. Such public data could then also be exchanged freely among NSOs and/or consolidated by international and regional agencies. Such data exchange would be a critical step towards assuring the overall quality of the macroeconomic aggregates and business statistics produced by a country at the national and subnational/regional levels.

[22] A memorandum of understanding or a service level agreement (SLA) or a similar arrangement can be used to formalize, in a less binding arrangement, cooperation between institutions to access administrative data. Such memorandums of understanding generally cover data flows, metadata, communications and protection of confidentiality, and often contain a clause to ensure that the NSO is informed in advance of any changes made to the administrative process that will affect the resulting data.

2. Data sources

33. The characteristics for business information can be depicted as a three-layered framework:

Figure 2
Three layers of data on businesses



(a) The bottom layer consists of *microdata* with the SBR as the backbone and – depending on national circumstances – central, geospatial-enabled registers on persons, buildings and dwellings. This layer also contains *primary and secondary data* obtained from statistical surveys and censuses, data from administrative records accessible by NSOs, big data and other data sources, including companies' annual accounts – preferably in XBRL (eXtensible Business Reporting Language) format, the open international standard for digital business reporting.[23] With the use of unique identifiers for persons, business entities and locations, respectively, microdata on social, economic and environmental phenomena can be linked for the compilation of statistics on interconnected phenomena such as sustainability and well-being;

[23] XBRL is an XML standard that is maintained by XBRL International, a non-profit consortium of approximately 600 member organizations, companies and government agencies around the world. It is available free of licence fees and is currently used in more than 50 countries. See www.xbrl.org/.

(b) The middle layer consists of modified *aggregated statistics*, that is, aggregate (or tabular) business statistics produced in accordance with international standards, such as those of the United Nations, the European Union or OECD in their manuals, to ensure integrity and international comparability;

(c) The upper layer consists of the *derived statistics* for macroeconomic accounting frameworks, which ensure overall coherence across sectors and from which key indicators, such as gross domestic product (GDP), are compiled.[24]

[24] Olsen and others (2020).

34. This way of describing and organizing an integrated information framework is non-prescriptive. The possibilities will vary considerably depending on national traditions and circumstances, including the availability and access to records of public administration and big data from private data holders, the level of integration in the global economy and the digitalization of society.

35. As mentioned above, business surveys and related administrative data are major data sources for measuring the corporate sector in national accounts. For ease of reporting by businesses, the collection instruments should be aligned with the business accounting practices of the country of residence. Although the principles of the business accounting standards are aligned with the SNA by means of the International Accounting Standards, differences remain as the two standards serve their own purposes with regard to measuring the performance of business operations and national economic activity. Data collected through statistical business surveys already facilitate the transformation of information from business accounts into national accounts because the business accounting reports on the income and expenditure statements and balance sheets may not be sufficiently detailed for the transformation into national accounts. For instance, the main elements in the transformation of business accounting information into the national accounts are: (a) adjustment for the valuation in basic prices in national accounts by removing (sales) taxes and subsidies on products in the business accounts; (b) adjustment for the treatment of expenditure items such as the intermediate consumption of insurance services in national accounts and the current expenditures on gross insurance premiums in business accounting; (c) adjustments for exhaustiveness in national accounts correcting underreporting or non-reporting by businesses; and (d) adjustments for the treatment of holding gains in revaluation accounts in national accounts and the treatment in current account in business accounts owing to the use of historical prices for the sale of assets or the use of raw materials from stocks.[25]

[25] United Nations (2000).

36. Progressively, a high degree of consistency between business accounting reporting and official statistics should also be pursued with the emerging international accounting standards on non-financial reporting for enterprises, that is, on environmental, social and governance disclosures.

D. Workstreams

37. Given the very broad and highly diversified new demand for business statistics, high-priority areas for the global programme on official business statistics were identified to advance its methodological work on international standards, based on current best practices. These high-priority areas reflect the new information needs across many initiatives, such as the 2030 Agenda for Sustainable Development, and the new types of analyses conducted by users, who increasingly bypass official structural business statistics and either gain direct access to microdata or seek access to private data sources.

38. When first established, the Committee identified five workstreams, namely: business dynamics, demography and entrepreneurship; globalization and digitalization; well-being and sustainability; exhaustive business registers; and capacity-building. The workstreams on exhaustive business registers and capacity-building were subsequently merged into one workstream on SBRs. In 2020, the Committee decided to create a workstream on international trade statistics, in recognition of the important interconnections between business and trade and the need to develop an integrated programme on business and trade statistics.

39. The workstreams aim to address a large share of users' new needs at both the global and national levels. Task teams, made up of Committee members from diverse NSOs, and international and regional organizations with vested interests in developing new and responsive business and trade statistics, have been established for the different workstreams. Each task team develops a work programme and carries out its work based on agreed terms of reference.

40. In general, the criteria used to select the principal indicators for business and trade statistics are policy relevance, measurability (including possibilities for collecting meaningful data – directly from surveys or indirectly from administrative registers and records), assurance of accuracy and quality, and international comparability.

41. An enterprise-oriented perspective was adopted for the compilation of the indicators, but there was a conscious effort to ensure coherence between macroeconomic statistics and business statistics obtained from business surveys and/or reporting and auditing. In both spheres, there is a rapid and rich development of emerging standards for capturing the dynamics of business developments in a broad sense – that is, environmental impact, social responsibility as well as financial results – and the information needed for public debate, policymaking and regulation to keep up with those developments. Ideally, the development and implementation of new standards in the two spheres should cross-fertilize each other and go together with the utilization of new digital data sources, including big data.

42. The Committee also took a forward-looking approach to selecting the principal indicators, with the dual purpose of identifying policy-relevant indicators and taking into consideration the data availability and capacities of both developed and developing countries, with a view to leaving no one behind. This approach applies not only to the scope of the indicators, but also to the detail and breakdown by industry, size and other characteristics.

1. Business dynamics, demography and entrepreneurship

43. The task team on business dynamics, demography and entrepreneurship reviews the relevance of traditional breakdowns, which are based on industry, enterprise size and territorial location, in explaining differences across businesses in birth, death and high-growth rates. This priority area considers a set of indicators for better understanding entrepreneurship, business demography and business dynamics, in support of analysis and monitoring of policies that encourage entrepreneurial activity and assess the impact of policy initiatives on economic activity and its impact on jobs.

44. Like the other priority areas, business dynamics, demography and entrepreneurship emphasize the relevance for economic analysis and policymaking, measurability and international comparability of a proposed set of internationally agreed business statistics and indicators. With emphasis on the evolution of individual businesses over time, granularity and distributional information, this priority area aims to set the basis for introducing appropriate cross-sectional groupings of business units beyond the traditional groupings by size and economic activity. It builds on and motivates greater

uptake of existing exercises, such as measures of high-growth businesses, births and deaths, by extending these towards new business characteristics, for example foreign-owned start-ups, independent start-ups, born-global start-ups, innovative start-ups, among others. This approach recognizes the scope to identify and mainstream new characteristics in SBRs, which can also help to generate better stratification variables for business surveys, and the considerable scope of adding these links – and indeed generating data – through linking across SBRs and data sources.

45. The approach adopted for selecting the set of indicators in this priority area considers business demography as the centre of the analysis for producing statistics on entrepreneurship and business dynamics. Thus, the indicators are not separately presented by dynamics, demography and entrepreneurship, but rather reflect one overarching priority area. The approach is mainly based on the *Guidelines on the Use of Statistical Business Registers for Business Demography and Entrepreneurship Statistics*[26] and the *Eurostat-OECD Manual on Business Demography Statistics*.[27] It is important to note that the principal indicators for this priority area do not cover entrepreneurial activities related to innovation[28] and the use of ICT; however, some of these indicators are covered by other priority areas.

46. In addition, the indicators in this priority area were heavily informed by the OECD-Eurostat Entrepreneurship Indicators Programme[29] and are in line with its concepts, definitions and methodological guidelines. The Programme aims to develop a list of indicators and standard definitions and concepts to facilitate the collection of statistics on entrepreneurship and to capture the multifaceted phenomenon of entrepreneurship and its different aspects, such as entrepreneurial performance and its determinants and impacts.

47. The compilation of these indicators is very much based on the assumption that countries have established a comprehensive up-to-date SBR that can be used to track business demographic events. Sample surveys can also be used to trace many demographic events, but, for example, the death of an enterprise is difficult to confirm through a randomized survey. The information should also be broken down by relevant characteristics of businesses, such as economic activity (see ISIC), as well as by other characteristics, such as enterprise size, ownership structure, trading status, among others, to facilitate economic analysis and decision-making.

48. In terms of *business dynamics*, while the total number of enterprises within a business segment may remain stable, this business population can contain significant heterogeneity in the dynamic nature of the business environment. Indicators that measure the scale of demographic events (i.e. birth, death, among others) may provide additional insight into the process of creative destruction and its impact on employment and productivity. In turn, the absence of demographic events may indicate that there are no external factors influencing that particular business segment. The main variables related to business dynamics are entry and exit of enterprises, creation and destruction of jobs in incumbent enterprises and new enterprises, and re-allocation of jobs in both cases.

49. *Business demography* statistics refer to statistics on "events like births and other creations of units, deaths and other cessations of units, and their ratios to the business population. This includes following units over time, thus gaining information on their survival or discontinuity. It also covers development over time of certain characteristics, like size, thus gaining information on the growth of individual units, or a cohort of units, by type of activity".[30]

50. The demography of enterprises can be assessed by studying enterprise births and deaths and by examining the change in the number of enterprises by type of activ-

[26] United Nations, Economic Commission for Europe (2018).

[27] OECD and Eurostat (2007).

[28] OECD and Eurostat (2018).

[29] See www.oecd.org/sdd/business-stats/theentrepreneurshipindicatorsprogrammeeipbackgroundinformation.htm.

[30] OECD and Eurostat (2007).

ity, that is, by examining the flows and stocks to get a complete picture of enterprise dynamism[31] and the impact of businesses on employment and productivity.

[31] Ibid.

51. A *demographic event* is defined as an event that has an impact on the existence of a statistical unit and/or on links between statistical units. A demographic event is based on changes in the existence of production factors or in their distribution within and among statistical units. It may involve the emergence (birth) or continuity (survival) of a unit over time or its discontinuity (death). It may also be accompanied by changes to the values of certain characteristics, such as size or type of economic activity.[32]

[32] United Nations, Economic Commission for Europe (2018).

52. Important demographic events are (a) the birth of a statistical unit, which is an independent event affecting only one enterprise in the population of active enterprises, and involving the creation of a new combination of factors of production; (b) the death of a statistical unit, that is, an independent event affecting only one enterprise, and involving the dissolution of the combination of factors of production; and (c) the survival or continuity of a statistical unit, which refers to an active and identifiable unit, both before and after a specific (business) demographic event. Mergers, acquisitions and spin-off events require specific treatment.

53. Business demography includes the main characteristics of the statistical unit, such as economic activity, size, employment, turnover, location and legal form. Together with the characteristics of the enterprise, it provides useful information for statistical development.

54. In addition to the analysis of births, deaths and survivals, another focus of business demography is the identification of enterprises that have relatively high growth and are therefore intensively contributing to overall employment growth.[33]

[33] Ibid.

55. It should be noted that R&D (both knowledge and activities), innovation activities and enhanced human capital (e.g. education, skills) normally contribute to economic growth. New technologies, including ICTs, can improve products and business processes provided that knowledge is available and the enterprise decides to undertake the necessary innovation activities.

56. Business dynamics traditionally focus on the analysis of businesses demography and their impact on productivity and employment in a (sub-)sector. The principal indicators presented here also take into account additional factors that affect demographic events of enterprises, such as globalization, digitalization, type of ownership (i.e. foreign- or domestically controlled enterprise, with or without its own affiliates abroad) and trading status according to the proposed breakdowns.

57. Finally, with regard to *entrepreneurship*, the task team applied the Schumpeterian approach in accordance with the *Guidelines on the Use of Statistical Business Registers for Business Demography and Entrepreneurship Statistics*, which, building on the OECD definitions, considers that entrepreneurship contributes to the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets, by employing the use of resources (e.g. access to capital, R&D, technology) and opportunities such as market conditions). A second mechanism known as *creative destruction* is also at work. This process is itself a driver of economic growth. New businesses entering the market displace obsolete businesses, and the business dynamics of entry and exit contribute to productivity dynamics and eventually to economic growth.[34] The process of creative destruction can be measured through the demographic events (birth, survival, death) of enterprises. This is the object of study of business demography.

[34] Ibid.

58. In this regard, the present manual builds on the following definitions:[35]

Entrepreneurial activity is enterprising human action in pursuit of the generation of value through the creation or expansion of economic activity by identifying and exploiting new products, processes or markets.

Entrepreneurship is the phenomenon associated with entrepreneurial activity.

59. From the perspective of the International Labour Organization (ILO), *entrepreneurs* are persons who own and control an enterprise and seek to generate value through the creation of economic activity, by identifying and exploiting new products, processes or markets. In doing so, they create employment for themselves and potentially for others. In this regard, entrepreneurs represent a subcategory of *independent workers*[36] and include both own-account workers and employers in incorporated and unincorporated enterprises.

60. Entrepreneurship provides statistical information on the entrepreneurial activity and performance of the businesses. While entrepreneurs are particularly important for the success of small businesses, entrepreneurial activity of all businesses irrespective of size is important for its survival and long-term contribution to economic growth. R&D and innovation, human resources (education and skills), access to finance, infrastructure (i.e. transport, Internet access, etc.) are all elements that contribute to entrepreneurship.

2. Globalization and digitalization

61. The task team on globalization and digitalization explored an integrated approach to the measurement of globalization and digitalization based on newly emerging global and national business models enabled by digital technologies and facilitated by global digital standards and intermediaries, and global ICT infrastructure and operators. Historically, technological innovation has been a key enabler of globalization, especially the development of new transportation technology, such as aircraft and containerization, and innovations in communications technology, including telecommunications and microprocessing. More recently, the rapid growth of the Internet and computing technologies – such as big data and new ways of using such data, artificial intelligence (AI), smart phones, cloud computing and the Internet of things – have further propelled the spread of globalization.

62. The phenomena of globalization and digitalization have become increasingly interdependent. MNEs not only increasingly account for the lion's share of international trade, but also play a crucial role in the internationalization of technology as they are among its largest investors and consumers. Digitalization also enables small and medium-size enterprises to be more competitive, have access to global markets and create jobs. Furthermore, in a globalized and digitalized world, where the production process is fragmented internationally and businesses can operate digitally from anywhere, traditional notions of industries and physical locations of businesses are becoming less relevant. Business statisticians are increasingly asked to produce business statistics that allow for a deeper understanding of the interlinkages between digitalization and globalization as policymakers are increasingly challenged with truly understanding and measuring the impact of digitalization and globalization on business activities and, in turn, their impact on society and the environment. In fact, the use of traditional aggregations of enterprises by standard industrial classifications has, in some ways, fuelled the debate around mismeasurement of these phenomena.

63. This priority area acknowledges a converging pattern to define a common and integrated measurement framework in which the role of the MNE is recognized. Traditionally, globalization and digitalization are investigated by analysts and official stat-

[35] Ahmad and Seymour (2008).

[36] The *International Classification of Status in Employment (ICSE-18) Manual* introduces the category of independent workers, who are those employed persons who own and control an economic unit for which they work, whether it is incorporated or not (see ILO (2023a)).

isticians as independent themes, whereas this priority area explores a more integrated approach to the measurement of globalization and digitalization, based on the emerging dominance of global and national business models. These new business models reflect the integration of global and national business activity facilitated by global digital standards and intermediaries and global ICT infrastructure and operators.

64. Globalization and digitalization can be viewed as two sides of the same coin, meaning that advances in digital technologies have certainly allowed the connection between distant places. Similarly, the need to increase the reach of businesses fosters the use and adoption of digital technologies. While they have often been looked at separately, it is useful to see how globalization and digitalization together impact businesses and, ultimately, society and the environment. For example, does digitalization have a different impact on the competitiveness of global businesses relative to domestic businesses? How has digitalization enabled a globalized financial sector and global trade in goods and services? How has digitalization affected cross-border production arrangements? And how has globalization contributed to the increase in capital and technology intensity at the expense of labour intensity?

65. While the Committee acknowledges that globalization and digitalization is still an evolving area, several statistical frameworks have already been proposed by NSOs and international and regional organizations to measure policy-relevant aspects of digitalization and globalization. For instance, most recently, the G20 Digital Economy Task Force developed *A Roadmap Toward a Common Framework for Measuring the Digital Economy*,[37] which proposes a common agreed definition of digital economy and a set of existing indicators for measuring jobs, skills and growth in the digital economy. It also proposes a clear step forward for digital economy measurement. Other measurement initiatives include the OECD-World Trade Organization (WTO)-International Monetary Fund (IMF) *Handbook on Measuring Digital Trade*[38] and the United Nations Conference on Trade and Development (UNCTAD) *Manual for the Production of Statistics on the Digital Economy*.[39] Moreover, the framework for digital supply-use tables[40] focuses attention on new subcategories of industry and product types within the national accounts supply and use framework to make the digital economy more visible in macroeconomic statistics. Similarly, a framework for global value chains (GVC) satellite accounts[41] was elaborated to provide a national approach to the compilation of GVC-specific supply and use tables and related institutional sector accounts. Furthermore, the OECD-WTO Trade in Value Added database[42] was developed on the basis of a global inter-country input-output (ICIO) table to measure the impact of globalization.

[37] OECD (2020).

[38] OECD, WTO and IMF (2020).

[39] UNCTAD (2021).

[40] United Nations (2019a).

[41] United Nations (2021a).

[42] See www.oecd.org/en/topics/sub-issues/trade-in-value-added.html.

66. The task team incorporated the policy dimensions related to digitalization that are reflected in the OECD Going Digital Toolkit,[43] namely: access to communications infrastructures, services, and data, use of digital technologies and data, innovation, jobs, society, trust, and market openness.

[43] See https://goingdigital.oecd.org/en/.

67. This priority area addresses the main question of how business and trade statistics can better reflect these complex and evolving phenomena that change how and where businesses operate, how people live and work and how governments, businesses and people interact, in order to better inform policymakers on their effects and ultimately to support inclusive economic growth and sustainable development.

68. In identifying the principal indicators, the task team took into consideration existing measurement frameworks and guidance on globalization and digitalization, such as the set of indicators proposed by the G20 Digital Economy Task Force,[44] the core indicators developed by the Partnership on Measuring Information and Communication Technology for Development, the statistics program of the International

[44] OECD (2020).

Telecommunication Union (ITU),[45] the UNCTAD *Manual for the Production of Statistics on the Digital Economy*,[46] digital supply-use tables, and indicators on globalization, such as trade in value added and GVC satellite account frameworks. These indicators cover both the enablers and impacts, as described below.

[45] United Nations, Economic and Social Council (2020).

[46] UNCTAD (2021).

(a) Enablers of globalization and digitalization

69. Enablers are elements that foster and enable the digitalization and globalization of business activity. They include the infrastructure underlying globalization and digitalization, such as technological innovation (especially in digital technologies); investment in R&D; access to and use of communications infrastructures, services and data; security of digital infrastructure; and market openness, among others. Regulatory frameworks that can either enable or impede progress in globalization and digitalization are also enablers. Liberalizing trade rules and deregulating markets (to reduce or eliminate barriers to trade in goods and services, labour and capital) can have an immense impact on international trade and investment flows. In addition, participation in the digital and globalized economy is facilitated by the availability of a domestic workforce that has the relevant skills (i.e. not only technical skills, but also soft skills, such as managerial skills, foreign-language skills, among others). Likewise, digitalization facilitates the participation of businesses in GVCs, and access to foreign direct investment (FDI).

70. There are various enablers behind digital transformation and, in order to provide a set of comprehensive measurements for informing decisions, it is important to measure the availability, evolution, access to and take-up for these enabling elements. For the purpose of developing comparable indicators, it is important to focus on a few key pieces of infrastructure, such as broadband and Internet, and the set of indicators that have already been compiled by many NSOs,[47] and for which developing countries could also provide estimates. Furthermore, as in the case of identification of the digital economy, these key pieces could be considered principal indicators, with others being added as extensions. The principal indicators would provide a common benchmark for all countries.

[47] OECD (2018).

71. Innovation is the main driver behind digital transformation; it enables many businesses to have a global reach. Business expenditure on R&D, the extent of government support for research and innovation, and the number of patents are all indicators of the extent to which innovation is valued and monetized by businesses.

72. Security and trust are challenges that have been brought about by the creation of large amounts of sensitive information, as well as by the phenomenal number of digital transactions. Businesses are having to identify, mitigate and manage these risks, and many have strategies and dedicated resources to this effect.

(b) Impacts of globalization and digitalization

73. Impacts are the elements that characterize the effects of globalization and digitalization on businesses, society and the environment. They include the impact of digitalization on jobs and growth of businesses, business demography and entrepreneurship, business dynamics and the environmental impact of businesses. The fundamental question is how businesses that have access to, and make use of, digital technology perform in terms of their competitiveness, productivity, profitability, market share, international orientation, participation in GVCs, employment, wages, job force training and recruiting. In addition, by looking at the globalization of businesses (in terms of, for example, domestically owned, foreign owned, dependence on

GVCs or FDI, and so on), one can assess whether digitalization affects businesses that are linked to global markets differently from those that are domestically oriented.

74. From a policy perspective, digital technologies have become the drivers of modern economies, and advanced and developing countries alike are increasingly seeking to leverage their core competencies and competitive advantages. At the same time, they must fill important gaps to maximize the benefits of the digital economy and prevent or reduce the digital divide (or the gap between those that benefit from digitalization and those that do not, such as those without access to the Internet and other ICTs). Digitalization can also contribute to achievements towards the Sustainable Development Goal (SDG) targets. For example, digitalization can broaden financial inclusion to the poorer population which does not have access to traditional financial services, and contribute to the alleviation of poverty by combining mobile devices with Internet access, mobile payments and new financial instruments in the digital environment. In addition, the use of mobile terminals with access to medical databases and electronic records can provide e-health options for remote or poorly served communities. Furthermore, the Internet of things can provide enhanced monitoring and remote diagnosis, thereby contributing to Goal 3 on good health and well-being.

75. Moreover, one of the major questions surrounding globalization and digitalization is their impact on labour markets in both developed and developing economies, not only in terms of overall employment, but also in terms of wages, skills, gender disparities and job training. In particular, the automation of jobs is likely to have a large, long-term effect on the overall number and types of jobs across economies at all stages of development and will require workers to acquire new skills and be more adaptable. Technological access, sophistication and diffusion among all demographic groups and enterprise types also increasingly drive the ability to compete globally and participate in GVCs and can have huge implications for economic development and distributional effects within a region or country.

76. In addition, the regulatory environments in countries will also need to adapt to address the new opportunities and risks associated with an ever-increasingly globalized and digitalized world, especially in terms of treatment of cross-border and intangible digital assets and ensuring market openness and competitiveness. Finally, macroeconomic policies, trade policies, financial market regulation and investment policies will increasingly be shaped by the interconnectedness of economies and financial systems, particularly in terms of accounting for increasing shares of imported inputs into domestically produced goods, participation of economies in and reliance on GVCs, the increasing importance of FDI, and contagion risks across cross-border financial markets.

77. The digitization of transactions, the relative ease and low costs of accessing the Internet, and the availability of digital intermediation platforms have created a completely new business environment. The line between business and household has been blurred, and the opportunities for scaling up quickly and with little capital are expanding. Therefore, indicators relating to productivity and value added are also key to understanding the impact of digitalization on the ability of businesses to work in a more efficient way.

78. Connectivity – along with the globalized markets that it has engendered – has led to radical changes in the type of employment available to job seekers. The mix of skills required and the pace of change in the skills required create new challenges for employers, employees and policymakers. In addition, the ability of economies to meet foreign final demand increasingly determines the evolution of job markets. New business indicators that include breakdowns for firm characteristics, such as levels and

product mix of exports and imports, type of ownership (domestic or foreign owned), degree of FDI and activities of foreign affiliates, can begin to shed light on these phenomena.

3. *Well-being and sustainability*

79. The task team on well-being and sustainability focused on identifying indicators for measuring business contributions to well-being and sustainability. This work is closely tied to the policy needs identified by the 2030 Agenda for Sustainable Development and the SDG indicator framework. Recognizing that businesses play a fundamental role with respect to well-being and sustainability, the team considered the link between business activity and corporate social responsibility and extending the scope of business units to non-profit organizations and the informal sector. Indeed, businesses play a direct role in ensuring the well-being of their labour force. An enterprise may extend this upwards along the value chain by selecting suppliers that share the same set of values or principles, or downwards by assuming responsibility for proper treatment of its products after they have been used. The task team also recognized that businesses play an important role in determining their impact on the environment, either directly by their production processes and their products, or indirectly because they are part of a value chain in which other enterprises contribute locally or globally to degrading the environment or depleting it of natural resources. In addition, through R&D and innovation, businesses are in a unique position to provide innovative solutions for local and global issues.

80. Business statistics on well-being and sustainability constitute an emerging area and the Committee has developed indicators to provide information to society and decision makers at the country and business levels. Overall, the indicators fall into three groups. The first group includes indicators on social issues, developed in the light of the SDG promise to "leave no one behind", calling for policies, including business policies, to ensure equality and an inclusive society for all. The second group includes indicators on the environment, developed in the light of the climate change crisis and the need to monitor sustainable and efficient use of energy and water resources. Finally, the third group includes indicators on sustainable innovation and productivity, which are needed in the business sector in order for the Goal on sustainable growth to be achieved.

81. Regarding social issues, the SDGs aim for an inclusive, diverse and non-discriminatory society, including in the business sector. To this end, the Committee has identified indicators on social inclusion in employment, for example, women's share in managerial positions, salaries disaggregated by gender in different types of business and unemployment, broken down by sex, age and disability.

82. The indicators on the environment focus on greenhouse gas emissions from different types of industries, as there is need for better efficiency and less polluting production methods. Indicators on energy efficiency and shares of renewables in energy consumption by type of business are proposed – as most emissions are caused by the use of energy. Also included are indicators on the sustainability of water use in the business sector, as water is often a limited resource. Finally, an indicator on green investment reflects business activity in this evolving area.

83. With regard to the economy, in order to monitor sustainable growth, an indicator on expenditure and staff in R&D is included, as innovation is essential for sustainable change. Indicators on productivity and growth by groups of industries are also included, as efficient business activity is essential for sustainable development. The list also includes indicators on taxes paid to Government by types of business,

as mobilization of resources for the society is identified in Goal 17 on partnership for development.

84. Importantly, this work built on a number of initiatives aimed at harmonizing the non-financial reporting of businesses with information on well-being and sustainability – most notably the initiatives of UNCTAD, the United Nations Global Compact and the Global Reporting Initiative (GRI). The Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting, which is coordinated by UNCTAD, assists developing countries and economies in transition in implementing best practices for accounting and corporate governance with the aim of advancing a minimum set of sustainability indicators for non-financial reporting linked to the SDG indicators.[48] UNCTAD has identified a limited number of indicators for company reporting that are linked to the SDG indicators, such as indicators on energy and water use, carbon dioxide emissions, waste generation and recycling, human resource management, gender equality and community development, among others. Where relevant, and whenever possible, the indicators on well-being and sustainability (as presented in the annex) have largely been based on the corresponding core SDG indicators identified by UNCTAD.

[48] UNCTAD (2020).

85. Corporate sustainability reporting has been facilitated by the standardization of corporate sustainability disclosures as issued by GRI and others, and more data based on results of non-financial issues that will arise in the near future. The GRI sustainability reporting standards (GRI Standards)[49] cover topics ranging from anti-corruption to water, biodiversity to occupational health and safety, taxes to emissions from business activities. The GRI Standards are developed through a transparent multi-stakeholder process and are aligned with widely recognized international instruments for responsible business behaviour. In addition, the 10 principles of the United Nations Global Compact[50] call on businesses to commit to aligning their strategies with universal sustainability goals. The principles fall under four main headings – human rights, labour, environment and anti-corruption – which highlight the different aspects that enterprises should take into account in their operations, and which are derived from the United Nations *Guiding Principles on Business and Human Rights*,[51] the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention against Corruption. In 2017, GRI and the United Nations Global Compact jointly developed an inventory of possible business disclosures per SDG for 169 targets. The inventory serves as a first step towards a uniform mechanism for businesses to report on their contribution to and impact on the Goals in an effective and comparable way.[52] With such standardization in corporate sustainability reporting, company disclosures can increasingly be linked more directly to the Goals, as well as to non-financial reporting at the business level and the business statistics indicators. Information available at the business level on well-being and sustainability that is consistent with the concepts, methods and quality of the information required for monitoring the Goals, and with the macroeconomic accounts is particularly important, as it facilitates the collection of information for NSOs and reduces the response burden on businesses, especially small and medium-size enterprises.

[49] See www.globalreporting.org/.

[50] See https://unglobalcompact.org/what-is-gc/mission/principles.

[51] See www.ohchr.org/documents/publications/guidingprinciplesbusinesshr_en.pdf.

[52] GRI and United Nations Global Compact (2017).

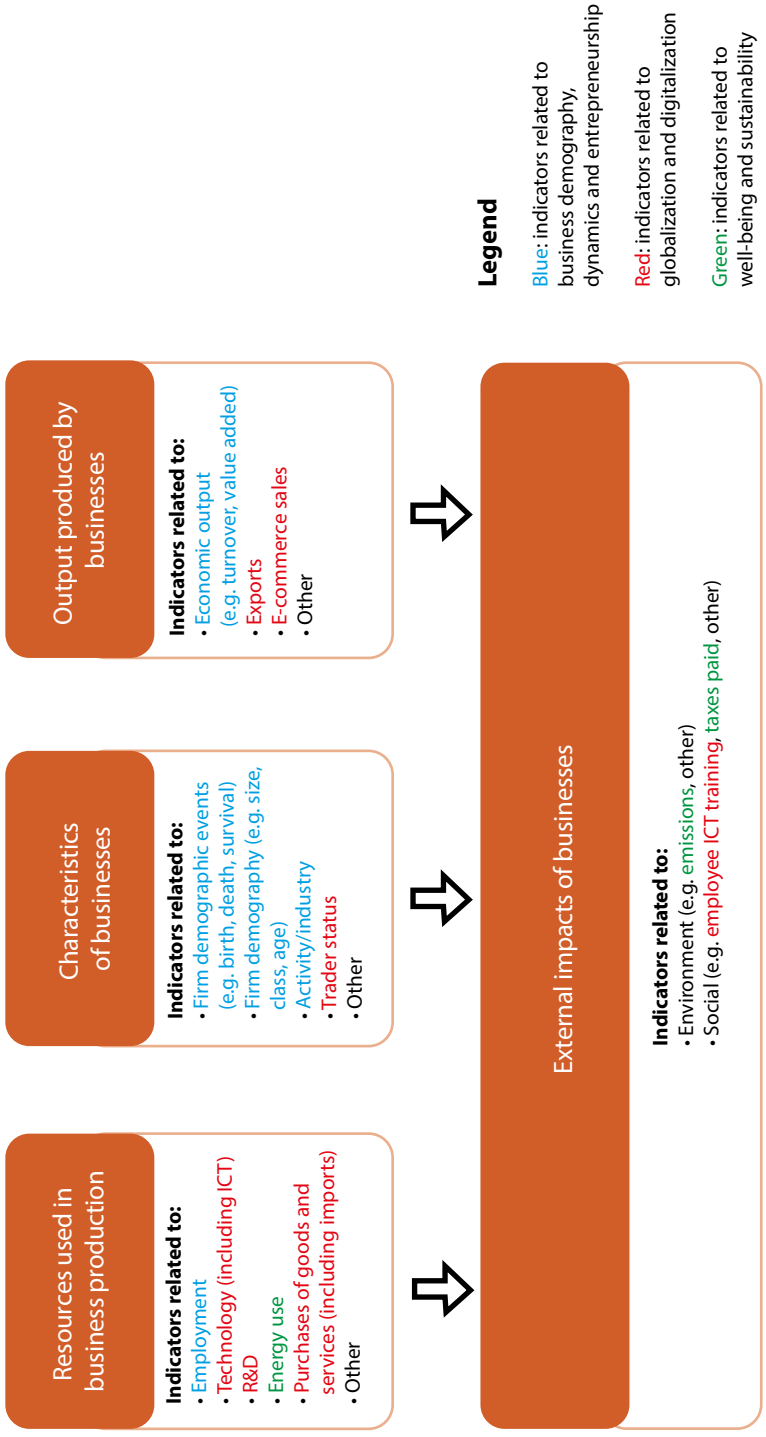
86. The principal indicators for well-being and sustainability are intended to provide information on the contribution of businesses to well-being and sustainability, starting from the SDG indicator framework and identifying relevant business statistics that can also be linked with the basic information available at the business level, in particular non-financial reporting, and that are consistent, to the extent possible, with macroeconomic frameworks such as the SNA and SEEA. These indicators therefore

contain information that can be collected from businesses – either through direct surveys, but also from secondary sources – and about businesses. The coherence of the information from the micro and macro levels is important for an integrated and consistent information system.

87. The principal indicators generally follow the economic, social and environmental dimensions of the SDGs from a business perspective, taking as point of departure the identification of the main SDG indicators in which business activity makes a significant contribution or has an important impact. After this initial selection, another selection was made based on an assessment as to whether the required information can be more easily available at the business level. The indicators broadly address issues of well-being, environmental impact related to energy and water use, and social impacts.

88. Figure 3 presents a schema of how the indicators identified by each workstream align with different perspectives of businesses, namely, resources used in business production, characteristics of businesses, output produced by businesses and external impact of businesses.

Figure 3
Relationship between workstreams and indicators



Chapter III
Principal indicators

89. The principal indicators for business and trade statistics are presented in the present chapter. Note that the present volume 1 focuses primarily on indicators for business statistics and business-related trade statistics. It will eventually be complemented with a second volume that will focus on trade indicators and elaborate on the integration of business and trade statistics. In this chapter, section A describes the delineation and selection of the principal indicators; section B presents the list of indicators and specific considerations for the compilation of the indicators; and, recognizing that the compilation of these indicators may require the collection and compilation of data from different institutions in the country, section C presents considerations on institutional arrangements. Detailed technical sheets for the indicators are contained in the annex.

A. Thematic areas and selection of principal indicators

90. The principal indicators selected for business and trade statistics cover the following thematic areas: business dynamics, demography and entrepreneurship, globalization and digitalization, and well-being and sustainability. They take into account key aspects needed for analysis, research and policymaking in those areas. This set of principal indicators can guide the development of business statistics programmes to address these thematic areas in an internationally comparable manner, using the metadata and methodology presented in the technical sheets in the annex. The Committee of Experts on Business and Trade Statistics has also identified data breakdowns for each indicator, which may be useful for policy and analytical purposes. The breakdowns will also improve the international comparability of the compilation and presentation of the statistics. The breakdowns are identified in the technical sheets for the indicators (see annex) and are generally listed in order of relevance or importance.

91. Countries can prioritize the compilation of indicators and breakdowns according to national policy needs, statistical capacity and relevant international and regional reporting requirements. In this regard, it has been recognized that some countries, which may be lacking detailed administrative records or SBRs to identify certain types of firms, such as MNEs, will need time, resources and capacity-building assistance to develop some of the underlying basic statistics needed to compile the indicators, particularly those on new themes, for example digitization and sustainability.

92. In general, the criteria for selecting the indicators included:

- policy relevance and addressing existing data gaps
- measurability and feasibility of compilation (i.e. availability of underlying data sources)
- assuring accuracy and reliability
- international comparability
- availability of the indicator at the regional or global level.

93. More broadly, the selected indicators are aligned, to the extent possible, with internationally agreed statistical standards and definitions.

B. Principal indicators for business and trade statistics

94. The list of principal indicators for business and trade statistics is organized according to the selected thematic areas, namely, business dynamics, demography and entrepreneurship, globalization and digitalization, and well-being and sustainability.

95. Guidance on the methodology for compiling the indicators is presented in the technical sheets in the annex. The technical sheets include guidance on the following: coverage, classification, breakdowns, units of measure, collection frequency, data sources and reference materials. As indicated previously, the indicators are, to the extent possible, built on existing indicators; therefore the concepts and methods are aligned with those of existing indicator frameworks and noted accordingly in the technical sheets.

96. In particular, the technical sheets present detailed breakdowns for the indicators, generally listed in order of importance and relevance, which would be useful for compilers. The list of breakdowns is not exhaustive; additional breakdowns may be needed for national purposes. For example, data breakdown by gender for relevant indicators would be highly desirable for national policy purposes and for monitoring progress towards achieving the SDGs; however, that is not explicitly included in the technical sheets. Careful consideration with regard to ensuring confidentiality must also be taken into account when applying multiple breakdowns.

97. The indicators focus on the business perspective, whenever possible; that is, they are based on business surveys or other sources of business data. In practice, this means that, when calculating indicators involving value added, for example, the concepts refer to gross value added at factor cost (which is an indicator in structural business statistics) and not value added used in national accounts. More specifically, gross value added at factor cost is gross income from operating activities after adjustment for operating subsidies and indirect taxes. It can be calculated as the total sum of items to be added (+) or subtracted (-). For example:

- turnover (+)
- capitalized production (+)
- other operating income (+)
- increases (+) or decreases (-) of stocks
- purchases of goods and services (-)
- other taxes on products linked to turnover but not deductible (-)
- duties and taxes linked to production (-).

Alternatively, "gross value added" at factor cost can be calculated from "gross operating surplus" by adding "personnel costs".[53]

[53] See Eurostat, Statistics explained, glossary, for definitions.

98. In the absence of data on gross value added at factor cost, gross value added used in national accounts may be used to compile the indicators.

99. In general, the breakdowns are identified by economic activity in accordance with the two-digit divisions in ISIC, Rev. 4.[54] Other relevant breakdowns that are based on the characteristics of businesses include breakdown by legal form (as recorded in the SBR); by trading status (i.e. importer only, exporter only, or importer and exporter (two-way trader), in line with TEC and services trade by enterprise characteristics (STEC) statistics); and by type of ownership (i.e. foreign- or domestically controlled

[54] United Nations (2008).

enterprise, with or without affiliates abroad), if data are available to do so. It should be noted that such breakdowns are not always available, either owing to data limitations or for reasons of confidentiality.

100. The indicators by thematic area are presented below. Specific considerations on the concepts and methods for compiling the indicators relating to each thematic area are discussed in section C below.

1. Business dynamics, demography and entrepreneurship

101. The indicators on business dynamics, demography and entrepreneurship are based on the Eurostat-OECD programme of business demography statistics;[55] the compilation methods are also in line with this programme. Therefore, the population of enterprises, unless otherwise noted in the indicators, include employers and non-employers, and active enterprises consist of all enterprises that had either turnover, employment or investment at any time during the reference period.

Principal indicators on business dynamics, demography and entrepreneurship

1. Number of active enterprises
2. Number of enterprise births[56]
3. Employment created by enterprise births
4. Number of enterprise deaths[57]
5. Loss of employment due to enterprise deaths
6. Number of X-year-old employer enterprises
7. Number of people employed in X-year-old employer enterprises
8. Employment in active enterprises
9. Employment share of enterprise births
10. Enterprise survival rate
11. Number of high-growth enterprises
12. Employment in high-growth enterprises
13. Number of young (up to five years old) high-growth enterprises (gazelles)
14. Employment in young (up to five years old) high-growth enterprises (gazelles)
15. Labour compensation paid by active enterprises
16. Gross value added produced by active enterprises

102. For this set of indicators, it is often useful to include a breakdown by enterprise size, whereby the enterprise size is defined as follows:

Enterprise size	Number of employees
Micro	0 to 9 employees
Small	10 to 49 employees
Medium	50 to 249 employees
Large	250+ employees

For the purpose of business demography, a further breakdown of micro enterprises (e.g. 0 employees, 1–4 employees, 5–9 employees) and small enterprises (e.g. 10–19 employees, 20–49 employees) would be desirable. It is common for business demography statistics to break down micro and small enterprises; however, it is less common to do so for medium and large enterprises, as demographic changes more likely occur among smaller firms. Nonetheless, a full breakdown by size class is useful if data are available.

[55] OECD and Eurostat (2007).

[56] The birth of an enterprise is characterized by "the creation of a combination of production factors with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises. It does not include entries into a sub-population resulting only from a change of activity. A birth occurs when an enterprise starts from scratch and actually starts activity. An enterprise creation can be considered as an enterprise birth if new production factors, in particular new jobs, are created. If a dormant unit is reactivated within two years, this event is not considered a birth". (OECD and Eurostat (2007), glossary).

[57] The death of an enterprise refers to "the dissolution of a combination of production factors with the restriction that no other enterprises are involved in the event. Deaths do not include exits from the population due to mergers, take-overs, break-ups or restructuring of a set of enterprises. It does not include exits from a sub-population resulting only from a change of activity. An enterprise is included in the count of deaths only if it is not reactivated within two years" (ibid.).

103. The size classes for the indicators on business dynamics, demography and entrepreneurship are based on the concept of "number of employees". Thus, an enterprise size class of zero (0) refers to a non-employer enterprise, that is, an enterprise with no employees, such as self-employed individuals who work on their own account and do not employ other people.

2. Globalization and digitalization

104. The indicators on globalization and digitalization cover in particular enablers (e.g. access to and use of ICT infrastructure, capital investment in ICT, R&D and innovation in ICT as evidenced by patents and trademarks, ICT-related training, and so on) and impacts (e.g. on jobs, labour productivity and growth of businesses, globalization of businesses, e-commerce sales, among others).

Principal indicators on globalization and digitalization

17. Total exports of businesses as a percentage of businesses' gross value added
18. Percentage of trading businesses by number of partner countries
19. Export intensity of businesses
20. Value of trade by foreign affiliates
21. Employment abroad in foreign affiliates controlled by resident enterprises as a share of enterprises' total employment
22. Entry and exit rates for the digital economy
23. Average post-entry employment growth for the digital economy
24. Percentage of businesses with Internet connection
25. Capital investment by businesses in ICT as a percentage of total business capital investment
26. Capital investment by businesses in ICT as a percentage of total gross value added
27. Percentage of businesses using cloud computing services
28. ICT-related patents (registered)
29. ICT-related trademarks as a percentage of total trademarks
30. Patents in AI technologies
31. Percentage of businesses engaged in sales via e-commerce
32. Value of e-commerce sales by businesses
33. Labour productivity growth in the ICT sector
34. Contribution of the ICT sector to labour productivity growth
35. Gross value added of businesses in the ICT sector as a percentage of total gross value added
36. Employment of ICT specialists as a percentage of total employment
37. Percentage of businesses providing ICT-related training
38. Percentage of enterprises reporting hard-to-fill vacancies for ICT specialists

105. International trade data on goods and services are a vital component of the indicators on globalization. In general, for international reporting, it is recommended that the indicators on trade in goods and services be disaggregated in accordance with the Central Product Classification (CPC) Version 2.1.[58] The CPC is part of the series of international economic and social classifications and is a complete product classification of goods and services. It is intended to serve as an international standard for assembling and tabulating all kinds of data requiring details on products, including industrial production, national accounts, service industries, domestic and foreign commodity trade, international trade in services, balance of payments, consumption and price statistics. Other basic aims of the CPC are to provide a framework for international comparison and to promote harmonization of various types of statistics

[58] United Nations (2015c).

dealing with goods and services. Other classifications used for indicators on trade are the Harmonized System (HS) Nomenclature (2017 and 2022 editions) for goods, and the Extended Balance of Payments Services Classification (EBOPS) (2010 edition) for services.

106. With regard to indicators on digitalization, following a discussion on the definition of digital economy for the compilation of the indicators, the task team decided to adopt the definition of "digital economy" that was proposed at the meeting of the G20 Digital Economy Task Force, held in Saudi Arabia in 2020:

> The Digital Economy incorporates all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including government, that are utilizing these digital inputs in their economic activities.[59]

[59] OECD (2020), p. 5.

107. This definition is underpinned by the following tiers, which allow for the incorporation of complementary and mutually dependent elements, or perspectives, of digitalization in the economy. This tiered definitional framework will assist countries in scaling up or down the extent of the digital economy, depending on their needs in terms of policy or measurement.

- The "core" measure of the digital economy includes economic activity from producers of digital content, and ICT goods and services.
- The "narrow" measure includes the core measure as well as economic activity derived from firms that are reliant on digital inputs.
- The "broad" measure includes the core and narrow measures as well as economic activity from firms that are significantly enhanced owing to the use of digital inputs.
- The final measure, the "digital society" extends further than the digital economy and incorporates digitalized interactions and activities not included in the GDP production boundary, that is, zero-priced digital services such as free digital platforms (including free public digital platforms). While these interactions and activities are not explicitly considered part of the digital economy, they are important for effective digital policy by Government.
- An additional, alternative measure covers all economic activity that is digitally ordered and/or digitally delivered. This measure can be considered as an alternative perspective of the digital economy, delineating economic activity based on the nature of transactions rather than on the firms' output or production methods, as it focuses on ordering or delivery methods, regardless of the final product or how it is produced.

108. For the purposes of facilitating broader compilation and international comparability of the principal indicators, the core measure of the digital economy, which includes only activity from producers of digital content, and ICT goods and services, has been used.

109. The ICT sector, defined in ISIC Rev. 4, as the production (goods and services) of firms that is "intended to fulfill or enable the function of information processing and communication by electronic means, including transmission and display".[60] While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of

[60] United Nations (2008), para. 219.

the ICT sector. Moreover, the activities, or industries, in the ICT sector are grouped into ICT manufacturing industries, ICT trade industries and ICT services industries.

110. The content and media sector is also included in the core measure of the digital economy. The content and media sector is defined in ISIC Rev. 4 as economic activities, or industries, that are primarily "engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organized message intended for human beings".[61] The following classification of content and media sector activities, or industries, in ISIC Rev. 4 was identified by OECD as being part of the core measure of the digital economy:

581 Publishing of books, periodicals and other publishing activities

591 Motion picture, video and television programme activities

592 Sound recording and music publishing activities

60 Programming and broadcasting activities

639 Other information service activities

The OECD definition of the content and media sector combined with the ICT sector comprise the information industries. For practical purposes, due to limited data availability, these information industries are included in the core measure of the digital economy and can be approximated using the two-digit divisions in ISIC Rev. 4, namely, Computer, electronic and optical products (26); Publishing, audiovisual and broadcasting activities (58 to 60); Telecommunications (61); and IT and other information services (62 and 63).[62]

111. To the extent possible, the principal indicators on digitalization are in line with those identified by OECD in its reports on measuring the digital economy,[63] and with the core list of ICT indicators[64] developed by the Partnership on Measuring ICT for Development, as well as with the work of UNCTAD on the production of statistics on the digital economy.[65]

3. *Well-being and sustainability*

112. The indicators on well-being and sustainability aim to measure the contribution of businesses to individuals' well-being and the impact of businesses on the environment and society.

Principal indicators on well-being and sustainability

39. Proportion of women in managerial positions
40. Annual growth rate of real total gross value added per employed person
41. Average hourly earnings of employees in businesses by sex
42. Unemployment rate by sex, age and persons with disabilities
43. Gross value added of businesses per employed person
44. Sector employment as a proportion of total employment
45. Water-use efficiency in businesses
46. Level of water stress attributable to businesses
47. Share of renewable energy consumption by businesses
48. Energy efficiency in businesses
49. Green investment by businesses
50. Greenhouse gas emissions generated by businesses per unit of value added
51. R&D expenditure as a proportion of gross value added
52. Researchers (in full-time equivalent) per million inhabitants
53. Number of companies publishing sustainability reports
54. Job openings (vacancies) in businesses
55. Taxes and other payments paid by businesses to Government

[61] United Nations (2008), para. 221.

[62] OECD (2020), p. 76.

[63] See OECD (2019) and (2020).

[64] See Partnership on Measuring ICT for Development (2022).

[65] See UNCTAD (2021).

56. Total taxes and other payments paid by businesses to Government as a proportion of total government revenue

113. The starting point for the identification of these indicators was the global indicator framework for the SDGs and targets and identification within this framework of the relevant indicators from a business perspective. The indicators were also mapped to the UNCTAD core indicators for entity reporting on contribution towards the implementation of the SDGs,[66] the GRI Standards for non-financial reporting,[67] and the 10 principles of the United Nations Global Compact. The successful compilation of the previously mentioned indicators requires non-financial reporting of businesses as a data source.

114. In general, indicators for well-being and sustainability are multidimensional in nature and require a combination of data from different domains, in which business statistics are used together with labour market statistics or environmental statistics, for example. Analyses and additional work with some statistical data sources may be needed to ensure a high level of consistency in terms of coverage and other elements in the definitions. With regard to the environmental indicators, efforts were made to ensure consistency with SEEA in order to ensure, to the extent possible, integration between business statistics and the national accounts. Similar efforts were made to ensure consistency with indicators on the labour force.

115. Some indicators on well-being and sustainability combine monetary and physical information. In this context, monetary information should be in constant prices (e.g. constant 2010 prices in the first round). If monetary values in gross value added at factor cost in businesses do not exist in the business statistics in constant prices, the use of gross value added in constant prices for national accounts compilation is desirable.

116. Indicators on green investment are particularly important to monitor efforts to reduce pollution and other forms of degradation to the environment and are also particularly relevant for measuring progress towards the SDGs. The task team on well-being and sustainability discussed how to define "green investment".

117. Although the definition of green investment is not considered final by the Committee, the term green investment, as used in the technical sheets, is closely based on the definition in the SEEA Central Framework of environmental protection expenditure. Green investment refers to physical investments that can be considered positive for the environment in a direct or indirect manner through resource saving or environmental protection, or all the expenditures for those investments whose purpose is the prevention, reduction and elimination of pollution and other forms of degradation to the environment. The SEEA Central Framework[68] refines the definition of environmental protection expenditure by looking at capital formation in the environmental goods and services sector, which includes environmental specific services, environmental sole-purpose products, adapted goods and environmental technologies.[69]

C. Institutional coordination and governance

118. As new demands by users for broader and multidimensional measures of business and trade statistics emerge, the need for better coordination of the system of economic statistics becomes increasingly more challenging. Indeed, the compilation of the principal set of indicators requires coordination among producers of official statistics covering the domains of classifications, business, trade, environment, energy, social, demographic and prices, among others. Enhanced institutional governance is

[66] UNCTAD (2019).

[67] See www.globalreporting.org/about-gri/.

[68] United Nations and others (2014).

[69] More specifically, (1) environmental specific services have the main purpose of: (a) preventing or minimizing pollution, degradation or natural resources depletion (including the production of energy from renewable sources); (b) treating and managing pollution, degradation and natural resource depletion; (c) repairing damage to air, soil, water, biodiversity and landscapes; and (d) carrying out other activities such as measurement and monitoring, control, research and development, education, training, information and communication related to environmental protection or resource management; (2) environmental sole-purpose products are goods (durable or non-durable) or services whose use directly serves an environmental protection or resource management purpose and that have no use except for environmental protection or resource management; (3) adapted goods are goods that have been specifically modified to be more "environmentally friendly" or "cleaner" and whose use is therefore beneficial for environmental protection or resource management; and (4) environmental technologies are technical processes, installations and equipment (goods), and methods or knowledge (services), whose technical nature or purpose is environmental protection or resource management (ibid., paras. 4.97–102).

important not only within national statistical systems, but also among the different government agencies that may be involved in the collection of relevant data needed to compile the principal indicators.

119. This enhanced coordination needs to be supported and facilitated by appropriate institutional governance mechanisms to help to ensure access to microdata, microdata linking using exhaustive business registers, integrated surveys and survey frames, common access to administrative data, communication about common elements, such as classifications and definitions, shared IT resources and data processing instruments, and learning the methodological frameworks of related statistical domains. A "whole-of-system" approach for the system of economic statistics has been recommended, whereby international organizations and NSOs adopt a thematic approach as compared to a domain-specific approach to address a policy issue. Such an integrated view would bring together a dashboard of a coherent set of statistics and indicators from the various domains of the system of economic statistics.[70] International and regional statistical agencies also have a role to play in the whole-of-system approach, whereby they "support collaboration of the national statistical partnerships to deliver globally and at scale, … promote co-investments in statistical infrastructure through shared technology cloud-based platforms, trusted data sharing and exchange arrangements, shared central global repository of big data from global agreements with private sector owners, shared libraries of methods and algorithms, and a global register of MNEs",[71,72] which is already under way in the Global Groups register.[73]

[70] United Nations (2020).

[71] See, for example, European Union (2019).

[72] United Nations (2020).

[73] See United Nations (2015a). At its forty-sixth session in 2015, the Statistical Commission endorsed the creation of a global register of MNE groups to improve the understanding and the measurement of international trade and globalization statistics.

Chapter IV
Looking ahead

120. The list of principal indicators presented in the annex focuses on business statistics and business-related trade statistics. It is envisaged that the present manual will be complemented by a set of indicators specifically for trade statistics, which will be developed by the task team on international trade statistics. The objective of identifying the principal indicators is to provide countries with a reference list of indicators that are relevant at the global level, and that can guide the development of a business and trade statistics programme to inform selected priority areas. Looking ahead, the Committee of Experts on Business and Trade Statistics will consider developing a global database on some of these indicators, building on existing initiatives and in collaboration with relevant international and regional organizations.

121. With the new demand for business and trade statistics, especially after the coronavirus disease (COVID-19) pandemic, it is clear that future efforts should focus on investigating new approaches to business and trade statistics in order to provide more granular information more frequently. New sources of data can be explored for compiling official statistics, and the SBRs will continue to be the backbone of economic statistics and serve as the integrating tool for data from different sources.

122. Efforts to improve the horizontal and vertical integration of business and trade statistics will be a key aspect of the Committee's future work. The horizontal integration will be across statistical domains, in particular business and trade statistics. The vertical integration refers to the integration of primary data, statistics and accounts. For trade statistics, for example, this integration means fostering the consistency of primary data (e.g. customs data) with trade statistics and with the macro accounting frameworks of the SNA and those contained in the IMF balance of payments manual.[74] The task team on international trade statistics will revise the manuals on statistics on international trade in goods and services, and it is expected that monitoring tools will be in place for the advancement of the discussions integrated with the revision of the SNA and the balance of payments manual. The task team will coordinate the work with the Committee's other task teams in order to better integrate and harmonize business and trade statistics.

[74] IMF (2009).

Annex

Technical sheets for the principal indicators for business and trade statistics

Section A. Indicators on business dynamics, demography and entrepreneurship

1. Number of active enterprises

Field	Metadata
Name of the indicator	Number of active enterprises[1] (population of active enterprises in reference period)
Definition of the indicator	Enterprises that had turnover, employment or investment at any time during the reference period
Objective of the indicator	The number of active enterprises is the starting point for the derivation of business demography events. It provides the denominator for a wide range of indicators and thus ensures a degree of comparability between countries with economies of different sizes and allows for the analysis of general trends in the patterns and relative contributions of different sectors of the economy over time. [1][2]
Contribution and usefulness of the indicator	The population of active enterprises is intrinsically linked to the definitions of births and deaths of enterprises. [1] The business dynamics of entry and exit contribute to productivity dynamics and eventually to economic growth. [2] As well as providing the denominator for a range of indicators, the population of active enterprises can also be used to produce various useful indicators, particularly relating to the evolution of the enterprise population over time. Such indicators allow the trends in the enterprise population to be analysed (e.g. the extent and speed of the move to a service-based economy or the rate of growth of ICT activities). [1]
Classification	International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[3] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[4] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical statistical business register (SBR) breakdown) [3][4][5]

1 An enterprise refers to an institutional unit as a producer of goods and services (System of National Accounts 2008). The term "business" is used as a type of enterprise undertaking market activity. These indicators concern units engaged in economic activity and are referred to as "businesses" to reflect the fact that, although the types of statistical units observed are mainly enterprises, they may also be establishments or local units, depending on the coverage of the SBR and the data sources used to maintain the SBR.

2 The numbers in square brackets refer to the reference documents.

3 It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

4 An enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Algorithm	Population of active enterprises (N) in year *t* comprises all enterprises that were active at any time during the reference period. Being active is defined as producing goods and services (for the market) and thus having employment or turnover. Units without actual turnover but with investment activities should also be considered as being active. [2]
Description of the calculation of the indicator	The population of active enterprises, including all employers and non-employers (N), consists of all enterprises that had either turnover, employment or investment at any time during the reference period. If there is insufficient information on turnover, employment or investment to determine whether or not an enterprise is active, then national methods leading to this aim will be accepted. [1]
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments or legal units)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at a minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [6] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year. [7]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020a). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] United Nations (2009). [7] Eurostat Metadata (a).

2. Number of enterprise births

Field	Metadata
Name of the indicator	Number of enterprise births
Definition of the indicator	The number of births of enterprises registered to the population of enterprises in the SBR, corrected for errors. The birth of an enterprise refers to the creation of a combination of production factors, with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises. Births do not include entries into a sub-population resulting only from a change of activity. [1]
Objective of the indicator	To measure the creation of new enterprises that have started from scratch and that have actually started activity during the reference period [2]
Contribution and usefulness of the indicator	This indicator is an important contributor for analysing business dynamics.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees).[5] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[6] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	The following steps are necessary for the identification of enterprise births: Step 1: Population of active enterprises (N) in reference year *t*, as well as in *t*-1 and *t*-2 (i.e. N(*t*), N(*t*-1) and N(*t*-2)). Step 2: Identification of the new enterprises in year *t* (i.e. the subset of the population of active enterprises in year *t*, which began economic activity between 1 January and 31 December). They can be identified by comparing the population of active enterprises in year *t* with the population of active enterprises in year *t*-1. New enterprises are identified as enterprises that are present only in year *t*. Step 3: Elimination of reactivations. The most straightforward way to identify reactivations is to compare the new enterprises in year *t* with the population of active enterprises in year *t*-2. If a new enterprise in year *t* was active in year *t*-2 then the enterprise is considered reactivated, and not a genuine new enterprise. Step 4: Elimination of enterprises created due to events other than births (i.e. due to break-ups, split-offs, mergers or one-to-one takeovers) from the population of new enterprises. Step 5: Correction of errors by manual investigation. [1] [2]
Description of the calculation of the indicator	*Enterprise births* are births of all enterprises, regardless of whether they are employers or not. No general threshold is applied to the size of the enterprise in terms of employment or any other characteristics. Related concepts are *employer enterprise births* and *economic enterprise births*, which focus on the births of enterprises with at least one and two employees, respectively. *Employer enterprise births* are births of enterprises with at least one employee, if (a) it was an enterprise birth in year *t* and had at least one employee in the year of birth, or (b) it existed before year *t*, was not an employer for the two previous years and had at least one employee in year *t* (entry by growth). The growth should not be due to the takeover of another enterprise with employees. *Economic enterprise births* are births of enterprises with at least two employees, if (a) it was an enterprise birth in year *t* and had at least two employees in the year of birth, or (b) it existed before year *t*, had less than two employees in the previous two years and had at least two employees in year *t* (entry by growth). The growth should not be due to the takeover of another enterprise. [1]

[5] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[6] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Unit of measure	Number (absolute figure)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at a minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [6] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year. [7]
Source data type	National SBR is main source of business demography data
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020a). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] United Nations (2009). [7] Eurostat Metadata (a).

3. Employment created by enterprise births

Field	Metadata
Name of the indicator	Employment created by enterprise births
Definition of the indicator	Employment generated by enterprise births [1]
Objective of the indicator	To measure how newborn enterprises contribute to the creation of jobs, as well as the actual volume of work created
Contribution and usefulness of the indicator	Employment created by enterprise births provides an indication of how enterprise births contribute to overall employment in the economy. This indicator can also be used to derive the employment of enterprise births in year *t* as a share of employment in all active enterprises in year *t*. [1]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[7] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0, [8] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [2][3][4]
Algorithm	Number of employees in reference period *t* in enterprises born in *t*
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*. Ideally, data should be provided both as headcount and as full-time equivalents. Using solely the headcount will overestimate the volume of work produced if the enterprise started later than 1 January of year *t* or if it has only part-time employment. However, as information on full-time equivalents is not available in all countries, it is proposed that, as a first priority, employment indicators should be measured in terms of headcount. The headcount of persons employed, or the number of employees, should be calculated as an annual average over the operating period of the enterprise. [1]
Unit of measure	Number (in terms of headcount). If information is available on full-time equivalents, it should be used to complement the measure and should be indicated in the metadata. [1]
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually at a minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] Eurostat (2020a). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017).

[7] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[8] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

4. Number of enterprise deaths

Field	Metadata
Name of the indicator	Number of enterprise deaths
Definition of the indicator	The death of an enterprise refers to the dissolution of a combination of production factors with the restriction that no other enterprises are involved in the event. Deaths do not include exits from the population due to mergers, takeovers, break-ups or restructuring of a set of enterprises. It does not include exits from a sub-population resulting only from a change of activity. An enterprise is included in the count of deaths only if it has not been reactivated within two years. Likewise, the reactivation of an enterprise within two years is not counted as a birth. [1]
Objective of the indicator	To measure the number of enterprises that have ceased their economic activity in the reference period
Contribution and usefulness of the indicator	This indicator is an important contributor to business dynamism owing to its impact on employment and its effect on the labour market (i.e. the amount of employment lost) or the effect on the economy in financial terms (i.e. the amount of turnover lost) [1]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[9] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[10] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [2][3][4]
Algorithm	The following steps are necessary for the identification of enterprise deaths. Step 1: Population of active enterprises (N) in reference year *t*, as well as in *t*+1 and *t*+2 (i.e. N(*t*), N(*t*+1) and N(*t*+2)). Step 2: Identification of cessations of activity in year *t* (i.e. the subset of the population of active enterprises in year *t*, which ceased economic activity between 1 January and 31 December). They can be identified by comparing the population of active enterprises in year *t* with the population of active enterprises in year *t*+1. Cessations are identified as enterprises that are present only in year *t*. Step 3: Elimination of reactivations: Cessations should be checked for reactivation in the only subsequent two calendar years (*t*+1 and *t*+2), because enterprises that are dormant for less than two years are considered reactivations and not deaths followed by birth. An enterprise death occurs only if the unit has been inactive for at least two years. Step 4: Elimination of cessations due to other events than death (i.e. due to break-ups, mergers or takeovers) – matching of criteria, as for enterprise births. [1]

[9] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[10] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Description of the calculation of the indicator	*Enterprise deaths* cover the death of all enterprises, regardless of whether they are employers or not. No general threshold is applied to the size of the enterprise in terms of employment or any other characteristics. Related concepts are *employer enterprise deaths* and *economic enterprise deaths*, which focus on the deaths of enterprises with at least one and two employees, respectively. *Employer enterprise deaths* refer to deaths of enterprises with at least one employee. This population consists of enterprise deaths that had at least one employee in the year of death, and of enterprises that move below the threshold of one employee for at least two years. *Economic enterprise deaths* refer to deaths of enterprises with at least two employees. This population consists of enterprise deaths that had at least two employees in the year of death, and of enterprises that move below the threshold of two employees for at least two years. Enterprise deaths, except for the units below the respective employee thresholds, cover largely the population of employer and economic enterprise deaths. However, there are also enterprises that move below the threshold of one or two employees, but that continue activity below this threshold. These should be considered employer enterprise deaths or economic enterprise deaths, respectively. Employer enterprise deaths occur either (a) as an enterprise death with the enterprise having at least one employee in the year of death, or (b) as an exit by decline, i.e. the enterprise moving below the threshold of one employee. Economic business demography: Economic enterprise deaths occur either as (a) an enterprise death with the enterprise having at least two employees in the year of death, or (b) as an exit by decline, that is, the enterprise moving below the threshold of two employees.
Unit of measure	Number (absolute figure)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at a minimum. Quarterly data should reflect short-term trends and may be based on alternative sources. For quarterly frequency, declarations of bankruptcies may be used as an early approximation of the number of enterprise deaths. Annual data should reflect the economic reality in terms of enterprise deaths during the reference period.
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [2] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year. In the case of indicators on enterprise deaths, a two-year lag is foreseen in the methodology in order to confirm whether a presumed death has, in fact, been reactivated. For this reason, information on deaths may need to be revised more often or is generally available later than the stock of enterprises and enterprise births.
Source data type	National SBR is the main source of business demography data. In countries with sample surveys, signs of death may include, for example, cessation of tax compliance or inability to contact the enterprise after repeated efforts.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2009). [3] Eurostat (2020b). [4] Eurostat Metadata (b).

5. Loss of employment due to enterprise deaths

Field	Metadata
Name of the indicator	Loss of employment due to enterprise deaths[11]
Definition of the indicator	This indicator provides information on the loss of employment due to enterprise deaths, or the reduction in employment due to deaths of enterprises in the reference year
Objective of the indicator	To measure the impact of enterprise deaths on the labour market in terms of the amount of employment lost [1]
Contribution and usefulness of the indicator	Employment is the most important variable in business demography, as well as one of the main criteria for determining the size class of an enterprise. [2] Data on births and deaths of enterprises, their survival rates and the role they play in economic growth and productivity, as well as data for tackling sociodemographic issues, are increasingly requested both by policymakers and analysts. [2]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[12] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[13] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	Once the population of enterprise deaths is established, the total number of people employed can be calculated as the sum of the number of people employed in each enterprise in the population. Employment is an annual average headcount calculated over the operating period. Since an enterprise death occurs only if the unit has been inactive for at least two years, data on enterprise deaths will lag behind by one year compared with the data on the population of active enterprises and enterprise births. Handling a death in the SBR means giving the enterprise an activity status of dead, also described as deathing or ceasing the unit. Although this does not actually involve erasing the unit from the database, it is sometimes referred to as deleting the unit. Deaths are typically detected through survey activities and through the disappearance of units from an administrative source. [2]
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments or legal units)
Reference period	Basic reference period is the calendar year for annual data. Since deaths are not confirmed until after two years so as to exclude the possibility of a reactivation, data on deaths and related variables are reported one year later than other data. [1]

[11] This indicator is the same as the concept of "employment destroyed by enterprise deaths", and the OECD Structural and Demographic Business Statistics (SDBS) indicator, "Number of people employed in employer enterprise deaths".

[12] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[13] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at a minimum. Quarterly data should reflect short-term trends and may be based on alternative sources. For quarterly frequency, declarations of bankruptcies may be used as an early approximation of the number of enterprise deaths. Annual data should reflect the economic reality in terms of enterprise deaths during the reference period.
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [6] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year. For indicators on enterprise deaths, a two-year lag is foreseen in the methodology in order to confirm whether a presumed death has been reactivated. For this reason, information on deaths may need to be revised more often or is generally available later than the stock of enterprises and enterprise births.
Source data type	Depending on the source and quality of the information, employment data taken directly from the SBR may be used in compiling employment statistics. They are especially useful for small area statistics, where the SBR may be the only comprehensive source. In some countries, all these data can be obtained directly from administrative sources, while in other countries administrative sources may provide only the number of paid employees. In the latter case, the number of people employed can be estimated according to legal form and activity. National SBR is the main source of business demography data. In countries with sample surveys, signs of death may include, for example, the cessation of tax compliance or the inability to contact the unit after repeated efforts.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020a). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] United Nations (2009).

6. Number of X-year-old employer enterprises

Field	Metadata
Name of the indicator	Number of X-year-old employer enterprises
Definition of the indicator	- Number of enterprises newly born in *t*-1 and still surviving in *t* - Number of enterprises newly born in *t*-2 and still surviving in *t* - Number of enterprises newly born in *t*-3 and still surviving in *t* - Number of enterprises newly born in *t*-4 and still surviving in *t* - Number of enterprises newly born in *t*-5 and still surviving in *t* Number of enterprises that are active in terms of employment, turnover and/or investment in the year of birth and subsequent year(s). Number of businesses born in *t* that are still active in *t*+1, *t*+2, *t*+3, etc. This type of analysis is based on data for a cohort of enterprise births in year *t*, which enables follow-up of the development of the newly born enterprises over the years, i.e. how many have survived and what is their economic development in terms of employment and/or turnover. The time-horizon for this type of analysis is usually up to five years but could also be much longer. The number of enterprises born in year *t*-n and remaining active in *t*, where n=1, 2, 3, 4, 5
Objective of the indicator	Business demography events like births, deaths and survivals can be linked to characteristics of the entrepreneur to analyse determinants of business success. Observing the post-entry performance of firms is as important as analysing their birth rate. Very high failure rates can act as a disincentive to both budding entrepreneurs, as well as potential creditors, which could hinder long-term growth and innovation.
Contribution and usefulness of the indicator	The information generated can be used to inform business policies, for economic planning, and for analytical and research purposes
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[14] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[15] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [1][2][3]

[14] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[15] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Algorithm	The survival of an enterprise is an event that should always be observed between two consecutive years. For instance, an enterprise that was born in year *t* should be considered as having survived to *t*+2 only if it was also active in year *t*+1, and so forth. Survivals from a survival year to the next year should therefore be identified in the same way as the survivals from a birth year to the subsequent year. The production of survival statistics can be based on three populations, which are all part of the production of the statistics on births: - Births in year *t*, or enterprises having survived to *t* from a previous year. - Active enterprises in year *t*+1 - Enterprises that have commenced activity in year *t*+1 with the purpose of taking over the factors of production of an enterprise that commenced activity before *t*+1. As it is necessary to identify the link between enterprises, the data set should consist of two variables, namely the identity numbers of the enterprises that cease to exist and the identity numbers of the enterprises that take them over. Using these three populations, it is possible to identify surviving enterprises, enterprises that cease to exist and enterprises that have been taken over, by matching the populations using the enterprise identity number as the key. [4]
Description of the calculation of the indicator	The survival of an enterprise is defined as follows: • An enterprise born in year *t* or having survived to year *t* from a previous year is considered to have survived in year *t*+1 if it is active in terms of turnover, employment and/or investment in any part of year *t*+1 (= survival without changes). • An enterprise is also considered to have survived if the linked legal unit(s) have ceased to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (= survival by takeover). For the populations of employer enterprise births and economic enterprise births, the employee thresholds of one or two employees, respectively, apply to the employment criterion. This definition is therefore in accordance with that used for the population of active enterprises and enterprise births. [4]
Unit of measure	Number (absolute figure)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [5]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] Eurostat (2020a). [2] Eurostat Metadata (b). [3] Eurostat and OECD (2017). [4] OECD and Eurostat (2007). [5] Eurostat Metadata (a).

7. Number of people employed in X-year-old employer enterprises

Field	Metadata
Name of the indicator	Number of people employed in X-year-old employer enterprises
Definition of the indicator	Total number of people who work in businesses born in year *t* that are still active in *t*+1, *t*+2, *t*+3, *t*+4 and *t*+5, and so on. The time-horizon for this type of analysis is usually up to five years but could also be longer.
Objective of the indicator	This indicator provides the denominator for a wide range of indicators and thus ensures a degree of comparability between countries with economies of different sizes. It also serves to appreciate general trends in the patterns and relative contributions of different sectors of the economy over time. [1]
Contribution and usefulness of the indicator	This indicator contributes to the understanding of the role that different firms play in overall employment changes in the economy.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[16] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[17] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [2][3][4]
Algorithm	Calculation is based on employment in the population of enterprises identified in the indicator "Number of X-year-old employer enterprises". [1]
Description of the calculation of the indicator	Employment data based on an enterprise that is active in terms of employment, turnover and/or investment in the year of birth and in subsequent year(s) [1] and [5] It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [6]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007) outlines the methodology to be used for the production of the data in national statistical institutes. [2] Eurostat (2020b), pp. 26, 60 and 68. [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] United Nations (2024). [6] Eurostat Metadata (c).

[16] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[17] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

8. Employment in active enterprises

Field	Metadata
Name of the indicator	Employment in active enterprises
Definition of the indicator	The indicator measures employment in the population of active (employer and non-employer) enterprises in the period *t*, measured in headcount and full-time equivalents. Given that information on full-time equivalents is not widely available in all countries, employment should be measured in terms of headcount as a first priority. [1]
Objective of the indicator	To measure the impact of active businesses on employment
Contribution and usefulness of the indicator	The indicator will contribute to understanding the role that different businesses have in overall employment changes in the economy; it will also serve as a denominator for other indicators.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[18] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[19] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [2][3][4]
Algorithm	It is recommended to compile this indicator based on the concept of *employment*. The headcount of persons employed, or the number of employees, should be calculated as an annual average over the operating period of the enterprise. The average should be rounded to the nearest whole number. Depending on the frequency of data updates, the annual average is the arithmetic mean of the intra-annual observations or the only annual figure that is available, if this is the case. Using an annual average over the operating period accommodates for seasonal activities, which would not be the case if the employment at a certain reference point were used. With regard to employer enterprises, the operating period to be considered is that during which they are active as employers. For instance, an enterprise that was active without any paid employees during three quarters and which had one employee in the fourth quarter should be considered as an active employer only for the fourth quarter. If only the fourth quarter is considered as the operating period, the average number of employees would still be reported correctly as one. [1]
Description of the calculation of the indicator	Point-in-time estimates of employment will affect these estimates. In such cases, countries should use payroll information, if available, as a source to estimate the number of employees, following the averaging principles outlined above. Examples of employment measurements: (1) If an enterprise has activity during 3 months in the summer only with two people employed, the annual average headcount will be two; 2) If the enterprise is created during the last quarter of the year, the observation for employment in this quarter should be used as the annual average.
Unit of measure	Number (absolute figure)
Statistical unit	Enterprises (in case of lack thereof, establishments or legal units)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases

[18] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[19] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Timeliness	Quarterly data should be published within three months after the end of the reference period. [5] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] United Nations (2009).

9. Employment share of enterprise births

Field	Metadata
Name of the indicator	Employment share of enterprise births
Definition of the indicator	The ratio of employment in newly born enterprises to employment in active enterprises [1]
Objective of the indicator	To measure the impact of enterprise births in terms of the effect on the labour market
Contribution and usefulness of the indicator	This indicator provides a measure of the impact of newly born enterprises on the number of jobs in the economy. There is particular interest in the number of jobs created by new enterprises, as well as the actual volume of work created.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees. [20] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0, [21] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [2][3][4]
Algorithm	Employment created by enterprise births in reference period *t* divided by employment in the population of active enterprises in *t*
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*. See the indicators "Employment created by enterprise births" and "Employment in active enterprises" for full descriptions of these concepts.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [5] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	This is a derived indicator. For the data sources of the primary indicators, please see the relevant technical sheets.
Reference documents	[1] OECD and Eurostat (2007). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] United Nations (2009).

[20] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[21] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

10. Enterprise survival rate

Field	Metadata
Name of the indicator	Enterprise survival rate
Definition of the indicator	The one-year enterprise survival rate is defined as the ratio of the number of enterprises born in year *t* and having survived in year *t*+1 to the number of enterprises born in year *t*. This also applies to two-year, three-year, four-year and five-year survival rates. [1]
Objective of the indicator	Business demography events like births, deaths and survivals can be linked to characteristics of the entrepreneur to analyse determinants of business success. Observing the post-entry performance of businesses is as important as analysing their birth rate. Very high failure rates can act as a disincentive to both budding entrepreneurs as well as potential creditors, which could hinder long-term growth and innovation. [2].
Contribution and usefulness of the indicator	The indicator offers insight into the development of the business population over time and the performance of the businesses being created. The information generated can be used to inform business policies for economic planning and for analytical and research purposes. [2]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[22] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[23] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	The ratio of the number of enterprises born in year *t* and having survived in year *t*+1 to the number of enterprises born in year *t*. This also applies to two-year, three-year, four-year and five-year survival rates.
Description of the calculation of the indicator	In the context of business demography, survival occurs if an enterprise is active in terms of employment, turnover and/or investment in the year of birth and in the subsequent year(s). Two types of survival can be distinguished: (1) An enterprise born in year *t* is considered to have survived in year *t*+1 if it is active in terms of turnover, employment and/or investment in any part of year *t*+1 (= survival without changes); (2) An enterprise is also considered to have survived if the linked legal unit(s) cease to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (= survival by takeover). [1] See the indicator "Number of enterprise births" for a full definition of enterprise births in year *t*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases

[22] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[23] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Timeliness	Quarterly data should be published within three months after the end of the reference period. [6] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] United Nations (2009).

11. Number of high-growth enterprises

Field	Metadata
Name of the indicator	Number of high-growth enterprises
Definition of the indicator	All enterprises that have above a meaningful threshold of employees in the beginning of the high-growth period[24] with average annualized growth greater than 10 per cent per annum over a three-year period. Growth can be measured by the number of employees or by turnover. However, in practice, because of the lack of international comparability of data in different currencies and purchasing powers, growth is usually measured by the number of employees. If growth in the number of employees or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise. [1] [2]
Objective of the indicator	To identify enterprises that have relatively high growth and are therefore intensively contributing to the growth of overall employment [2]
Contribution and usefulness of the indicator	High-growth firms are important contributors to job and wealth creation. A small set of high-growth enterprises drives a disproportionately large amount of employment creation. High-growth enterprises are businesses that, by their extraordinary growth, make the largest contribution to net job creation, despite typically representing a small proportion of the business population. With their presence in the economy considered promising for the creation of more jobs and innovation, interest in high-growth firms is high among policymakers.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum (for this indicator, the activity code of the final period should be used for stratifying high-growth enterprises) • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[25] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[26] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	Growth can be measured by employment or by turnover. As average annualized growth must be measured, the formulas for describing high-growth enterprises are: Measured by employment $\sqrt[3]{\frac{employees(t)}{employees(t-3)}} - 1 > 0.1$ Measured by turnover $\sqrt[3]{\frac{turnover(t)}{turnover(t-3)}} - 1 > 0.1$ [1]

[24] A provisional threshold of at least 10 employees is suggested but should be determined after tests have been performed using different thresholds.

[25] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[26] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Description of the calculation of the indicator	All enterprises reaching the employee threshold with average annualized growth greater than 10 per cent per annum over a three-year period should be considered as high-growth enterprises. If growth in employment or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise. It follows from the definition that enterprises born in year *t* should not be included in the group of high-growth enterprises before *t*+4. [2] When trying to identify high-growth enterprises, it is not necessary to check the change in employment or turnover from one year to the next over a three-year period. It is sufficient to consider only the population of active enterprises reaching the employee threshold in year *t*-3 and to measure the number of employees in year *t*. [1]
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [6]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] Eurostat Metadata (c).

12. Employment in high-growth enterprises

Field	Metadata
Name of the indicator	Employment in high-growth enterprises
Definition of the indicator	Number of people employed in high-growth enterprises that have above a meaningful threshold of employees in the beginning of the high-growth period[27] with average annualized growth greater than 10 per cent per annum over a three-year period. Growth can be measured by the number of employees or by turnover. However, in practice, because of the lack of international comparability of data in different currencies and purchasing powers, growth is usually measured by the number of employees. If growth in the number of employees or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise. [1] [2]
Objective of the indicator	To measure the number of people employed in high-growth enterprises [2]
Contribution and usefulness of the indicator	In the context of the analysis of business dynamics and entrepreneurial performance, the role of high-growth enterprises as drivers of job and wealth creation has attracted the interest of analysts and policymakers. [2]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum (for this indicator, the activity code of the final period should be used for stratifying high-growth enterprises) • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[28] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[29] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	Number of people employed in high-growth enterprises that have above a meaningful threshold of employees in the beginning of the high-growth period with average annualized growth greater than 10 per cent per annum over a three-year period. Growth can be measured by employment or by turnover. See the indicator "Number of high-growth enterprises" for the algorithm for measuring high-growth enterprises.
Description of the calculation of the indicator	All enterprises reaching the employee threshold with average annualized growth greater than 10 per cent per annum over a three-year period should be considered as high-growth enterprises. If growth in employment or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise. It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Number (absolute figure)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases

[27] A provisional threshold of at least 10 employees is suggested, but should be determined after tests have been performed using different thresholds.

[28] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[29] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [6]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] Eurostat Metadata (a).

13. Number of young (up to five years old) high-growth enterprises (gazelles)

Field	Metadata
Name of the indicator	Number of young (up to five years old) high-growth enterprises (gazelles)
Definition of the indicator	Total number of young (up to five years old) enterprises that have above a meaningful threshold of employees in the beginning of the high-growth period[30] with average annualized growth greater than 10 per cent per annum over a three-year period. Growth can be measured by the number of employees or by turnover statistics. However, in practice, because of the lack of international comparability of data in different currencies and purchasing powers, growth is usually measured by the number of employees. If growth in employment or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise. Gazelles are the subset of high-growth enterprises which are up to five years old. See the indicator "Number of high-growth enterprises" for a full definition of high-growth enterprise. [1] [2]
Objective of the indicator	To identify young enterprises that have relatively high growth and are therefore intensively contributing to the growth of overall employment [2]
Contribution and usefulness of the indicator	High-growth enterprises are important contributors to job and wealth creation. A small set of high-growth enterprises drives a disproportionately large amount of employment creation. High-growth enterprises are businesses that, by their extraordinary growth, make the largest contribution to net job creation, despite typically representing a small proportion of the business population. With their presence in the economy considered promising for the creation of more jobs and innovation, interest in high-growth firms is high among policymakers.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum (for this indicator, the activity code of the final period should be used for stratifying high-growth enterprises) • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[31] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[32] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]

[30] A provisional threshold of at least 10 employees is suggested but should be determined after tests have been performed using different thresholds.

[31] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[32] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Algorithm	Number of all young (up to five years old) enterprises that employ above a meaningful threshold of employees at the beginning of the three-year observation period (a provisional threshold of at least 10 employees has been suggested, but should be determined after tests have been performed using different thresholds) with average annualized growth greater than 10 per cent per annum over a three-year period. Growth can be measured by employment or by turnover. As average annualized growth must be measured, the formulas for describing high-growth enterprises are: Measured by employment $\sqrt[3]{\frac{employees(t)}{employees(t-3)}} - 1 > 0.1$ Measured by turnover $\sqrt[3]{\frac{turnover(t)}{turnover(t-3)}} - 1 > 0.1$ [1]
Description of the calculation of the indicator	When identifying high-growth enterprises, it is not necessary to check the change in employment or turnover from one year to the next over a three-year period. It is sufficient to consider only the population of active young (up to five years old) enterprises reaching the employee threshold in year *t*-3 and to measure the number of employees in year *t*. [1] [2] In principle, with reference to a population of newly born enterprises N, the high-growth period of three years can occur at different stages in the five-year monitoring and survival period. In a given reference year *t*, gazelles may be in different cohorts of newly born enterprises, for example N(*t*-3), N(*t*-4) or N(*t*-5) – i.e. enterprises in their third, fourth or fifth year of survival (remember that the birth year of an enterprise is considered as year zero). To be consistent with the exclusions suggested for high-growth enterprises in general, survivals from population N(*t*-4) and N(*t*-5) should be considered, but not population N(*t*-3). To summarize, potential high-growth enterprises in reference year *t* must have been in population N(*t*-3). As a subset, gazelles must fulfil the additional condition that they were in population N(*t*-4) or N(*t*-5). The identification of high-growth enterprises on an annual basis may lead to the inclusion of enterprises in the population of high-growth enterprises in several years. The question arises as to whether a high-growth enterprise, and thus also a gazelle, should be counted in more than one reference year if it fulfils the given definition. The recommendation is to do so. For instance, a gazelle born in year *t* could be counted as such either once or twice if it shows high growth over a three-year period from the first to the fourth survival year and/or from the second to the fifth survival year. As the data on high-growth enterprises are collected on an annual basis, the question as to whether an enterprise was identified as a high-growth enterprise in any previous year is not relevant. [1] [2] If growth in employment or turnover was due to mergers or takeovers, the enterprise in question should not be considered a high-growth enterprise.
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [6]
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] Eurostat Metadata (a).

14. Employment in young (up to five years old) high-growth enterprises (gazelles)

Field	Metadata
Name of the indicator	Employment in young (up to five years old) high-growth enterprises (gazelles)
Definition of the indicator	Number of people employed in high-growth enterprises that are up to five years old and that have above a meaningful threshold of employees in the beginning of the high-growth period[33] with average annualized growth greater than 10 per cent per annum over a three-year period. Gazelles are the subset of high-growth enterprises that are up to five years old. See the indicator "Number of high-growth enterprises" for a full definition of high-growth enterprise. [1] [2]
Objective of the indicator	To measure the number of people employed by young, high-growth enterprises (gazelles).
Contribution and usefulness of the indicator	It is of special political interest to provide data on the number of jobs that are created by newly born businesses, especially young enterprises that are growing very fast and thus creating a considerable number of new jobs and intensively contributing to the growth of overall employment.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum (for this indicator, the activity code of the final period should be used for stratifying high-growth enterprises) • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[34] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[35] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [3][4][5]
Algorithm	Number of people employed by young (up to five years old) high-growth enterprises that employ above a meaningful threshold of employees at the beginning of the three-year observation period (a provisional threshold of at least 10 employees has been suggested but should be determined after tests have been performed using different thresholds) with average annualized growth greater than 10 per cent per annum over a three-year period.
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*. See the indicator on "Number of young (up to five years old) high-growth enterprises (gazelles)" for the full description for measuring young high-growth enterprises.
Unit of measure	Number (absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [6]
Source data type	National SBR is the main source of business demography data.

[33] A provisional threshold of at least 10 employees is suggested but should be determined after tests have been performed using different thresholds.

[34] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[35] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] OECD and Eurostat (2007). [2] United Nations (2024). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] Eurostat Metadata (a).

15. Labour compensation paid by active enterprises

Field	Metadata
Name of the indicator	Labour compensation paid by active enterprises
Definition of the indicator	Compensation (at current prices) of employees is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees consists of wages or salaries and employers' social contributions.
Objective of the indicator	To measure total labour compensation of active enterprises over the past calendar year
Contribution and usefulness of the indicator	The indicator is used in the calculation of the unit labour cost index, which is used as an early warning system in macroeconomic surveillance.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0–9 employees; 10–49 employees; 50–249 employees; 250+ employees.[36] For the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0,[37] 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [1][2][3]
Algorithm	Total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees consists of wages or salaries and employers' social contributions.
Description of the calculation of the indicator	Compensation of employees has two main components: (a) Wages or salaries payable in cash or in kind; (b) Social insurance contributions payable by employers, which include contributions to social security schemes, actual social contributions to other employment-related social insurance schemes, and imputed social contributions to other employment-related social insurance schemes.
Unit of measure	Monetary value (in national currency)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually as a minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [4] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	Data from national accounts (countries use many sources to compile their national accounts, among them are administrative data from Government, population censuses, business surveys and household surveys. Sources vary from country to country and may cover a large set of economic, social, financial and environmental items, which need not always be strictly related to national accounts)
Reference documents	[1] Eurostat (2020b). [2] Eurostat Metadata (b). [3] Eurostat and OECD (2017). [4] United Nations (2009).

[36] It is common for business demography statistics to break down the smallest thresholds of enterprises, as demographic changes more likely occur among smaller firms. However, a full breakdown by size class is useful if the data are available.

[37] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

16. Gross value added produced by active enterprises

Field	Metadata
Name of the indicator	Gross value added produced by active enterprises
Definition of the indicator	*Gross value added at factor cost* as compiled for structural business statistics (*not* value added used in national accounts) produced by active enterprises during the reference period
Objective of the indicator	To measure the addition of value to intermediate consumption by an enterprise, by virtue of its productive activities
Contribution and usefulness of the indicator	To determine the value contributed by an enterprise to the current flow of goods and services
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[38]–9 employees; 10–49 employees; 50–249 employees; 250+ employees). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) [1][2][3]
Algorithm	Gross value added at factor cost for in-scope enterprises in accordance with the recommended breakdowns.
Description of the calculation of the indicator	Value added at factor cost can be calculated as the total sum of items to be added (+) or subtracted (-): • turnover (+) • capitalized production (+) • other operating income (+) • increases (+) or decreases (-) in stocks • purchases of goods and services (-) • other taxes on products which are linked to turnover but not deductible (-) • duties and taxes linked to production (-) Alternatively, it can be calculated from the *gross operating surplus* by adding *personnel costs*.
Unit of measure	Monetary value (in national currency)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: quarterly; annually at a minimum
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Quarterly data should be published within three months after the end of the reference period. [4] Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year.
Source data type	Data collected through statistical surveys, the SBR or administrative sources
Reference documents	[1] Eurostat (2020b). [2] Eurostat Metadata (a). [3] Eurostat (2017). [4] United Nations (2008).

[38] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Section B. Indicators on globalization and digitalization

17. Total exports of businesses as a percentage of businesses' gross value added

Field	Metadata
Name of the indicator	Total exports of businesses as a percentage of businesses' gross value added
Definition of the indicator	Total value of businesses' exports of goods and services by enterprise characteristics as a percentage of businesses' *gross value added at factor cost*; i.e. gross value added as compiled for structural business statistics (*not* value added used in national accounts).
Objective of the indicator	To measure how much of businesses' gross value added at factor cost is composed of export sales
Contribution and usefulness of the indicator	The indicator will serve to indicate the degree to which businesses export goods and services, or their degree of export orientation
Classification	ISIC Rev. 4, for enterprises. CPC Vers. 2.1, for trade in goods and services (in the absence of CPC Vers. 2.1, for trade in goods, use HS 2017/HS 2022, and for trade in services, use EBOPS 2010).
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[39]–9 employees; 10–49 employees; 50–249 employees; 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (typical SBR breakdown) • by trade in goods and trade services as per CPC Vers. 2.1, two-digit divisions (in the absence of CPC Vers. 2.1 divisions for trade in goods, use HS 2017/HS 2022 two-digit codes, and for trade in services, see the main categories of EBOPS 2010) • by country and/or by region of destination of exports [1][2][3]
Algorithm	Divide the total exports of businesses by businesses' gross value added at factor cost, then multiply this ratio by 100. When calculating the breakdowns, the numerator will be the total exports of all businesses in, for example, a specific ISIC two-digit sector and the denominator will be the total gross value added at factor cost of businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	The value of traded goods is calculated at the national frontier on a free on board (f.o.b.) basis for exports according to the international merchandise trade statistics (IMTS) 2010. In general, data compiled following IMTS 2010 recommendations have to be adjusted prior to use in balance of payments and national accounts. [4] The value of service exports by enterprises is the value of the total services supplied by resident enterprises to non-residents at market prices. [5]
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[39] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	International merchandise trade statistics, which are typically compiled from customs data. [4] Balance of payments data for trade in services, for which data are typically collected via enterprise surveys; household services; and/or an international transaction reporting system (ITRS). [5] [6] (S)TEC statistics can be compiled by linking the SBR to the trade register to international trade in services data at the enterprise level, using a common identifier. [1] [3]
Reference documents	[1] Eurostat (2020b). [2] Eurostat Metadata (a). [3] Eurostat and OECD (2017). [4] United Nations (2011). [5] United Nations (2011a). [6] IMF (2009).

18. Percentage of trading businesses by number of partner countries

Field	Metadata
Name of the indicator	Percentage of trading businesses by number of partner countries
Definition of the indicator	The percentage of exporting and importing enterprises by the number of countries with which they trade as a share of total active enterprises.
Objective of the indicator	To measure the percentage of enterprises that are trading internationally in relation to all enterprises in the economy
Contribution and usefulness of the indicator	Combined with other indicators, such as the proportion of exports/imports as a percentage of GDP, employment in export-oriented enterprises, among others, this indicator will provide an indication of the level of global interdependency, as well as the ability of local enterprises to connect and play a role in the global economy. Generally, it is assumed that enterprises that trade internationally are more competitive and therefore have higher productivity and revenues.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by number of partner countries (the following ranges are suggested: 0 countries, 1–5 countries, 6–9 countries, 10–19 countries, 20+ countries) • by ISIC two-digit division • by enterprise size (enterprise size classes are defined as follows: 0[40]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by enterprises that trade in goods and by enterprises that trade in services • by trading status (i.e. exporter only, importer only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (as available in SBR) [1][2][3]
Algorithm	(*Eeg/EeT*)*100, where *Eeg* is the number of enterprises exporting and importing with partner countries in each of the ranges below; and *EeT* is the total number of enterprises. Number of partner countries: 0 countries, 1–5 countries, 6–9 countries, 10–19 countries, 20+ countries. When calculating the breakdowns, the numerator will be the number of enterprises exporting and importing with a certain number of partner countries in, for example, a specific ISIC two-digit sector and the denominator will be the total number of enterprises within the same ISIC two-digit sector.
Description of the calculation of the indicator	Number of enterprises exporting and importing with number of partner countries in each of the ranges suggested, divided by the total number of enterprises, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[40] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	National SBR is the main source of business demography data. International merchandise trade statistics by partner country, which are typically compiled from customs data. [4] Balance of payments data for trade in services by partner country, for which data are typically collected via enterprise surveys; household services; and/or an international transaction reporting system. [5] [6] (S)TEC statistics can be compiled by linking the SBR to the trade register to international trade in services data at the enterprise level using a common identifier.
Reference documents	[1] Eurostat (2020b). [2] Eurostat Metadata (b). [3] Eurostat and OECD (2017). [4] United Nations (2011). [5] United Nations and others (2012). [6] IMF (2009).

19. Export intensity of businesses

Field	Metadata
Name of the indicator	Export intensity of businesses
Definition of the indicator	The value of businesses' exports as a proportion of total business turnover
Objective of the indicator	This indicator provides information on the relative contribution of exports to businesses' total revenue.
Contribution and usefulness of the indicator	This is a measure of the importance of the global activities of domestic businesses in creating wealth. It is also an important indication of the ability of enterprises to connect with global customers and, therefore, a proxy indicator of a business' competitiveness.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by share of export intensity (the following ranges are suggested: 0–24 per cent; 25–49 per cent; 50–74 per cent; 75+ per cent) • by ISIC two-digit division • by enterprise size (enterprise size classes are defined as follows: 0[41]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by enterprises that trade in goods and by enterprises that trade in services • by trading status (i.e. exporter only, importer only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) • by legal form (as available in SBR) • by goods and services in CPC Vers. 2.1 and by country/region of export (in the absence of CPC Vers. 2.1 divisions, exports of goods can be compiled from HS 2017/HS 2022 two-digit codes, and exports of services from the main categories of EBOPS 2010) [1][2][3]
Algorithm	Total value of businesses' exports divided by the value of businesses' total turnover, multiplied by 100. When calculating the breakdowns, the numerator will be the total value of exports of all businesses in, for example, a specific ISIC two-digit sector and the denominator will be the total turnover of businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	The value of traded goods is calculated at the national frontier on a free on board (f.o.b.) basis for exports according to IMTS 2010. In general, data compiled following IMTS 2010 recommendations have to be adjusted prior to use in balance of payments and national accounts. [4] The value of services exports by enterprises is the value of the total services supplied by resident enterprises to non-residents at market prices. [5] To calculate export intensity for each enterprise, divide the total value of exports by the total value of turnover, then tabulate the proportion of enterprises with export intensities falling within the following ranges: 0–24 per cent; 25–49 per cent; 50–74 per cent; 75+ per cent.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data. The population of active enterprises refers to all enterprises that were active at any time in the reference period, even for a limited time.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[41] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	National SBR is the main source of business demography data. International merchandise trade statistics by partner country, which are typically compiled from customs data. [4] Balance of payments data for trade in services by partner country, for which data are typically collected via enterprise surveys; household services; and/or an international transaction reporting system. [5] [6] (S)TEC statistics can be compiled by linking the SBR to the trade register to international trade in services data at the enterprise level using a common identifier. [1] [3] [4]
Reference documents	[1] Eurostat (2020b). [2] Eurostat Metadata (b). [3] Eurostat and OECD (2017). [4] United Nations (2011). [5] United Nations and others (2012). [6] IMF (2009).

20. Value of trade by foreign affiliates

Field	Metadata
Name of the indicator	Value of trade by foreign affiliates
Definition of the indicator	The value of foreign affiliates' exports and imports as a share of total exports and imports [1]
Objective of the indicator	To indicate the degree to which international trade is attributable to foreign affiliates controlled by foreign countries
Contribution and usefulness of the indicator	This indicator provides information on the export and import activity of foreign affiliates.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by trade flow (i.e. exports and imports) [2] • by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[42]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by enterprises that trade in goods and by enterprises that trade in services • by trading status (i.e. exporter only, importer only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by legal form (as available in SBR) • by goods and services in CPC Vers. 2.1 and by country/region of export (in the absence of CPC Vers. 2.1 divisions, exports of goods can be compiled from HS 2017/HS 2022 two-digit codes, and exports of services from the main categories of EBOPS 2010) [3][4][5]
Algorithm	The indicator is calculated separately by trade flow – exports and imports. (*VEf/VEa*)*100, where *VEf* is the value of exports by foreign-controlled enterprises; and *VEa* is the value of exports by all enterprises in the business sector and (*VIf/VIa)*100, where *VIf* is the value of imports by foreign-controlled enterprises; and *VIa* is the value of imports by all enterprises in the business sector
Description of the calculation of the indicator	The value of traded goods is calculated at the national frontier on a free on board (f.o.b.) basis for exports according to IMTS 2010. In general, data compiled following IMTS 2010 recommendations have to be adjusted prior to use in balance of payments and national accounts. [6] The value of service exports by enterprises is the value of the total services supplied by resident enterprises to non-residents at market prices. [7] 1) Divide the value of exports by foreign-controlled enterprises by the total value of exports by all enterprises in the business sector, then multiply this ratio by 100. 2) Divide the value of imports by foreign-controlled enterprises by the total value of imports by all enterprises in the business sector, then multiply this ratio by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Recommended: annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[42] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	National SBR is the main source of business demography data. International merchandise trade statistics, which are typically compiled from customs data. [6] Balance of payments data for trade in services, for which data are typically collected via enterprise surveys; household services; and/or an international transaction reporting system. [7] [8] (S)TEC statistics can be compiled by linking the SBR to the trade register to international trade in services data at the enterprise level using a common identifier. [2][5]
Reference documents	[1] Eurostat (2012). [2] Seghir (2021). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] United Nations (2011). [7] United Nations and others (2012). [8] IMF (2009).

21. Employment abroad in foreign affiliates controlled by resident enterprises as a share of enterprises' total employment

Field	Metadata
Name of the indicator	Employment abroad in foreign affiliates controlled by resident enterprises as a share of enterprises' total employment.
Definition of the indicator	Employment abroad in foreign affiliates controlled by enterprises resident in the compiling country as a share of the enterprises' total employment worldwide.
Objective of the indicator	To measure resident enterprises' employment abroad in foreign affiliates under their control as a share of the enterprises' total employment worldwide.
Contribution and usefulness of the indicator	The indicator reflects aspects of the role of multinationals in the economy of the compiling country by showing the employment in foreign affiliates of domestically controlled multinationals as a share of the total employment worldwide by businesses in the compiling country.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[43]–9 employees, 10–49 employees, 50–249 employees, 250+ employees)
Algorithm	Divide the number of people employed abroad in foreign affiliates controlled by resident enterprises by the total number of people employed by businesses, then multiply this ratio by 100.
Description of the calculation of the indicator	(*Empfa/Empe*)*100, where *Empfa* is the number of people employed in foreign affiliates of enterprises controlled by the compiling country; and *Empe* is the total number of people employed by those enterprises It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Outward foreign affiliates statistics (FATS) surveys [1] and structural business statistics.
Reference documents	[1] Eurostat (2012).

[43] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

22. Entry and exit rates for the digital economy

Field	Metadata
Name of the indicator	Entry and exit rates for the digital economy [1][2]
Definition of the indicator	Entry rates are the number of entering units (births) divided by the number of entering and incumbent units. Exit rates are the number of exiting units (deaths) divided by the number of exiting and incumbent units.[44] For the purposes of this indicator, the digital economy is defined as the Core measure, which includes economic activity from producers of digital content, and ICT goods and services. [3]
Objective of the indicator	To provide the rates of enterprises' entry (birth) (i.e. newly created enterprises that have actually started activity) and exit (death) (i.e. dissolution of production factors, without intervention by other enterprises) in/from the digital economy and during a period of time.
Contribution and usefulness of the indicator	In general, digital-intensive sectors are characterized by higher business dynamism. The entry and exit rates provide information regarding the turnover of a sector in terms of number of enterprises. Comparing the entry and exit rates would reveal changes in the number of enterprises (e.g. more births vs. more deaths) in the economy. Since these rates are unweighted (i.e. by number only; size does not matter), it is easy to make comparisons among countries with different size economies. Within a country, comparing birth and death rates for the digital economy with those for all sectors can indicate if a sector is outgrowing the whole economy.
Classification	ISIC Rev. 4
Industrial coverage	The scope of the digital economy depends on the definition of "digital economy". In order to facilitate wide compilation of this indicator and its comparability, it is suggested that the digital economy be defined as the Core measure, which includes economic activity from producers of ICT goods and digital content and services.[45] [3] The ICT sector is defined as the production (goods and services) of firms that is "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display" (ISIC Rev. 4, para. 219). While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of the ICT sector. The content and media sector supplements the ICT sector to form the information industries. That sector is defined as economic activities that are "engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organized message intended for human beings" (ISIC Rev. 4, para. 221). The following classification of content and media sector activities, or industries, in ISIC Rev. 4, was identified by OECD as being part of the Core measure of the digital economy: Publishing of books, periodicals and other publishing activities (581); Motion picture, video and television programme activities (591); Sound recording and music publishing activities (592); Broadcasting and programming activities (60); and Other information service activities (639). For practical purposes, due to limited data availability, the Core measure of the digital economy can be approximated using the following two-digit divisions in ISIC Rev. 4: Computer, electronic and optical products (26); Publishing, audiovisual and broadcasting activities (58 to 60); Telecommunications (61); and IT and other information services (62 to 63). [3]
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[46]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]

[44] See [1], p. 150, for definitions. This indicator relates to the concepts of births and deaths used in business demography, but focus on those events of enterprises engaged in the activities of the digital economy.

[45] See the tiers underpinning the definition of "digital economy" in [3], p. 5.

[46] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Algorithm	Entry rate: divide the number of enterprise births in the digital economy by the number of active enterprises in the digital economy in the reference period *t* (usually a year) Exit rate: divide the number of enterprise deaths in the digital economy by the number of active enterprises in the digital economy in the reference period *t* (usually a year) [3]
Description of the calculation of the indicator	Not applicable
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data: provisional data should be published within one year; final data should be published within two calendar years of the end of the reference year. [3] In the case of indicators on enterprise deaths, a two-year lag is foreseen in the methodology in order to confirm whether a presumed death has not been reactivated. For this reason, information on deaths is generally available later than the stock of enterprises and enterprise births.
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD (2019). [2] OECD and Eurostat (2007). [3] OECD (2020). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

23. Average post-entry employment growth for the digital economy

Field	Metadata
Name of the indicator	Average post-entry employment growth for the digital economy [1]
Definition of the indicator	Post-entry employment growth is the ratio of total employment of businesses in the digital economy at year *t*+5 to total employment in year *t* of enterprises surviving to year *t*+5.[47] [1] For the purposes of this indicator, the digital economy is defined as the Core measure, which includes economic activity from producers of digital content, and ICT goods and services. [2]
Objective of the indicator	To measure the five-year employment growth of all enterprises that entered a sector in a given year (*t*), and have survived for five years (*t*+5) in the digital economy
Contribution and usefulness of the indicator	There is usually a higher level of dynamism in the digital economy than in other sectors therefore, focusing on the five-year employment growth of surviving businesses helps to understand the ability of this sector in terms of sustainable job creation. When compared with the growth rate of other sectors, some conclusions can be drawn on how the digital economy contributes to employment in a country, which has significant policy implications.
Classification	ISIC Rev. 4
Industrial coverage	The scope of the digital economy depends on the definition of "digital economy". In order to facilitate wide compilation of this indicator and its comparability, it is suggested that the digital economy be defined as the Core measure, which includes economic activity from producers of digital content and ICT goods and services. [2] The ICT sector is defined as the production (goods and services) of firms that is "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display" (ISIC Rev. 4, para. 219). While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of the ICT sector. The content and media sector supplements the ICT sector to form the information industries. That sector is defined as economic activities that are "engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organized message intended for human beings" (ISIC Rev. 4, para. 221). The following classification of content and media activities, or industries, in ISIC Rev. 4, was identified by OECD as being part of the Core measure of the digital economy: Publishing of books, periodicals and other publishing activities (581); Motion picture, video and television programme activities (591); Sound recording and music publishing activities (592); Broadcasting and programming activities (60); and Other information service activities (639). For practical purposes, due to limited data availability, the Core measure of the digital economy can be approximated using the following ISIC Rev. 4 two-digit divisions: Computer, electronic and optical products (26); Publishing, audiovisual and broadcasting activities (58 to 60); Telecommunications (61); and IT and other information services (62 to 63). [2]
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division • by enterprise size (enterprise size classes are defined as follows: 0[48]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [3][4][5]
Algorithm	Total employment of businesses in the digital economy at year *t*+5 divided by total employment in year *t* of enterprises that have survived to year *t*+5.
Description of the calculation of the indicator	Calculate the total number of enterprises that entered the digital economy in year *t* and have survived in year *t*+5, then calculate the total employment of those surviving enterprises in year *t*+5 and in year *t* to obtain the employment growth rate [6]

[47] This indicator is identified in the set of indicators on "Jobs, skills and growth in the digital economy" in [2], p. 72; see [1], p. 150 for definition. This indicator relates to the concept of survival used in business demography, but focuses on that event of enterprises engaged in the activities of the digital economy.

[48] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	National SBR is the main source of business demography data.
Reference documents	[1] OECD (2019). [2] OECD (2020). [3] Eurostat (2020b). [4] Eurostat Metadata (b). [5] Eurostat and OECD (2017). [6] OECD and Eurostat (2007).

24. Percentage of businesses with Internet connection

Field	Metadata
Name of the indicator	Percentage of businesses with Internet connection[49]
Definition of the indicator	The percentage of enterprises among all enterprises, by enterprise characteristics (TEC and STEC), that have Internet connection, including *narrowband* (i.e. download speed of less than (<) 256 kbit/s, in one or both directions) and *broadband* (download speed equal to or greater than (≥) 256 kbit/s, in one or both directions), including *fixed* and *mobile* connections [1] [2] [3][4] [5]
Objective of the indicator	To measure the percentage of enterprises in a country that have broadband Internet access.
Contribution and usefulness of the indicator	Internet access is very important to businesses as it helps to improve productivity. This indicator provides information on businesses' access to Internet connection and a comparison of how advanced IT infrastructure is in different countries.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by narrowband and broadband access • by enterprises with very high-speed (at least 50 Mbit/s) [3] fixed broadband and enterprises with lower-speed fixed broadband [1] • by fixed broadband and mobile broadband, depending on data availability • by ISIC two-digit division at a minimum [5] • by enterprise size (enterprise size classes are defined as follows: 0[50]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [6][7][8]
Algorithm	Resulting percentage from: ENT_b/ENT_a Where *ENTb* is the number of enterprises with broadband connection, and *ENTa* is the total number of enterprises.
Description of the calculation of the indicator	The percentage resulting from the number of enterprises with broadband connection divided by the total number of enterprises. Broadband connections refer to fixed broadband services (i.e. advertised download speed equal to or greater than 256 kbit/s) subscriptions purchased by businesses. Fixed broadband comprises DSL, cable, fibre-to-the-home, fibre-to-the-building, satellite, terrestrial fixed wireless, and other fixed-wired technologies. [1]
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[49] This indicator is discussed in [1], p. 106; see also PI25 – Business use of broadband subscriptions in [2], annex.

[50] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active, but does not currently have any employees.

Field	Metadata
Source data type	Data on business (and household) broadband connections gathered through surveys on ICT usage.[51] These allow for the collection of useful contextual details in comparison to subscriptions data from regulators, although surveys are less suited to collecting specific technical details. [5] [9] [10] National SBR is the main source of business demography data.
Reference documents	[1] OECD (2019). [2] United Nations, Economic and Social Council (2020). [3] International Telecommunication Union (2016). [4] International Telecommunication Union (2010) [5] UNCTAD (2020). [6] Eurostat (2020b). [7] Eurostat Metadata (b). [8] Eurostat and OECD (2017). [9] Eurostat (2021b). [10] OECD (2015b).

[51] See, for example, Statistics Canada, Survey of Digital Technology and Internet Use (SDTIU) (2021). Available at www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4225.

25. Capital investment by businesses in information and communications technology (ICT) as a percentage of total business capital investment

Field	Metadata
Name of the indicator	Capital investment by businesses in information and communications technology (ICT) as a percentage of total business capital investment [1] [2] [3]
Definition of the indicator	Capital investment by businesses in ICT, measured as a percentage of their capital investment. Capital investment, or gross fixed capital formation, in ICT is known as *ICT expenditure*.
Objective of the indicator	To measure business expenditure on ICT-related capital investment as a percentage of their total capital investment
Contribution and usefulness of the indicator	This indicator provides information on the relative importance of businesses' capital expenditure on ICT in relation to their total capital expenditure. Comparing this indicator across countries would provide information on how different countries allocate their capital investment to promote technological advancement.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[52]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]
Algorithm	Businesses' gross fixed capital formation in ICT (*ICT expenditure*) divided by total gross fixed capital formation of all businesses, multiplied by 100. When calculating the breakdowns, the numerator will be the gross fixed capital formation in ICT of businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total gross fixed capital formation of businesses in the same ISIC two-digit sector.
Description of the calculation of the indicator	Businesses' total ICT expenditure divided by businesses' total capital expenditure
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Data collected by national statistical offices through surveys
Reference documents	[1] OECD (2018). [2] OECD (2019). [3] OECD (2020). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

[52] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

26. Capital investment by businesses in information and communications technology (ICT) as a percentage of total gross value added

Field	Metadata
Name of the indicator	Capital investment by businesses in information and communications technology (ICT) as a percentage of total gross value added[53] [1] [2] [3]
Definition of the indicator	Capital investment by businesses in ICT, measured as a percentage of their total gross value added at factor cost. Capital investment, or gross fixed capital formation, in ICT is known as *ICT expenditure*.
Objective of the indicator	To measure business expenditure on ICT-related capital investment expenditure as a percentage of their total gross value added at factor cost.
Contribution and usefulness of the indicator	This indicator provides information on the relative importance of businesses' capital expenditure on ICT in relation to their gross value added at factor cost. Comparing this indicator across countries would provide information on how different countries allocate their capital investment to promote technological advancement.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[54]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]
Algorithm	Businesses' gross fixed capital formation in ICT (*ICT expenditure*) divided by total gross value added at factor cost of all businesses, multiplied by 100. When calculating the breakdowns, the numerator will be the gross fixed capital formation in ICT of businesses in, for example, a specific ISIC two-digit sector and the denominator will be the total gross value added at factor cost of businesses in the same ISIC two-digit sector.
Description of the calculation of the indicator	Businesses' total *ICT expenditure* divided by businesses' total gross value added at factor cost.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Data collected by national statistical offices (NSOs) through surveys
Reference documents	[1] OECD (2018). [2] OECD (2019). [3] OECD (2020). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

[53] Indicators on ICT investment as a percentage of GDP can be found in [1], p. 59, and [2], p. 74.

[54] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

27. Percentage of businesses using cloud computing services

Field	Metadata
Name of the indicator	Percentage of businesses using cloud computing services[55] [1][2][3]
Definition of the indicator	Businesses using paid cloud computing services as a percentage of all businesses. Cloud computing refers to ICT services provided over the Internet, such as access to servers, storage, network components and software applications. The services have the following characteristics: (a) They are delivered from the servers of service providers; (b) They can be easily scaled up or down (e.g. number of users or storage capacity); (c) They can be used on demand by the user (at least after the initial set up) and without human interaction with the service provider; (d) They can be paid per user, by capacity used or pre-paid. [4]
Objective of the indicator	To measure the number of businesses that use cloud computing services, within a period of time, as a percentage of all businesses
Contribution and usefulness of the indicator	Cloud computing services enable enterprises to use a network of remote servers hosted on the Internet to store, manage and process data, rather than on a local server or a personal computer. This will significantly enhance the ICT capacity of enterprises without involving significant investment in hardware, software and personnel. This indicator provides information on how businesses in a country are using these ICT services, which implies higher productivity.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by two-digit ISIC division at a minimum. • by enterprise size (enterprise size classes are defined as follows: 0[56]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign or domestically controlled enterprise, with or without own affiliates abroad) [5][6][7]
Algorithm	$BCS_s = \frac{BCloud_s}{B_s} x100$ $BCS_m = \frac{BCloud_m}{B_m} x100$ $BCS_l = \frac{BCloud_l}{B_l} x100$ Where *BCS* is the percentage of businesses using paid cloud computing services; *BCloud* is the number of businesses using paid cloud computing services; and *B* is the total number of businesses. Subscript *s* indicates the smallest thresholds; *m*, medium thresholds; and *l*, the largest thresholds. When calculating the breakdowns, the numerator will be the number of businesses using paid cloud computing services in, for example, a specific ISIC two-digit sector; and the denominator will be the total number of businesses within the same two-digit sector.
Description of the calculation of the indicator	The proportion of businesses using paid cloud computing services is calculated by dividing the number of businesses using paid cloud computing services during the 12-month reference period by the total number of in-scope enterprises, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[55] This indicator was presented in [1], p. 48.

[56] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	Data collected by NSOs through direct surveys of ICT usage by businesses [2] [4] [8] [9]
Reference documents	[1] OECD (2018). [2] OECD (2019). [3] OECD (2020). [4] OECD (2015b). [5] Eurostat (2020b). [6] Eurostat Metadata (b). [7] Eurostat and OECD (2017). [8] Eurostat (2021b). [9] UNCTAD (2020).

28. Information and communications technology (ICT)-related patents (registered)

Field	Metadata
Name of the indicator	Information and communications technology (ICT)-related patents (registered)[57]
Definition of the indicator	The number of *ICT-related patents* registered by businesses in a country within a given year.
Objective of the indicator	To measure how many ICT-related patents a country has developed and registered with intellectual property (IP) offices within the reference period of one year.
Contribution and usefulness of the indicator	This indicator measures the strength of a country in terms of ICT innovation.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[58]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign or domestically controlled enterprise, with or without own affiliates abroad) [2][3][4]
Algorithm	Number of registered ICT-related patents in a country
Description of the calculation of the indicator	N/A
Unit of measure	Absolute figures
Statistical unit	Patent (individual)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Depends on the data source
Source data type	Patent offices, the worldwide patent database or business surveys [5][6][7][8]
Reference documents	[1] OECD (2019). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] OECD (2009). [6] OECD, Patents by technology (https://data-explorer.oecd.org/vis?tm=patents&pg=0&snb=24&vw=ov&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_PATENTS%40DF_PATENTS&df[ag]=OECD.STI.PIE&df[vs]=1.0&pd=2020%2C2021&dq=.A...PRIORITY...INVENTOR... T&ly[rw]=REF_AREA&ly[cl]=TIME_PERIOD%2CPATENT_AUTHORITIES%2CMEASURE%2CUNIT_MEASURE&to[TIME_PERIOD]=false). [7] WIPO, Patentscope (https://patentscope.wipo.int/search/en/search.jsf). [8] Five IP Offices (IP5) – a forum of the five largest intellectual property offices in the world that was set up to improve the efficiency of the examination process for patents worldwide (www.fiveipoffices.org/about).

[57] This indicator was presented as a percentage in [1], p. 45.

[58] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

29. Information and communications technology (ICT)-related trademarks as a percentage of total trademarks

Field	Metadata
Name of the indicator	Information and communications technology (ICT)-related trademarks as a percentage of total trademarks[59] [1]
Definition of the indicator	The number of *ICT-related trademarks* registered by businesses in a country within a given year. Trademarks are distinctive signs (e.g. words and/or symbols) used to identify the goods or services of a firm from those of its competitors.
Objective of the indicator	To measure the percentage of ICT-related trademarks businesses in a country have registered with intellectual property (IP) offices within the reference period of one year.
Contribution and usefulness of the indicator	This indicator measures the strength of a country in terms of ICT innovation.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum. • by enterprise size (enterprise size classes are defined as follows: 0[60]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign or domestically controlled enterprise, with or without own affiliates abroad) [2][3][4]
Algorithm	$ITS = \frac{IT}{T} x100$ Where *ITS* is the percentage of ICT-related trademarks registered by businesses among all the trademarks registered by businesses; *IT* is the number of ICT-related trademarks registered by businesses; *T* is the total number of trademarks registered by businesses in a country within the reference period of one year. When calculating the breakdowns, the numerator will be the number of ICT-related trademarks registered by businesses in, for example, a specific ISIC two-digit sector; and the denominator will be the total number of trademarks registered by businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	The percentage is calculated by dividing the number of ICT-related trademarks by the total number of trademarks registered, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Trademark (individual)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually (or depending on data availability)
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Depends on the data source
Source data type	Patent and trademark offices or business surveys [5][6][7][8]

[59] This indicator was presented in [1], p. 45.

[60] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] OECD (2019). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] OECD (2009). [6] OECD, Patents by technology (https://data-explorer.oecd.org/vis?tm=patents&pg=0&snb=24&vw=ov&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_PATENTS%40DF_PATENTS&df[ag]=OECD.STI.PIE&df[vs]=1.0&pd=2020%2C2021&dq=.A...PRIORITY...INVENTOR..._T&ly[rw]=REF_AREA&ly[cl]=TIME_PERIOD%2CPATENT_AUTHORITIES%2CMEASURE%2CUNIT_MEASURE&to[TIME_PERIOD]=false). [7] WIPO, Patentscope (https://patentscope.wipo.int/search/en/search.jsf). [8] Five IP Offices (IP5), Statistical data resources (www.fiveipoffices.org/statistics/statisticaldata).

30. Patents in artificial intelligence (AI) technologies

Field	Metadata
Name of the indicator	Patents in artificial intelligence (AI) technologies[61] [1] [2]
Definition of the indicator	The number of patents related to AI registered by businesses in a country within a given year. An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments. [1] [2]
Objective of the indicator	To measure how many AI-related patents are registered by businesses in a country within a given year
Contribution and usefulness of the indicator	This indicator measures the strength of a country in terms of AI innovation
Classification	ISIC Rev. 4
Industrial coverage	All sectors
Useful breakdowns (in order of relevance or importance)	N/A
Algorithm	N/A
Description of the calculation of the indicator	N/A
Unit of measure	Absolute figures
Statistical unit	Patent (individual)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Depends on the data source
Source data type	Patent and trademark offices or business surveys. [3]
Reference documents	[1] OECD (2019). [2] OECD (2018). [3] OECD, Intellectual property (IP) statistics and analysis (www.oecd.org/sti/intellectual-property-statistics-and-analysis.htm).

[61] This indicator was presented as a percentage in [1], p. 39.

31. Percentage of businesses engaged in sales via e-commerce

Field	Metadata
Name of the indicator	Percentage of businesses engaged in sales via e-commerce[62] [1] [2] [3]
Definition of the indicator	Number of businesses engaged in sales via *e-commerce* as a percentage of all businesses. This refers to the number of in-scope businesses receiving orders over the Internet as a percentage of the total number of in-scope businesses. It includes orders received via the Internet, whether or not payment is made online, via websites, specialized Internet marketplaces, extranets, Electronic Data Exchange (EDI) over the Internet, Internet-enabled mobile phones or email. It includes orders received on behalf of other organizations; it excludes orders that were cancelled or not completed.
Objective of the indicator	To measure the percentage of businesses that engage in e-commerce sales among all in-scope businesses, within a period of time
Contribution and usefulness of the indicator	This indicator provides information on the extent of digitalization in industries in a country. E-commerce does not limit businesses to a specific geographical area and can significantly reduce costs, thereby making businesses more competitive.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[63]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with (goods and services) trade by enterprise characteristics (TEC and STEC) statistics) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]
Algorithm	$BES_s = \frac{BE_s}{B_s} x100$ $BES_m = \frac{BE_m}{B_m} x100$ $BES_l = \frac{BE_l}{B_l} x100$ Where *BES* is the percentage of businesses that engage in e-commerce sales; *BE* is the number of businesses that engage in e-commerce sales; and *B* is total number of in-scope businesses. Subscript *s* indicates the smallest thresholds; *m*, medium-size thresholds; and *l*, the largest thresholds. When calculating the breakdowns, the numerator will be the total number of businesses that engage in e-commerce sales in, for example, a specific ISIC two-digit sector; and the denominator will be the total number of businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	The percentage is calculated by dividing the number of businesses engaged in e-commerce sales by the total number of in-scope businesses, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [2]
Source data type	Data generally collected by NSOs through surveys on ICT usage[64] [7] [8] [9]

[62] This indicator was presented in [1], p. 28; see also P123 – Proportion of businesses receiving orders over the Internet in [2], annex.

[63] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active, but does not currently have any employees.

[64] See, for example, Statistics Canada, Survey of Digital Technology and Internet Use (SDTIU) (2021). Available at www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4225.

Field	Metadata
Reference documents	[1] OECD (2020). [2] United Nations, Economic and Social Council (2020). [3] OECD (2018). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017). [7] Eurostat (2021b). [8] OECD (2015b). [9] UNCTAD (2020).

32. Value of e-commerce sales by businesses

Field	Metadata
Name of the indicator	Value of e-commerce sales by businesses
Definition of the indicator	The value of *e-commerce* sales by businesses over the reference period
Objective of the indicator	To measure the value of total e-commerce sales by businesses
Contribution and usefulness of the indicator	This indicator provides information on the extent of digitalization in industries in a country. E-commerce does not limit businesses to a specific geographical area and can significantly reduce costs, thereby making businesses more competitive.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[65]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [1][2][3]
Algorithm	N/A
Description of the calculation of the indicator	Sum of absolute value of e-commerce sales for all active businesses
Unit of measure	Absolute figures
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Data collected by NSOs through surveys[66]
Reference documents	[1] Eurostat (2020b) [2] Eurostat Metadata (b). [3] Eurostat and OECD (2017).

[65] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

[66] See, for example, Statistics Canada, Survey of Digital Technology and Internet Use (SDTIU) (2021). Available at www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=4225.

33. Labour productivity growth in the information and communications technology (ICT) sector

Field	Metadata
Name of the indicator	Labour productivity growth in the information and communications technology (ICT) sector[67] [1]
Definition of the indicator	The annual growth rate of labour productivity in the ICT sector. For the purposes of this indicator, labour productivity is based on industrial statistics concepts and is related to the value added of labour at factor cost. In contrast, total factor productivity is a concept under the national accounts framework, which reflects the overall efficiency with which labour and capital inputs are used together in the production process.
Objective of the indicator	To measure the annual growth rate of labour productivity in the ICT sector
Contribution and usefulness of the indicator	Labour productivity is directly linked to improved standards of living in the form of higher consumption. As an economy's labour productivity grows, it produces more goods and services for the same amount of relative work. Comparing labour productivity growth in ICT to that in other industries could have significant policy implications.
Classification	ISIC Rev. 4
Industrial coverage	Market enterprises operating in the *ICT sector.* The ICT sector is defined as the production (goods and services) of firms that is "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display (ISIC Rev. 4, para. 219). While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of the ICT sector. [1] [2][3]
Useful breakdowns (in order of relevance or importance)	• by enterprise size (enterprise size classes are defined as follows: 0[68]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]
Algorithm	$PG_s = \frac{Prod_s}{Prod_{s-1}} x100$ Where *PGs* is the annual labour productivity growth of the ICT sector in year *s*, calculated as the ratio of productivity in year *s* to productivity in year *s*-1 in the ICT sector.
Description of the calculation of the indicator	Labour productivity is measured as the ratio of gross value added at factor cost (in national currency) to the number of people employed, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [2]
Source data type	Labour force surveys (for labour input) Business statistics (for gross value added at factor cost)

[67] This indicator was presented as 4.2.3 Labour productivity in information industries, in [1], p. 73.

[68] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] OECD (2020). [2] OECD (2018). [3] Eurostat Metadata (d). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

34. Contribution of the information and communications technology (ICT) sector to labour productivity growth

Field	Metadata
Name of the indicator	Contribution of the information and communications technology (ICT) sector to labour productivity growth[69]
Definition of the indicator	The productivity growth of the ICT sector as a percentage of overall labour productivity growth of all the market enterprises in an economy. For the purposes of this indicator, labour productivity is based on industrial statistics concepts and is related to the value added of labour at factor cost. In contrast, total factor productivity is a concept under the national accounts framework, which reflects the overall efficiency with which labour and capital inputs are used together in the production process.
Objective of the indicator	To measure the contribution of the ICT sector to labour productivity growth in all sectors of the economy.
Contribution and usefulness of the indicator	Productivity growth is the ultimate driver of economic growth and social welfare. Productivity growth of industries in the ICT sector is usually much higher than average and contributes significantly to overall productivity growth in most countries. This indicator provides information on how much a country's productivity growth relies on the ICT sector; this reliance can also be compared across countries.
Classification	ISIC Rev. 4
Industrial coverage	Market enterprises in all sectors, including market enterprises operating in the *ICT sector.* The ICT sector is defined as the production (goods and services) of firms that is "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display" (ISIC Rev. 4, para. 219). While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of the ICT sector. [1] [2][3]
Useful breakdowns (in order of relevance or importance)	• by enterprise size (enterprise size classes are defined as follows: 0[70]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with goods (and services) trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6]
Algorithm	Labour productivity growth is measured as the rate of productivity growth in gross value added at factor cost of market enterprises in the ICT sector per person employed in the ICT sector as a ratio of overall productivity growth of all market enterprises in the economy.
Description of the calculation of the indicator	Productivity is measured as the ratio of the gross value added at factor cost (in national currency) to the number of people employed, multiplied by 100.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Labour force surveys (for labour input) Business statistics (for gross value added at factor cost)

[69] This indicator was presented in [1], p. 60.

[70] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] OECD (2018). [2] OECD (2020). [3] Eurostat Metadata (c). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

35. Gross value added of businesses in the information and communications technology (ICT) sector as a percentage of total gross value added

Field	Metadata
Name of the indicator	Gross value added of businesses in the information and communications technology (ICT) sector as a percentage of total gross value added[71]
Definition of the indicator	The gross value added at factor cost generated by industries in the ICT sector as a percentage of total gross value added at factor cost of all businesses in the economy. *Gross value added at factor cost* is compiled for structural business statistics (*not* value added used in national accounts).
Objective of the indicator	To measure the direct share of gross value added at factor cost by businesses in the *ICT sector* in the whole economy.
Contribution and usefulness of the indicator	This indicator shows the relative size of the industries in the ICT sector in relation to a country's whole economy in terms of generating value added.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96. The ICT sector is defined as the production (goods and services) of firms that is "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display" (ISIC Rev. 4, para. 219). While the production or distribution of ICT products can be found everywhere in the economy, the identification of sectors within the ISIC Rev. 4 classification that produce or distribute ICT products as a main activity constitutes a first-order approximation of the ICT sector. [1][2][3]
Useful breakdowns (in order of relevance or importance)	• by the three main aggregates: (1) total ICT sector; (2) ICT manufacturing; and (3) ICT services [4] • by enterprise size (enterprise size classes are defined as follows: 0[72]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with trade in goods and services) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [5][6][7]
Algorithm	$VAS_{ict} = \frac{VA_{ict}}{VA} x100$ Where *VASict* is the percentage of gross value added at factor cost of industries in the ICT sector in relation to gross value added at factor cost of all businesses in the economy; *VAict* is the value added generated by the industries in the ICT sector; and *VA* is the gross value added at factor cost of all the businesses in the economy. When calculating the breakdowns, the numerator will be the gross value added at factor cost generated by the industries in the ICT sector in, for example, a specific enterprise size class; and the denominator will be the total gross value added at factor cost of all the businesses in that same enterprise size class.
Description of the calculation of the indicator	The denominator is always the gross value added at factor cost of all in-scope businesses.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases

[71] This indicator is related to, but very different from, the indicator, "ICT-related domestic value added as a percentage of GDP", presented in [1], p. 58. The latter indicator measures the value added in the whole ICT-related economy, whereas the present indicator is intended to measure only the value added of businesses in the ICT sector, in relation to the economy as a whole.

[72] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Timeliness	Annual data should be published within one calendar year of the end of the reference year. [2]
Source data type	Data generally collected by NSOs through surveys Business statistics for gross value added at factor cost
Reference documents	[1] OECD (2018). [2] OECD (2020). [3] Eurostat Metadata (c). [4] OECD (2011). [5] Eurostat (2020b). [6] Eurostat Metadata (b). [7] Eurostat and OECD (2017).

36. Employment of information and communications technology (ICT) specialists as a percentage of total employment

Field	Metadata
Name of the indicator	Employment of information and communications technology (ICT) specialists as a percentage of total employment[73]
Definition of the indicator	The percentage of ICT specialists and employees in other ICT task-intensive occupations in relation to total employment in the economy.
Objective of the indicator	To measure the increasing importance of ICT and digitalization for employment
Contribution and usefulness of the indicator	With the increasing digitalization and, thus, importance of ICT in the economy, it is recommended to split the ICT-related occupations into specialist and task-intensive occupations in order to better understand the employment dynamics. [1][2]
Classification	**ICT specialist occupations** are defined by the following three-digit groups in the 2008 revision of the International Standard Classification of Occupations (ISCO-08):[74] ICT engineers (215); Software and applications developers and analysts (251); Database and network professionals (252); ICT operations and user support (351); Telecommunications and broadcasting technicians (352); and Electronics and telecommunications installers and repairers (742) **Other ICT task-intensive occupations** include the following ISCO-08 three-digit groups: Business services and administration managers (121); Sales, marketing and development managers (122); Professional services managers (134); Physical and earth science professionals (211); Architects, planners, surveyors and designers (216); University and higher education teachers (231); Finance professionals (241); Administration professionals (242); and Sales, marketing and public relations professionals (243) [1] [3]
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum. • by enterprise size (the enterprise size classes are defined as follows: 0[75]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with goods and services trade) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [4][5][6] For national purposes, additional breakdowns may be desirable.
Algorithm	Total number of ICT specialists and employees in other ICT task-intensive occupations divided by total employment in businesses in the whole economy, multiplied by 100. When calculating the breakdowns, the numerator will be the total number of ICT specialists and employees in other ICT task-intensive occupations in, for example, a specific enterprise size class; and the denominator will be the total employment in all the businesses in that same enterprise size class.
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications, such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	National labour force surveys and other national sources

[73] This indicator was presented in [1], p. 52.

[74] For more information, see [3].

[75] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] OECD (2018). [2] OECD (2020). [3] ILO (2012). [4] Eurostat (2020b). [5] Eurostat Metadata (b). [6] Eurostat and OECD (2017).

37. Percentage of businesses providing information and communications technology (ICT)-related training

Field	Metadata
Name of the indicator	Percentage of businesses providing information and communications technology (ICT)-related training[76] [1]
Definition of the indicator	Percentage of businesses providing ICT-related training in different industries. This includes training related to the following categories in the International Standard Classification of Education (ISCED-F 2013):[77] Natural sciences, mathematics and statistics (05); ICT (6); and Engineering, manufacturing and construction (07).
Objective of the indicator	Training is an important means of complementing and building on academic and other qualifications. ICT-related training contributes highly to productivity growth. This indicator can provide information on the growth potential of a country.
Contribution and usefulness of the indicator	Firm-based training endows workers with the skills needed to perform in their job and transition between jobs; this is especially important in an era of fast technological change that is changing the nature of jobs.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by ICT-related training provided to ICT specialists and employees in all other occupations • by enterprise size (enterprise size classes are defined as follows: 0[78]–9 employees; 10–49 employees; 50–249 employees; 250+ employees; for the purpose of business demography, a further breakdown of the smallest thresholds (i.e. 0, 1–4, 5–9, 10–19, 20–49 employees) would be desirable). • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with trade in goods and services) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [2][3][4]
Algorithm	Businesses in a specific sector providing ICT-related training divided by total number of businesses in the sector, multiplied by 100. When calculating the breakdowns, the numerator will be the number of businesses providing ICT-related training in, for example, a specific enterprise size class; and the denominator will be the total number of businesses in that same enterprise size class.
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *enterprise*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Business surveys

[76] This indicator is related to, but different from, the indicator "Workers receiving firm-based training, highly digital-intensive and other sectors, as a percentage of workers in each sector group" in [1], p. 173.

[77] United Nations Educational, Scientific and Cultural Organization (UNESCO), *International Standard Classification of Education: Fields of education and training 2013 (ISCED-F 2013) – Detailed field descriptions* (Montreal, Canada, 2015). Available at http://uis.unesco.org/en/topic/international-standard-classification-education-isced.

[78] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people.

Field	Metadata
Reference documents	[1] OECD (2019). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017).

38. Percentage of enterprises reporting hard-to-fill vacancies for information and communications technology (ICT) specialists

Field	Metadata
Name of the indicator	Percentage of enterprises reporting hard-to-fill vacancies for information and communications technology (ICT) specialists[79] [1] [2] [3]
Definition of the indicator	Enterprises reporting hard-to-fill vacancies for ICT specialists as a percentage of all enterprises looking to hire ICT specialists. ICT specialist occupations are defined by the following ISCO-08 three-digit groups: ICT service managers (133); Electrotechnology engineers (215); Software and applications developers and analysts (251); Database and network professionals (252); ICT operations and user support (351); Telecommunications and broadcasting technicians (352); and Electronics and telecommunications installers and repairers (742). [4] A hard-to-fill vacancy is an open job vacancy during the reference period that an employer has had difficulty in filling (subjective opinion) at the salary offered. For example, despite active measures there have been no applicants or the applicants have not been deemed sufficiently qualified or suitable for the job in question. Despite the challenges, the enterprise may have found an applicant to fill the vacancy or the vacancy may have remained unfilled.
Objective of the indicator	To measure the difficulty of filling vacancies for ICT specialists in different industries in a country
Contribution and usefulness of the indicator	This indicator reveals the difficulty encountered by businesses in finding ICT specialists to fill vacancies. If there is a high percentage of enterprises reporting hard-to-fill vacancies for ICT specialists among all the enterprises looking to hire ICT specialists, then there must be a shortage of such skilled workers. The policy implication may be to promote training of ICT specialists or to attract foreign ICT specialists to work in the country.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[80]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by trading status (i.e. importer only, exporter only or importer and exporter (two-way trader), in line with trade in goods and services) • by (goods and services) trade by enterprise characteristics (TEC and STEC) statistics • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [5][6][7]
Algorithm	$ICTENS = \frac{ICTEN}{ICTE} x100$ Where *ICTENS* is the percentage of enterprises reporting hard-to-fill vacancies for ICT specialists; *ICTEN* is number of enterprises that reported hard-to-fill vacancies for ICT specialists; and *ICTE* is total number of enterprises looking to hire ICT specialists. When calculating the breakdowns, the numerator will be the number of enterprises reporting hard-to-fill vacancies for ICT specialists in, for example, a specific enterprise size class; and the denominator will be the total number of enterprises looking to hire ICT specialists in that same enterprise size class.
Description of the calculation of the indicator	Not applicable
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually

[79] This indicator is presented in [1], p. 72.

[80] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Enterprise surveys[81]
Reference documents	[1] OECD (2020). [2] OECD (2019). [3] OECD (2018). [4] ILO (2012). [5] Eurostat (2020b). [6] Eurostat Metadata (b). [7] Eurostat and OECD (2017).

[81] See, for example, Statistics Canada, Survey of Digital Technology and Internet Use (SDTIU) (2021). Available at www.statcan.gc.ca/eng/survey/business/4225.

Section C. Indicators on well-being and sustainability

39. Proportion of women in managerial positions

Field	Metadata
Name of the indicator	Proportion of women in managerial positions[82,83]
Definition of the indicator	The proportion of women in managerial positions among the total number of people employed in managerial positions
Objective of the indicator	The indicator provides information on the proportion of women who are employed in decision-making and management positions in Government and market enterprises. It should provide insight into the role of women in decision-making in the economy in relation to the proportion of men employed in similar positions. It is recommended that two different measures be used jointly for this indicator: (1) the share of women in all management (i.e. junior, middle and senior management) positions; and (2) the share of women in senior and middle management (i.e. excluding junior management) positions. The calculation of these two measures would provide information on where women are more represented, thus highlighting a potential ceiling for women in management positions.
Contribution and usefulness of the indicator	Women's full and effective participation in the workforce and equal opportunity for leadership are economic and social imperatives that are essential to building the workforce required to support economic growth and future prosperity, as well as for social progress.
Classification	International Standard Classification of Occupations (ISCO-08) ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• employment statistics by both sex and occupation (are needed to calculate this indicator) • by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[84]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [2][3][4]
Algorithm	(1) Number of women in senior and middle management positions (i.e. women employed in ISCO-08 groups 11, 12 and 13) divided by the total number of people employed in ISCO-08 groups 11, 12 and 13), multiplied by 100; and (2) Number of women in all management positions (i.e. women employed in ISCO-08 group 1) divided by the total number of people in all management positions (i.e. all persons employed in ISCO-08 group 1), multiplied by 100.
Description of the calculation of the indicator	(1) The share of women in senior and middle management (i.e. excluding junior management) positions; and (2) The share of women in all management positions. It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Percentage
Statistical unit	Household or individual (if based on labour force surveys) Establishment (if based on establishment surveys)

[82] This indicator contributes to Sustainable Development Goal indicator 5.5.2 – Proportion of women in managerial positions (see General Assembly resolution 71/313, annex). For the global indicator framework and the annual refinements to the indicators, see [1].

[83] This indicator is related to the Global Reporting Initiative (GRI) Standard 405: Diversity and equal opportunity 2016, disclosure 405-1.b.i: Percentage of employees per employee category by gender. It enables breakdowns of employees by level (e.g. senior management, middle management) and function (e.g. technical, administrative, production). The information is derived from the organization's own human resources system. See www.globalreporting.org/publications/documents/english/gri-405-diversity-and-equal-opportunity-2016/.

[84] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference period	Basic reference period is one calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Flagship publication, online databases, press releases, statistical books, policy briefs, sustainability or integrated report
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Labour force survey Additionally, household-based surveys or establishment-based surveys can be used
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017).

40. Annual growth rate of real total gross value added per employed person

Field	Metadata
Name of the indicator	Annual growth rate of real total gross value added per employed person[85]
Definition of the indicator	The annual growth rate of real gross value added at factor cost per employed person (refers to *gross value added at factor cost* as compiled for structural business statistics (*not* value added used in national accounts))
Objective of the indicator	To measure labour productivity growth. Real gross value added at factor cost per employed person is a measure of labour productivity. The indicator will provide information on the evolution, efficiency and quality of human capital in the production process.
Contribution and usefulness of the indicator	Labour productivity can be used to assess the likelihood of a country's economic environment to create and sustain decent employment opportunities with fair and equitable remuneration. While increases in productivity do not guarantee progress toward full and productive employment and decent work for all, improvements in conditions of work and employment opportunities are less likely to occur without productivity improvements.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[86]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) [2][3][4] No disaggregation is required for this indicator.
Algorithm	Real total gross value added at factor cost per employed person (i.e. total gross value added at factor cost at constant prices) divided by the total number of employed persons, where the numerator and denominator refer to the same reference period (e.g. the same calendar year). If the real total gross value added at factor cost per employed person is "LabProd" (labour productivity), then the annual growth rate of real total gross value added at factor cost per employed person is calculated as ((LabProd in year *n* – LabProd in year *n*-1) divided by LabProd in year *n*-1) multiplied by 100.
Description of the calculation of the indicator	In the absence of real total gross value added at factor cost, this indicator can be computed using real gross value added for national accounts (or GDP) divided by total employment. It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Per cent change
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Flagship publication, online databases, press releases, statistical books, policy briefs
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[85] This indicator contributes to Sustainable Development Goal indicator 8.2.1 – Annual growth rate of real GDP per employed person (see General Assembly resolution 71/313, annex). For the global indicator framework and the annual refinements to the indicators, see [1].

[86] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	National SBR is the main source of business demography data. GDP figures, if used, are based on national accounts, and employment figures are based on household surveys. GDP measures: obtained from national accounts and represent, as much as possible, GDP at market prices for the aggregate economy. Employment data: obtained from population censuses, labour force or other household surveys, establishment surveys, administrative records and official estimates based on results from several of these sources. Labour force surveys can be designed to cover virtually the entire population of a country, all branches of economic activity, all sectors of the economy, and all categories of workers, including own-account workers, unpaid family workers and persons engaged in casual work or marginal economic activity. For this reason, household-based labour force surveys offer a unique advantage for obtaining information on the labour market of a country and its structure.
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017).

41. Average hourly earnings of employees in businesses by sex

Field	Metadata
Name of the indicator	Average hourly earnings of employees in businesses by sex[87,88]
Definition of the indicator	Average hourly wages and other benefits paid (or allocated via pension schemes) to employees, by sex, during a reference year
Objective of the indicator	To provide information on the eventual gender pay gap, as well as pay in different business sectors. The indicator falls within the context of equal pay for equal work. Breakdowns will improve the value of the information.
Contribution and usefulness of the indicator	Equality between women and men is a global human right and one of the Sustainable Development Goals. Reliable information on developments regarding hourly earnings will be a tool for several stakeholders, including trade unions, Governments and business organizations. Although, it should be noted that statistics on hourly earnings does not capture all aspects of equal pay.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by sex • by ISIC two-digit division at a minimum • by managerial/non-managerial positions • by classification of jobs • by major size groups can be considered, depending on data availability • by age or salary components • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[89]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) [2][3][4]
Algorithm	Salary/wages paid divided by the corresponding number of hours worked.
Description of the calculation of the indicator	The calculation of the hourly earnings in the respective breakdowns shall include all type of salaries, overtime payments, bonuses and other benefits paid during the reference year. These amounts must be divided by the number of corresponding working hours, taking into consideration part-time employment and overtime. [5]
Unit of measure	Monetary value (earnings per hour in absolute figures in the national currency). Can be supplemented by a calculation showing the eventual pay gap for women and by the number of men and women in the respective groups.
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Data likely to be collected from the enterprises through a sample survey (this would balance the desired granularity, quality and burden on enterprises, as well as on statistical institutions). National SBR is the expected main source for sampling and later grossing up.

87 This indicator contributes to Sustainable Development Goal indicator 8.5.1 – Average hourly earnings of female and male employees, by occupation, age and persons with disabilities (see General Assembly resolution 71/313, annex). For the global indicator framework and the annual refinements, see [1].

88 This indicator is related to GRI Standard 201: Economic performance 2016, which measures employees' wages and benefits as a proportion of revenues. See www.globalreporting.org/publications/documents/english/gri-201-economic-performance-2016/.

89 Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] Eurostat (2020b). [3] Eurostat Metadata (b). [4] Eurostat and OECD (2017). [5] ILO, Concepts and definitions (https://ilostat.ilo.org/methods/concepts-and-definitions).

42. Unemployment rate by sex, age and persons with disabilities

Field	Metadata
Name of the indicator	Unemployment rate by sex, age and persons with disabilities[90]
Definition of the indicator	The number of unemployed persons as a percentage of the total number of people in the labour force. The labour force (or economically active population) is the total number of people who are employed and unemployed in the economy.
Objective of the indicator	To measure the number of unemployed persons among the total number of people in the labour force. The unemployment rate is a useful measure of the underutilization of the labour supply. It reflects the inability of an economy to generate employment for people who want to work but are not doing so, even though they are available for employment and actively seeking work. [3]
Contribution and usefulness of the indicator	The indicator will provide information on the efficiency and effectiveness of an economy to absorb its labour force and of the performance of the labour market.
Classification	Not applicable
Industrial coverage	Not applicable
Useful breakdowns (in order of relevance or importance)	• by sex • by age • by persons with disabilities
Algorithm	Number of people who are unemployed divided by the total number of people in the labour force, multiplied by 100
Description of the calculation of the indicator	The unemployment rate is measured by the number of unemployed people as a percentage of the total number of people in the labour force. The labour force (or economically active population) is the total number of people who are employed and unemployed in the economy. Thus, calculating the unemployment rate requires the measurement of both employment and unemployment. The unemployed comprise all people of working age who were: (a) without work during the reference period, that is, were not in paid employment or self-employment; (b) currently available for work, that is, were available for paid employment or self-employment during the reference period; and (c) seeking work, that is, had taken specific steps in a specified recent period to seek paid employment or self-employment. Future starters, that is, people who did not look for work but have a future labour market stake (made arrangements for a future job start) are also counted as unemployed, as are participants in skills training or retraining schemes within employment promotion programmes, who, on that basis, were "not in employment", not "currently available" and "did not seek employment" because they had a job offer to start within a short subsequent period generally not greater than three months. The unemployed also include individuals "not in employment" who carried out activities to migrate abroad in order to work for pay or profit, but who were still waiting for the opportunity to leave. [2][3]
Unit of measure	Percentage
Statistical unit	Person
Reference period	Monthly, quarterly, once or twice a year, depending on data availability
Frequency (periodicity) of data collection and dissemination	Depends on data availability
Dissemination format	Online databases, press releases, statistical books
Timeliness	Annual data should be published within one calendar year of the end of the reference year. Quarterly and monthly data should be published within three months and 45 days, respectively, after the end of the reference period.

[90] This indicator contributes to Sustainable Development Goal indicator 8.5.2 – Unemployment rate, by sex, age and persons with disabilities (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

Field	Metadata
Source data type	Labour force and household surveys. Preferred national data source is a household-based labour force survey. In the absence of a labour force survey, a population census and/or other type of household survey with an appropriate employment module may also be used to obtain the required data. Where no household survey exists, establishment surveys or some types of administrative records may be used to derive the required data, taking into account the limitations of these sources in terms of their coverage. More specifically, these sources may exclude some types of establishments, establishments of certain sizes, some economic activities or some geographical areas. Note that there is value in having consistent data sources and consistent definitions, where possible, when measuring unemployment, employment and earnings. Where the data sources differ (e.g. between household and business surveys), an effort should be made to ensure consistent definitions, where applicable (e.g. consistent reference periods, applications of industry and occupational classification).
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] ILO (2023b). [3] ILO, Concepts and definitions, "Unemployment rate" (https://ilostat.ilo.org/methods/concepts-and-definitions/description-labour-force-statistics/).

43. Gross value added of businesses per employed person

Field	Metadata
Name of the indicator	Gross value added of businesses per employed person[91,92]
Definition of the indicator	Gross value added at factor cost (derived directly from business statistics) per employed person in the sector, measured at the enterprise level *Gross value added at factor cost* is compiled for structural business statistics (*not* value added used in national accounts) [2][3]
Objective of the indicator	To measure a country's level of production in different industries, adjusted to the size of the workforce of the sector
Contribution and usefulness of the indicator	The indicator will provide information to assess the productivity of each industry in the economy and a country's national development in general.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[93]–9 employees, 10–49 employees, 50–249 employees, 250+ employees)
Algorithm	Gross value added at factor cost (of the sector) divided by total number of people employed (in the sector) When calculating the breakdowns, the numerator will be the gross value added at factor cost of businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total number of people employed in businesses in the same ISIC two-digit sector.
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one year from the end of the reference year.
Source data type	Business surveys
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] Seghir (2021). [3] United Nations (2009).

[91] This indicator contributes to Sustainable Development Goal indicator 9.2.1 – Manufacturing value added as a proportion of GDP and per capita (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[92] This indicator relates to GRI Standard 102: General disclosures 2016, disclosure 102-8.a: Total number of employees; and GRI Standard 201: Economic performance, disclosure 201-1: Direct economic value generated and distributed (www.globalreporting.org/publications/documents/english/gri-201-economic-performance-2016/).

[93] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

44. Sector employment as a proportion of total employment

Field	Metadata
Name of the indicator	Sector employment as a proportion of total employment[94,95]
Definition of the indicator	This indicator conveys employment in a sector as a percentage of total employment. Sector refers to ISIC Rev. 4 sections; employment refers to all persons of working age who, during a specified brief period, were (a) in "paid employment" (i.e. at work or with a job but not at work) or (b) in "self-employment" (i.e. at work or with an enterprise but not at work). [2][3][4]
Objective of the indicator	To convey the contribution of a sector's employment to total employment. The indicator measures the ability of a sector to absorb surplus labour from other sectors.
Contribution and usefulness of the indicator	This indictor is important to policymakers as it measures the growth or decline in a sector's employment and can contribute to identifying trends over time.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[96]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad) [5][6][7]
Algorithm	Total employment in a sector divided by total employment in all economic activities in a business sector, multiplied by 100
Description of the calculation of the indicator	It is recommended to compile this indicator based on the concept of *employment*.
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Online databases, press releases, statistical books
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Household surveys, establishment surveys, administrative registers or linkage of different data sources via the SBR. Preferred national data source is a household-based labour force survey. In the absence of a labour force survey, a population census and/or other type of household survey with an appropriate employment module may also be used to obtain the required data. Where no household survey exists, establishment surveys or some types of administrative records may be used to derive the required data, taking into account the limitations of these sources in terms of their coverage. More specifically, these sources may exclude some types of establishments, establishments of certain sizes, some economic activities or some geographical areas.

94 This indicator contributes to Sustainable Development Goal indicator 9.2.2 – Manufacturing employment as a proportion of total employment (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

95 This indicator relates to GRI Standard 102: General disclosures 2016, disclosure 102-2: Activities, brands, products, and services; and disclosure 102-8.a: Total number of employees.

96 Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] ILO (2013b). [3] ILO (2023b). [4] ILO, Concepts and definitions, "Employment" (https://ilostat.ilo.org/methods/concepts-and-definitions/description-labour-force-statistics/). [5] Eurostat (2020a). [6] Eurostat and OECD (2017). [7] Eurostat, Statistics explained, "Services trade by enterprise size" (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services_trade_by_enterprise_characteristics_-_STEC).

45. Water-use efficiency in businesses

Field	Metadata
Name of the indicator	Water-use efficiency in businesses[97,98]
Definition of the indicator	Gross value added at factor cost per unit of water used in production *Gross value added at factor cost* is compiled for structural business statistics (*not* value added used in national accounts).
Objective of the indicator	Water is a limited resource; therefore, it is important to focus on water use in the business sector. To measure the amount of water used in relation to the economic activity and total water use by type of business sector.
Contribution and usefulness of the indicator	The indicator will be of benefit to decision makers in society, as well as in the business sector, particularly for some types of industries. Development of the indicator over time will provide valuable information for progress and future planning.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96. It is important to include the agricultural sector as it is a major user of water.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division, at least divisions 01–33 • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[99]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) Additional breakdowns, such as by region, may be desirable depending on the localization of water resources.
Algorithm	Gross value added at factor cost (in constant prices) divided by the amount of total freshwater used (in thousands of cubic metres). When calculating the breakdowns, the numerator will be the gross value added at factor cost of businesses in, for example, a specific ISIC two-digit sector; and the denominator will be the amount of water used in the same ISIC two-digit sector.
Description of the calculation of the indicator	Gross value added at factor cost in constant prices in the national currency divided by the amount of water used (in thousands of cubic metres). The amount of water used includes deliveries by other industries, directly abstracted water and stored rainwater. Immediate use of rainwater, reuse of (waste) water and water loss during transport are considered neutral in the compilation. It is recommended to use gross value added at factor cost as compiled for business statistics, so that calculations can be made by any relevant breakdown; and it must be calculated in constant prices. If the coverage corresponds to the national accounts, the gross value added from the national accounts or the GDP may be used. To the extent possible, the calculation of the indicator should follow the same methodology as that of the System of Environmental-Economic Accounting for water (SEEA-Water). [2][3][4]
Unit of measure	Monetary value (in national currency); water in thousands of cubic metres
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data. Issues of seasonality should be referenced in footnotes or explained.
Frequency (periodicity) of data collection and dissemination	Annually

[97] This indicator contributes to Sustainable Development Goal indicator 6.4.1 – Change in water-use efficiency over time (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[98] This indicator relates to GRI Standard 303: Water and effluents 2018, disclosure 303-3.a: Total water withdrawal from all areas (in megalitres) (www.globalreporting.org/publications/documents/english/gri-303-water-and-effluents-2018/); and GRI Standard 201: Economic performance 2016, disclosure 201-1.a.i: Direct economic value generated: revenues (www.globalreporting.org/publications/documents/english/gri-201-economic-performance-2016/).

[99] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Data should be published within one to two years of the end of the reference year.
Source data type	When choosing sources, it is most important to find water data and economic data with the same coverage
Reference documents	[1] Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] United Nations (2012). [3] United Nations Statistics Division/United Nations Environment Programme, UNSD/UNEP Questionnaire on Environment Statistics (https://unstats.un.org/unsd/envstats/questionnaire). [4] United Nations Statistics Division, UNSD Environmental Indicators (https://unstats.un.org/unsd/envstats/qindicators).

46. Level of water stress attributable to businesses

Field	Metadata
Name of the indicator	Level of water stress attributable to businesses[100,101]
Definition of the indicator	Amount of water used by businesses, by main sources, in relation to the volume of available water resources
Objective of the indicator	Water is a limited resource; therefore, it is important to focus on water use in the business sector. To measure the amount of water used by businesses in relation to overall annual water resources.
Contribution and usefulness of the indicator	The indicator will be of benefit to decision makers in society, as well as in the business sector, particularly for some types of industries. Development of the indicator over time will provide valuable information for future planning.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96. It is very important to include the agricultural sector as it is a major user of water.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division, at least divisions 01–33 • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[102]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) Additional breakdowns, such as by region or local area, may also be desirable depending on the localization of water resources.
Algorithm	Total amount of freshwater used by businesses (in thousands of cubic metres) and as share of available annual renewable freshwater resources minus the environmental flow requirement (EFR).
Description of the calculation of the indicator	The water used by businesses is water delivered by other industries, directly abstracted water and stored rainwater. The amount of water used must be broken down by source (i.e. groundwater, surface water, stored rainwater, wastewater reuse). In addition, it is necessary to know the overall annual renewable freshwater resources. To the extent possible, the compilation of the indicator should follow the same methodology as that of the System of Environmental-Economic Accounting for water (SEEA-Water). [2][3][4]
Unit of measure	Amount of total freshwater used (in thousands of cubic metres) per source expressed as a percentage of annual renewable freshwater resources
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year. Issues of seasonality should be referenced in footnotes or explained.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one to two calendar years of the end of the reference year.
Source data type	Surveys on water use in businesses, through surveys or from other registers Estimates on the overall annual water resources in the country, as well as by region (as compiled by relevant authorities)

[100] This indicator contributes to Sustainable Development Goal indicator 6.4.2 – Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[101] This indicator relates to GRI Standard 303: Water and effluents 2018, disclosure 303-3.b: Water withdrawal from all areas with water stress (in megalitres) (www.globalreporting.org/publications/documents/english/gri-303-water-and-effluents-2018/).

[102] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] United Nations (2012). [3] United Nations Statistics Division/United Nations Environment Programme, UNSD/UNEP Questionnaire on Environment Statistics (https://unstats.un.org/unsd/envstats/questionnaire). [4] United Nations Statistics Division, UNSD Environmental Indicators (https://unstats.un.org/unsd/envstats/qindicators).

47. Share of renewable energy consumption by businesses

Field	Metadata
Name of the indicator	Share of renewable energy consumption by businesses[103,104]
Definition of the indicator	Share of energy use attributable to renewable energy sources
Objective of the indicator	To measure the share of renewable energy used by businesses Fossil fuel energy sources are the main contributor to greenhouse gas emissions; therefore, it is important to monitor the desired shift to renewable energy sources in the business sector, as enterprises' demand for different sources may have significant impacts.
Contribution and usefulness of the indicator	The indicator will be of benefit to policymakers with regard to overall energy policies. For the business sector, sustainable production methods would be of high importance for future business opportunities. Enterprises can use the indicator and changes over time for benchmarking.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division, at least divisions 01–33 and 49–53 (a more detailed breakdown may be relevant in very energy-intensive industries (e.g. cement production, metallurgic processes, production of artificial fertilizers)) • by type of energy source • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[105]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) Additional breakdowns, for example by region or local area, may also be desirable depending on localization of water resources.
Algorithm	Use of renewable energy by businesses divided by total energy use. When calculating the breakdowns, the numerator will be the use of renewable energy by businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total energy use by businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	Total final energy use by type of industry in gigajoules, broken down by type of energy source Primary energy sources (i.e. those used directly at the location) must be broken down into at least: • fossil sources (e.g. coal, oil, natural gas) • renewable biomass sources (e.g. wood, biofuels, waste) • other non-fuel sources (e.g. windmills, solar panels, hydropower) *Converted* energy (e.g. electricity and heating delivered by an energy supplier) must be broken down (using information from the supplier/supply sector) into renewable and non-renewable[106] sources used for production of energy: • fossil sources • renewable biomass sources • other non-fuel sources (e.g. windmills, solar panels, hydropower) Use must follow the net consumption approach. With this information, the percentage of energy use from renewable sources by type of industry can be easily calculated. To the extent possible, the compilation of the indicator should follow the same methodology used in the System of Environmental-Economic Accounting for energy (SEEA-Energy), the International Energy Agency (IEA) Energy balances and statistics, and the International Recommendations for Energy Statistics (IRES). [2][3][4]

[103] This indicator contributes to Sustainable Development Goal indicator 7.2.1 – Renewable energy share in total final energy consumption (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[104] This indicator is related to GRI Standard 302: Energy 2016, disclosure 302-1.b: Energy consumption within the organization from renewable sources, and disclosure 302-1.e: Total energy consumption within the organization (www.globalreporting.org/publications/documents/english/gri-302-energy-2016/).

[105] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

[106] Information on converted energy (e.g. electricity and heating) from non-renewable nuclear sources, will be required to determine the split between renewable and non-renewable sources.

Field	Metadata
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Sample survey on energy use, covering a substantial part of the business sector. The survey must cover the use of all relevant energy source types purchased by the business sector. Data from the energy supply sector (i.e. basic energy statistics on the sources used for the production of converted types of energy) is also needed.
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] United Nations (2019b). [3] International Energy Agency, Energy balances and statistics (www.iea.org/data-and-statistics). [4] United Nations (2016).

48. Energy efficiency in businesses

Field	Metadata
Name of the indicator	Energy efficiency in businesses[107,108]
Definition of the indicator	Gross value added at factor cost per unit of energy consumed by businesses Gross value added at factor cost is compiled for structural business statistics (*not* value added used in national accounts).
Objective of the indicator	To measure the development of energy efficiency in the business sector Improved energy efficiency is of high importance in lowering the use of fossil fuel energy and reducing greenhouse gas emissions. Therefore, it is important to measure the development of energy efficiency in the business sector.
Contribution and usefulness of the indicator	The indicator will be of benefit to policymakers especially with regard to policies aimed at business and environmental sustainability. For the business sector, more energy-efficient production equates to cost-efficiency. Enterprises can use the indicator and changes over time for benchmarking.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division, at least divisions 01–33 and 49–53 (a more detailed breakdown may be relevant in very energy-intensive industries (e.g. cement production, metallurgic processes, production of artificial fertilizers)) • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[109]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) Additional breakdowns, for example by region or local area, may be desirable depending on localization of energy resources.
Algorithm	Gross value added at factor cost (in constant prices) divided by energy use (in gigajoules). When calculating the breakdowns, the numerator will be gross value added at factor cost in businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the energy use of businesses in the same ISIC two-digit sector.
Description of the calculation of the indicator	Total final consumption of energy by type of industry (in gigajoules), must be calculated using the net consumption approach. It is important to use the same coverage of energy consumption and gross value added in the calculation (e.g. it is important to ensure that energy consumption and gross value added relating to international transportation, for example, is included). It is recommended that gross value added at factor cost as compiled for business statistics be used, so that calculations can be made for relevant breakdowns. Gross value added must be compiled in constant prices. If coverage corresponds to the national accounts, gross value added from the national accounts or GDP may be used. Energy use can also be broken down by type of energy source (see indicator "Share of renewable energy consumption by businesses"). To the extent possible, the compilation of the indicator should follow the same methodology used in the System of Environmental-Economic Accounting for energy (SEEA-Energy), International Energy Agency (IEA) Energy balances and statistics, and the International Recommendations for Energy Statistics (IRES). [2][3][4]
Unit of measure	Monetary value (in national currency); amount of energy in gigajoules

[107] This indicator contributes to Sustainable Development Goal indicator 7.3.1 – Energy intensity measured in terms of primary energy and GDP (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[108] This indicator is related to GRI Standard 302 Energy 2016, disclosure 302-1: Energy consumption within the organization; disclosure 302-1.b: Energy consumption within the organization from renewable sources; and disclosure 302-1.e: Total energy consumption within the organization (www.globalreporting.org/publications/documents/english/gri-302-energy-2016/); as well as GRI Standard 201: Economic performance 2016, disclosure 201-1.a.i: Direct economic value generated: revenues (www.globalreporting.org/publications/documents/english/gri-201-economic-performance-2016/).

[109] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Sample survey on energy use, covering a substantial part of the business sector. Data from energy providers or the energy supply sector can also be used in the calculations.
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] United Nations (2019b). [3] International Energy Agency, Energy balances and statistics (www.iea.org/data-and-statistics). [4] United Nations (2016).

49. Green investment by businesses

Field	Metadata
Name of the indicator	Green investment by businesses[110]
Definition of the indicator	Although the definition of green investment is not yet final, for the purposes of this indicator, green investment refers to physical investment that can be considered positive for the environment in a direct or indirect manner through resource saving or environmental protection. This indicator therefore includes all expenditure on investments aimed at the prevention, reduction and elimination of pollution and other forms of degradation to the environment.
Objective of the indicator	To measure and monitor investments by businesses that are beneficial to the environment.
Contribution and usefulness of the indicator	This indicator will help to promote business investment intended to facilitate and enhance environment protection, reduce emissions and reduce climate change-related implications. Authorities and companies may use the information in their future planning.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[111]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by legal form (typical SBR breakdown), depending on data availability Additional breakdowns, for example by region or local area, may be desirable depending on the localization of water resources.
Algorithm	Green investment (environmental, ecological, eco-friendly) by industry, in absolute amounts and as a percentage of total gross fixed capital formation by businesses. When calculating the breakdowns, the numerator will be the amount of green investment by businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total gross fixed capital formation in the same ISIC two-digit sector. [2][3][4]
Description of the calculation of the indicator	Total amount of expenditure on investments whose primary purpose is the prevention, reduction and elimination of pollution and other forms of degradation to the environment, in absolute amounts and as a percentage of total capital formation. Green investments typically comprise, for example, low carbon power generation and vehicles, smart grids, energy efficiency, pollution controls, recycling, waste management, waste-to-energy and other technologies that contribute to solving particular environmental problems. In order to understand which types of underlying technologies are related to green investments and as a starting point for deciding which investments to include in the calculation of this indicator, the following checklist would be useful: • General environmental management (including waste management, air and water pollution abatement, soil remediation) • Renewable energy (including biofuels) • Combustion technologies for improved efficiency • Climate change mitigation (e.g. capture, storage, sequestration, disposal of greenhouse gases) • Indirect contribution (e.g. energy storage) • Transportation (emissions abatement, efficiency) • Buildings (energy efficiency). To the extent possible, the calculation of the indicator should follow the same methodology used for "environment protection expenditure" in the System of Environmental-Economic Accounting, Central Framework (SEEA). [5]
Unit of measure	Monetary value (in national currency); percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.

[110] This indicator contributes to Sustainable Development Goal indicator 7.a.1 – International financial flows to developing countries in support of clean energy R&D and renewable energy production (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[111] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Company reports or other specific data collection Statistics on green investments (or on production of environmental goods and services), where available[112]
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] UNCTAD (2019). [3] Inderst, Kaminker and Stewart (2012). [4] European Union (2018), EU Sustainability taxonomy framework, p. 18. [5] United Nations and others (2014).

[112] For example, in the United States of America, disclosure of material capital expenditure for pollution abatement and control is mandated by the Securities and Exchange Commission; such expenditure is defined as "environmental capital spending" or "environmental capital expenditure".

50. Greenhouse gas emissions generated by businesses per unit of value added

Field	Metadata
Name of the indicator	Greenhouse gas emissions generated by businesses per unit of value added[113,114]
Definition of the indicator	*Greenhouse gas* in relation to gross value added at factor cost
Objective of the indicator	To measure the greenhouse gas emissions generated by businesses in relation to gross value added realized Greenhouse gas emissions are a major cause of global warming and climate change; States parties to the Paris Agreement have agreed to reduce greenhouse gas emissions. As a substantial part of emissions comes from business activities, measuring the emissions of businesses is of high importance.
Contribution and usefulness of the indicator	The indicator will be of benefit to policymakers especially with regard to policies focusing on businesses and environmental sustainability, in particular in combination with information on value added. Enterprises can use the indicator and changes over time for benchmarking.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96. It is important that the calculation corresponds to the emissions coverage in the national accounts (i.e. international transport should also be included).
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division, at least divisions 01–33 and 49–53 (a more detailed breakdown can be relevant in very energy-intensive industries (e.g. cement production, metallurgic processes, production of artificial fertilizers))
Algorithm	Emissions in CO_2 equivalents (CO_2e) divided by gross value added at factor cost. When calculating the breakdowns, the numerator will be the amount of emissions by businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total gross value added at factor cost of businesses in the same ISIC two-digit sector.
Description of the calculation of the indicator	Greenhouse gas emissions must include all gases – carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4) and fluorinated gases (sulfur hexafluoride (SF_6), perfluorocarbons (PFCs) and hydrofluorocarbons (HFCs) – compiled as CO_2 equivalents (CO_2e)). Scope 2 emissions, i.e. emissions from purchased electricity and heating, must be reallocated from the energy supply sector to the final users in the different types of industry. Emissions from the burning of renewable sources (mainly biomass) shall not be included in the compiled figures (they can be reported separately). The corresponding gross value added at factor cost in constant prices must be compiled or taken from existing statistics. It is important to use the same coverage of emissions and gross value added at factor cost in the calculation (e.g. ensure that emissions and gross value added relating to international transportation, for example, are included). If gross value added at factor cost is not available, gross value added for national accounts or GDP can be used. To the extent possible, the calculation of the indicator should follow the same methodology used in the System of Environmental-Economic Accounting-Central Framework (SEEA). [2]
Unit of measure	Tons of CO_2e per million of national currency units The amount of CO_2e (in tons) by type of industry may also be considered.
Statistical unit	Enterprises (in case of lack thereof, establishments) If all activity cannot be covered, it is of high importance that the two components of the indicator have the same coverage.
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually

[113] This indicator contributes to Sustainable Development Goal indicator 9.4.1 – CO_2 emissions per unit of value added (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[114] This indicator is related to GRI Standard 305: Emissions 2016, disclosure 305-1: Direct (Scope 1) Greenhouse gas emissions (www.globalreporting.org/publications/documents/english/gri-305-emissions-2016/).

Field	Metadata
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	An emissions account or inventory, which has most probably been already compiled, but maybe not fully allocated to detailed ISIC classification; further development may be needed. It is recommended that gross value added at factor cost as compiled for business statistics be used, so that calculations can be made for any relevant breakdown. Gross value added must be compiled in constant prices. If the coverage corresponds to the national accounts, gross value added from the national accounts or GDP may be used.
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] United Nations and others (2014).

51. Research and development (R&D) expenditure as a proportion of gross value added

Field	Metadata
Name of the indicator	Research and development (R&D) expenditure as a proportion of gross value added[115]
Definition of the indicator	The amount of money spent by enterprises on research and experimental development (R&D expenditure) divided by gross value added at factor cost in the reference period. *Gross value added at factor* is that compiled for structural business statistics (*not* value added used in national accounts).
Objective of the indicator	Businesses' expenditure on R&D as a proportion of gross value added at factor cost is intended to measure research and experimental development potential as a significant contribution to economic growth and prosperity, by ensuring coherence and comparability among countries over time. [1] Businesses' expenditure on R&D is relevant for the System of National Accounts 2008, which recognizes expenditure on R&D as a capital formation activity (i.e. investment or produced assets in an economy) (see United Nations and others (2009), paras. 6.230 and 10.98). [2]
Contribution and usefulness of the indicator	R&D plays a significant role in contributing to economic growth and prosperity. Business statistics on R&D expenditure are used to measure the extent to which businesses fund R&D, where it takes place and in which economic activity. Measuring the expenditure of businesses on R&D as a proportion of GDP is crucial to understanding how R&D contribute to economic growth and societal well-being. [1] Moreover, the value of expenditure on creative work undertaken on a systematic basis by enterprises to increase the knowledge of society facilitates better understanding of how R&D influences the economic performance of various industries and countries. [2]
Classification	ISIC Rev. 4
Industrial coverage	All businesses in the private sector – no industry among those businesses should be excluded from the reporting of R&D activities
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at minimum • by enterprise size (enterprise size classes are defined as follows: 0[116]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad, or social enterprise) [2][3]
Algorithm	Businesses' expenditure on R&D in year *t* divided by gross value added at factor cost in year *t*. Businesses' expenditure on R&D comprises expenditure on intramural R&D, which includes all current expenditure plus gross fixed capital expenditure for R&D carried out within a business during a specific reference period, i.e. all or part of year *t*. [3] When calculating the breakdowns, the numerator will be the R&D expenditures of businesses in, for example, a specific ISIC two-digit sector, and the denominator will be the total gross value added at factor cost of businesses within the same ISIC two-digit sector.
Description of the calculation of the indicator	Businesses' expenditure on R&D (BERD) is measured as expenditure on intramural R&D, which consists of all current expenditure plus gross fixed capital expenditure for R&D performed within a business during a specific reference period. Current expenditure is composed of labour costs relating to R&D personnel and other costs incurred by R&D activity, such as services and items (including equipment) used and consumed within the year. [3]
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.

[115] This indicator contributes to Sustainable Development Goal indicator 9.5.1 – Research and development expenditure as a proportion of GDP (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[116] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	A purposive survey should be used to gather R&D information. It is recommended that an ad hoc business register (or directory) of firms that carry out R&D be developed so as to create a base list or inventory of business that are highly likely to carry out R&D. [3] Alternatively, if the concepts, definition and coverage used by administrative data providers are coherent in relation to the theoretical approach of the Frascati manual, then the administrative data may be used as a primary source of information. [3] National SBR is the main source of business demography data. GDP figures, if used, are based on national accounts, and employment figures are based on household surveys. GDP measures obtained from national accounts represent, as much as possible, GDP at market prices for the aggregate economy.
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] OECD (2015a). [3] United Nations (2018).

52. Researchers (in full-time equivalent) per million inhabitants

Field	Metadata
Name of the indicator	Researchers (in full-time equivalent) per million inhabitants[117]
Definition of the indicator	A measure of the number of R&D personnel per million people
Objective of the indicator	The indicator provides a direct measure of the number of R&D personnel per million people in the resident population. The knowledge resulting from R&D activities can be used to meet national needs and global challenges and to improve overall societal well-being and sustainable development.
Contribution and usefulness of the indicator	This indicator on researchers (in full-time equivalents) per million inhabitants measures the human capital in an economy; it focuses on the human capacities and skills of the labour force.
Classification	ISIC Rev. 4
Industrial coverage	All businesses in the private sector – no industry among those businesses should be excluded.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at minimum • by enterprise size (enterprise size classes are defined as follows: 0[118]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by type of ownership (i.e. foreign- or domestically controlled enterprise, with or without own affiliates abroad, or social enterprise)
Algorithm	Number of researchers in full-time equivalents divided by the arithmetic mean of the population on 1 January of year *t* and on 1 January of year *t*+1, divided by one million. Researchers in year *t* refer to professionals engaged in the conception or creation of new knowledge (e.g. development of concepts, theories, models, techniques, instrumentation, software, operational methods) in all or in part of year *t*, whether employed by the given statistical unit or external contributors that are fully integrated into the R&D activities of the given statistical unit. R&D personnel are classified as researchers with reference to the actual R&D function (in terms of tasks) and not according to hierarchical position or level of education. [2]
Description of the calculation of the indicator	The numerator of the indicator is the number of researchers in full-time equivalent (calculated as the number of working hours actually spent on R&D during year *t* divided by the number of full-time working hours normally worked by an individual or group in the same period); the denominator of the indicator is the arithmetic mean of the population on 1 January of year *t* and on 1 January of year *t*+1, divided by one million.
Unit of measure	Number (in absolute figures)
Statistical unit	Enterprises (in case of lack thereof, establishments) In the case of R&D, the definition of statistical unit has weaker requirements compared to those used to define an institutional unit in the national accounts. In the case of R&D, the statistical unit must be capable of making decisions with respect to the conduct of R&D, from the allocation of financial resources for internal or external use to the management of R&D projects. [2]
Reference period	Basic reference period is the year.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Purposive national R&D surveys, conducted by either the NSO or a line ministry (such as the Ministry for Science and Technology). Alternatively, if the concepts, definition and coverage used by administrative data providers are coherent in relation to the theoretical approach of the Frascati manual, then the administrative data may be used as a primary source of information. [2][3]

[117] This indicator contributes to Sustainable Development Goal indicator 9.5.2 – Researchers (in full-time equivalent) per million inhabitants (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[118] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Reference documents	[1] United Nations, Sustainable Development Goal indicators (https://unstats.un.org/sdgs/metadata). [2] OECD (2015a). [3] United Nations (2018).

53. Number of companies publishing sustainability reports

Field	Metadata
Name of the indicator	Number of companies publishing sustainability reports[119]
Definition of the indicator	Companies that publish sustainability reports in compliance with the minimum requirement of disclosure, as set out in the definition for Sustainable Development Goal indicator 12.6.1. [1] Companies that have branches in the respective country, independent of whether the reporting is done separately or comprehensively for all branches, as well as for transnationals, by the parent company.
Objective of the indicator	To monitor the development of sustainability practices by private-sector entities The private sector has a critical role to play in the attainment of the Sustainable Development Goals.
Contribution and usefulness of the indicator	There is a high degree of interest in companies' behaviour in the areas of environmental and social sustainability, in the society as well as among investors. The indicator will provide information on the number of companies that are committed to environmental sustainability; and their sustainability reports will render the business activities more transparent. Based on this information, the authorities can adjust legislation or take other initiatives to encourage more companies to report, as well as benefit from, the reports when assessing social and environmental policies.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[120]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by reporting the minimum requirement Advanced reporting may also be considered.
Algorithm	Number of companies publishing sustainability reports plus (recommended) the share of jobs covered by these companies (by industry) [2]
Description of the calculation of the indicator	Identify the number of companies (using the units covered in general business statistics) applying the criteria in the metadata for Sustainable Development Goal indicator 12.6.1. The criteria to be met are separated into a minimum list (with 20 items) and an extended (advanced) list covering business, environmental, social and governance aspects. The criteria are fulfilled if the company has reported on all criteria relevant for the entity. [1] Once the units fulfilling the criteria to a large extent have been identified, other information (e.g. on the business code and on employment) can be added and made relative to the overall population by industry. "Jobs" refer to number of employees. [2]
Unit of measure	Number of companies plus (recommended) share (per cent) of jobs by breakdown
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Reporting on this indicator will be annual, given that most companies publish sustainability information on an annual basis.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	First reporting cycle: 2020 Results will be available at latest one year after the reference year

[119] This indicator contributes to Sustainable Development Goal indicator 12.6.1 – Number of companies publishing sustainability reports (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[120] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Field	Metadata
Source data type	There are different ways to collect the needed information, depending on administrative and statistical systems. Possible sources are: - Reports of individual companies analysed for the purpose - Existing global and national repositories of sustainability reports - Data provided by the national government - Surveys on (or including) information on the business reporting. A database may be established covering the relevant sources in the country. Data on employment are needed for compiling the share of employees in companies issuing sustainability reports. [2][3]
Reference documents	[1] United Nations, Sustainable Development Goals indicators (https://unstats.un.org/sdgs/metadata). [2] UNCTAD (2019). [3] GRI Standards (www.globalreporting.org/standards/download-the-standards/).

54. Job openings (vacancies) in businesses

Field	Metadata
Name of the indicator	Job openings (vacancies) in businesses
Definition of the indicator	Number of job openings (vacancies) in the business sector
Objective of the indicator	To measure the unmet demand for labour in the economy
Contribution and usefulness of the indicator	The compilation of this indicator will benefit various decision makers (including policymakers, businesses and workers) to better understand the unmet demand for labour in sectors, occupations or regions of the economy. The number of job openings is an economic indicator that can provide information about the potential strength or weakness of a labour market. This is a key indicator for assessing the business cycle and for a structural analysis of the economy.
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by region or local area (this can be of high relevance depending on the localization of employment, in accordance with the Nomenclature of Territorial Units for Statistics) • by enterprise size, depending on data availability (enterprise size classes are defined as follows: 0[121]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) • by occupation, in accordance with the International Standard Classification of Occupations (ISCO-08) [1] • by educational training or requirements may also be considered
Algorithm	Number of job openings in businesses A job opening, or vacancy, is defined as a position that is newly created, unoccupied or about to become vacant, for which the employer is taking active steps and is prepared to take further steps to find a suitable candidate from outside the enterprise concerned. The employer also intends to fill the position either immediately or within a specific period of time. It is also recommended to publish the job opening (vacancy) rate (JVR), which is calculated as follows: JVR = number of job vacancies divided by (number of occupied posts + number of job vacancies) multiplied by 100 [2][3][4]
Description of the calculation of the indicator	The total number of unfilled job positions (or vacancies) at the end of the reference period The position can be full-time or part-time, permanent, short-term or seasonal. [2]
Unit of measure	Number
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Monthly, quarterly or annually
Frequency (periodicity) of data collection and dissemination	Can differ depending on the number of observations or data availability – monthly, quarterly, once or twice a year, other
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online data sets
Timeliness	Quarterly and monthly data should be published within three months and 45 days, respectively, after the end of the reference period. Annual data should be published within one calendar year of the end of the reference year.
Source data type	Business surveys
Reference documents	[1] ILO (2012). [2] Eurostat. Metadata on job vacancy statistics (https://ec.europa.eu/eurostat/cache/metadata/en/jvs_esms.htm). [3] Eurostat. Statistics explained, Job vacancy statistics (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Job_vacancy_statistics). [4] Eurostat. Labour market, Job vacancies (https://ec.europa.eu/eurostat/web/euro-indicators/information-data/labour-market).

[121] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

55. Taxes and other payments paid by businesses to Government

Field	Metadata
Name of the indicator	Taxes and other payments paid by businesses to Government[122,123]
Definition of the indicator	Taxes (including income taxes, and other levies and taxes, such as property taxes or value added taxes) and related penalties, royalties, licence fees and other payments paid by businesses to Government in a given period. [1]
Objective of the indicator	To measure the amount of government revenues collected from businesses
Contribution and usefulness of the indicator	The indicator will assess the level of domestic resource mobilization in the country and its capacity to collect tax revenue from the business sector. [3]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[124]–9 employees, 10–49 employees, 50–249 employees, 250+ employees) Additional breakdowns may be desirable for national purposes.
Algorithm	Value of taxes and other payments by businesses to Government [2][3]
Description of the calculation of the indicator	Not applicable
Unit of measure	Monetary value (in millions of national currency)
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data. The population of active enterprises refers to all enterprises that were active at any time during the reference period, even if for a limited time.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Government finance statistics and business statistics
Reference documents	[1] United Nations, Sustainable Development Goals indicators (https://unstats.un.org/sdgs/metadata). [2] UNCTAD (2019). [3] Seghir (2021).

[122] This indicator contributes to Sustainable Development Goal indicator 17.1.2 – Proportion of domestic budget funded by domestic taxes (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[123] This indicator is related to GRI Standard 207: Tax 2019, disclosure 207-1: Approach to tax; disclosure 207-2: Tax governance, control, and risk management; and disclosure 207-4: Country-by-country reporting (www.globalreporting.org/publications/documents/english/gri-207-tax-2019/).

[124] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

56. Total taxes and other payments paid by businesses to Government as a proportion of total government revenue

Field	Metadata
Name of the indicator	Total taxes and other payments paid by businesses to Government as a proportion of total government revenue[125,126]
Definition of the indicator	Taxes (including income taxes, and other levies and taxes, such as property taxes or value added taxes), and related penalties, royalties, licence fees and other payments paid by businesses to Government in a given period as a share of total government revenues
Objective of the indicator	To measure the amount of domestic tax revenues that Government collected from businesses in relation to other sources of revenue.
Contribution and usefulness of the indicator	The indicator will assess the level of domestic resource mobilization in the country and its capacity to collect tax revenue from the business sector. [2]
Classification	ISIC Rev. 4
Industrial coverage	At a minimum, it is recommended to cover ISIC Rev. 4, B–N, P–R, 95–96.
Useful breakdowns (in order of relevance or importance)	• by ISIC two-digit division at a minimum • by enterprise size (enterprise size classes are defined as follows: 0[127]–9 employees, 10–49 employees, 50–249 employees, 250+ employees)
Algorithm	Taxes paid to Government by businesses divided by total government tax revenues [2]
Description of the calculation of the indicator	Not applicable
Unit of measure	Percentage
Statistical unit	Enterprises (in case of lack thereof, establishments)
Reference period	Basic reference period is the calendar year for annual data.
Frequency (periodicity) of data collection and dissemination	Annually
Dissemination format	Publications such as key figures/pocketbooks, statistical books, statistics in focus, new releases and online databases
Timeliness	Annual data should be published within one calendar year of the end of the reference year.
Source data type	Government finance statistics and business statistics
Reference documents	[1] United Nations, Sustainable Development Goals indicators (https://unstats.un.org/sdgs/metadata). [2] Eurostat (2021a).

[125] This indicator contributes to Sustainable Development Goal indicator 17.1.2 – Proportion of domestic budget funded by domestic taxes (see General Assembly resolution 71/313, annex). For the global indicator framework and annual refinements to the indicators, see [1].

[126] This indicator is related to GRI Standard 207: Tax 2019, disclosure 207-4: Country-by-country reporting (www.globalreporting.org/publications/documents/english/gri-207-tax-2019/).

[127] Enterprise size class of zero (0) refers to non-employer enterprises, that is, enterprises with no employees, such as self-employed individuals who work on their own account and do not employ other people. Likewise, the enterprise size class of zero (0) could be the case in which an enterprise is still active but does not currently have any employees.

Glossary

Active enterprise

An enterprise (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.

Source: Eurostat (2021a).

Affiliates

Affiliates are entities in a direct investment relationship (either immediate or indirect) with each other, or that have the same (immediate or indirect) direct investor. Affiliates of an enterprise consist of: (a) its direct investor(s), both immediate and indirect; (b) its direct investment enterprises, whether subsidiaries (including branches and other quasi-corporations), associates, and subsidiaries of associates, both immediate and indirect; and (c) fellow enterprises, that is, those enterprises that are under the control or influence of the same immediate or indirect investor, but neither fellow enterprise controls or influences the other fellow enterprise. Often the direct investor and fellow enterprises are all in different economies, but sometimes the direct investor is in the same economy as one of the fellow enterprises (in which case, it is not a direct investor in that fellow enterprise). This situation is more likely to arise in economies that do not use a local enterprise group as the statistical unit for direct investment purposes.

Source: IMF (2009).

Artificial intelligence (AI)-related patents

Patents that are categorized as relating to AI by the World Intellectual Property Organization (WIPO) as published on its database.

Source: WIPO, Patentscope, Artificial Intelligence Index. Available at www.wipo.int/tech_trends/en/artificial_intelligence/patentscope.html.

Birth (of enterprise)

The birth of an enterprise is characterized by the creation of a combination of production factors, with the restriction that no other enterprises are involved in the event. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises, nor do they include entries into a sub-population resulting only from a change of activity.

A birth occurs when an enterprise starts from scratch and actually starts activity. An enterprise creation can be considered as an enterprise birth if new production factors, in particular new jobs, are created. If a dormant unit is reactivated within two years, this event is not considered a birth.

Source: Eurostat (2010).

Broadband

See *Internet connections*

Company

See *Corporation*

Compensation

Compensation of employees is defined as the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period. Compensation of employees has two main components: (a) wages and salaries payable in cash or in kind; and (b) social insurance contributions payable by employers, which include contributions to social security schemes; actual social contributions to other employment-related social insurance schemes and imputed social contributions to other employment-related social insurance schemes.

Source: United Nations and others (2009).

Corporation

In the legal sense, corporations may be described by different names: corporations, incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, limited liability partnerships and so on. In the System of National Accounts 2008, the term corporation covers legally constituted corporations as well as cooperatives, limited liability partnerships, notional resident units and quasi-corporations. It is used more broadly than in just the legal sense and covers all entities that are: (a) capable of generating a profit or other financial gain for their owners; (b) recognized at law as separate legal entities from their owners who enjoy limited liability; and (c) set up for purposes of engaging in market production.

Source: United Nations and others (2009).

Death (of enterprise)

The death of an enterprise refers to the dissolution of a combination of production factors, with the restriction that no other enterprises are involved in the event. Deaths do not include exits from the population due to mergers, takeovers, break-ups or restructuring of a set of enterprises, nor do they include exits from a sub-population resulting only from a change of activity.

Source: OECD and Eurostat (2007).

Digital economy

The digital economy incorporates all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including Government, that are utilizing these digital inputs in their economic activities. This definition covers the Core measure of the digital economy, which includes economic activity from producers of digital content and information and communications technology (ICT) goods and services.

In the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC Rev. 4), the ICT sector is defined as industries in which the production (goods and services) is primarily "intended to fulfil or enable the function of information processing and communication by electronic means, including transmis-

sion and display", while the content and media sector is defined as economic activities, or industries, that are primarily "engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment products), where content corresponds to an organised message intended for human beings".

The OECD definition of the content and media sector combined with the ICT sector comprise the information industries, which are covered by the Core measure of the digital economy, including the following activities, or industries, in ISIC Rev. 4: Publishing of books, periodicals and other publishing activities (581); Motion picture, video and television programme activities (591); Sound recording and music publishing activities (592); Broadcasting and programming activities (60); and Other information service activities (639).

For practical purposes, due to limited data availability, OECD considers that the Core measure of the digital economy can be approximated by the following two-digit divisions in ISIC Rev. 4: Computer, electronic and optical products (26); Publishing, audiovisual and broadcasting activities (58 to 60); Telecommunications (61); and IT and other information services (62 to 63).

Source: OECD (2020).

E-commerce

E-commerce refers to all sales or purchases of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments and other public or private organizations. E-commerce includes orders made in web pages, extranet or Electronic Data Interchange (EDI). Excluded are orders made by telephone calls, facsimile or manually typed email. The Internet is a worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries email, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, personal digital assistant, games machine, digital television, among others). Access to the Internet can be via a fixed or mobile network.

Source: OECD (2011).

Employees

Employees are workers employed for pay, on a formal or informal basis, who do not hold controlling ownership of the economic unit in which they are employed. They are remunerated in cash or in kind in return for time worked or, in some cases, for each task or piece of work done or for services provided including sales (by the piece or commission). Payment for time worked is the typical mode of remuneration; payment in kind is generally received in the form of goods. Where payment is received in the form of services, this is generally complementary to payment in cash.

Source: ILO (2018).

Employment

Persons in employment are defined as all those of working age who, during a short reference period, were engaged in any activity to produce goods or provide services for pay or profit. They comprise: (a) employed persons "at work", that is, who worked in

a job for at least one hour; and (b) employed persons "not at work" due to temporary absence from a job, or to working-time arrangements (such as shift work, flextime and compensatory leave for overtime).

Source: ILO, ILOSTAT database: Work Statistics – 19th ICLS (International Conference of Labour Statisticians). Available at https://ilostat.ilo.org/methods/concepts-and-definitions/description-work-statistics-icls19/.

Enterprise

An enterprise is a legal unit (or the smallest set of legal units) that produces goods and services and that has autonomy in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services. It may be engaged in one or more productive activities.

An enterprise may be a corporation (or quasi-corporation), a non-profit institution or an unincorporated enterprise. Corporate enterprises and non-profit institutions are complete institutional units. On the other hand, the term "unincorporated enterprise" refers to an institutional unit, such as a household or government unit, only in its capacity as a producer of goods and services.

The enterprise is the level of statistical unit at which information relating to its transactions, including financial and balance-sheet accounts, is maintained, and from which international transactions, an international investment position (when applicable), consolidated financial position and net worth can be derived.

Source: United Nations (2024).

Establishment

An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.

Source: United Nations and others (2009).

Fixed broadband

See *Internet connections*

Greenhouse gas emissions

Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. Water vapour (H_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4) and ozone (O_3) are the primary greenhouse gases in the Earth's atmosphere. Moreover, there are a number of entirely human-made greenhouse gases in the atmosphere, such as the halocarbons and other chlorine- and bromine-containing substances, dealt with under the Montreal Protocol. Beside CO_2, N_2O and CH_4, the Kyoto Protocol deals with the greenhouse gases sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Emissions are the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time.

Source: Intergovernmental Panel on Climate Change (2018), glossary.

Gross fixed capital formation

Gross fixed capital formation is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets.

Source: United Nations (2009).

Gross value added

Gross value added is the value of output less the value of intermediate consumption.

Source: United Nations (2009).

Gross value added at factor cost

The gross income from operating activities after adjusting for operating subsidies and indirect taxes. It is an indicator in the domain of structural business statistics. It can be calculated as the total sum of items to be added (+) or subtracted (-):

- turnover (+)
- capitalized production (+)
- other operating income (+)
- increases (+) or decreases (-) of stocks
- purchases of goods and services (-)
- other taxes on products which are linked to turnover but not deductible (-)
- duties and taxes linked to production (-).

Alternatively, it can be calculated from the gross operating surplus by adding personnel costs.

Source: Eurostat. Statistics explained, glossary.

Gross operating surplus

Gross operating surplus or profits is defined, in the context of structural business statistics, as value added minus personnel costs. It is the surplus generated by operating activities after the labour factor input has been recompensed. It is the balance available to a unit which allows it to recompense the providers of own funds and debt, to pay taxes and to finance all or a part of its investment.

Income and expenditure classified as financial or extraordinary in company accounts are excluded from gross operating surplus.

Source: Eurostat. Statistics explained, glossary.

ICT expenditure

ICT expenditures include computer hardware (computers, storage devices, printers and other peripherals); computer software (operating systems, programming tools, utilities, applications and internal software development); computer services (information technology consulting, computer and network systems integration, web hosting, data processing services and other services); and communications services (voice and data communications services) and wired and wireless communications equipment.

Source: World Bank. DataBank. Metadata glossary. Available at https://databank.worldbank.org/metadataglossary/africa-development-indicators/series/IE.ICT.TOTL.GD.ZS#:~:text=Information%20and%20communications%20technology%20expenditures,computer%20services%20(information%20technology%20consulting%2C.

ICT infrastructure

The basic ICT physical and organizational structures and facilities, such as broadband speed, type of broadband connections, networking facilities, usage of software and applications and so on.

Source: Based on UNCTAD (2021).

ICT-related patents

Patents relating to ICT in the WIPO International Patent Classification, including the following classes and subclasses in section G:

G06	Computing; calculating or counting
G16	ICT specially adapted for specific application fields
G16C	Computational chemistry; chemoinformatics; computational materials science
G16H	Healthcare informatics, i.e. ICT specially adapted for the handling or processing of medical or healthcare data
G16Y	ICT specially adapted for the Internet of things [IoT]
G16Z	ICT specially adapted for specific application fields, not otherwise provided for

Source: WIPO. International Patent Classification (IPC) Publication. Available at www.wipo.int/classifications/ipc/en/.

ICT-related trademarks

Trademarks relating to ICT in the WIPO Nice Classification (NCL) of trademarks, including codes in classes 9 (goods), and 38 and 42 (services).

Source: WIPO. Nice Classification (NCL) Publication. Available at https://nclpub.wipo.int/enfr/.

ICT sector

The ICT sector comprises activities, or industries, defined in ISIC Rev. 4 as the production (goods and services) of an industry that is primarily "intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display". The activities (industries) of the ICT sector can be grouped into ICT manufacturing industries, ICT trade industries and ICT services industries.

In the OECD definition of the digital economy, the Core measure includes activities, or industries, of both the ICT and the content and media sectors, which together form the information industries. The latter sector is defined in ISIC Rev. 4 as the group of economic activities, or industries, that are primarily "engaged in the production, publishing and/or the distribution of content (information, cultural and entertainment

products), where content corresponds to an organized message intended for human beings".

Sources: OECD (2020); and United Nations (2008), paras. 219–221.

ICT specialist occupations

ICT specialist occupations concern tasks related to developing, maintaining and operating ICT systems. They are defined by the following three-digit groups of the International Standard Classification of Occupations (ISCO-08): ICT service managers (133), Electrotechnology engineers (215), Software and applications developers and analysts (251), Database and network professionals (252), ICT operations and user support (351), Telecommunications and broadcasting technicians (352) and Electronics and telecommunications installers and repairers (742).

Sources: OECD (2020), p. 78; and ILO (2012).

Internet connections

Internet connections are available in narrowband and broadband, fixed and mobile.

Narrowband (download speed of less (<) than 256 kbit/s, in one or both directions): analog modem (dial-up via standard phone line) – the modem converts a digital signal into analog for transmission by traditional (copper) telephone lines. It also converts analog transmissions back to digital.

Other narrowband includes mobile phone – access services include CDMA 1x (Release 0), GPRS, WAP and i-mode, and other forms of access. **Broadband** (download speed equal to or greater than (≥) 256 kbit/s, in one or both directions), including **fixed broadband**, which can be segmented into fixed wired broadband and fixed wireless broadband:

Fixed (wired) broadband refer to connections to high-speed access to the public Internet (i.e. a TCP/IP connection), at downstream speeds equal to or greater than (≥) 256 kbit/s. This can include, for example, cable modem, DSL, fibre-to-the-home/building and other fixed (wired) broadband subscriptions, as well as technologies such as powerline communications.

It excludes users of temporary broadband access (e.g. roaming between PWLAN hotspots) and users with Internet access via mobile cellular networks. WiMax should be excluded.

It also excludes technologies listed under the wireless broadband category.

Fixed wireless broadband includes satellite, terrestrial fixed wireless and terrestrial mobile wireless subscriptions.

Mobile broadband access services include Wideband CDMA (W-CDMA), known as Universal Mobile Telecommunications System (UMTS) in Europe; High-speed Downlink Packet Access (HSDPA), complemented by High-Speed Uplink Packet Access (HSUPA); CDMA2000 1xEV-DO and CDMA 2000 1xEV-DV. Access can be via any device (mobile cellular phone, laptop, personal digital assistant, etc.).

It includes mobile connections with data speeds equal to or greater than (≥) 256 kbit/s and that have been used to make an Internet data connection via Internet Protocol in the previous three months. The connection must allow access to the greater Internet via HTTP.

Standard SMS and MMS messaging do not count as an active Internet data connection even if they are delivered via Internet Protocol.

Source: UNCTAD (2021), table 5.

Job

A job or work activity is defined as a set of tasks and duties performed, or meant to be performed, by one person for a single economic unit. The term job is used in reference to employment. A person may have one or several jobs. Those in self-employment will have as many jobs as economic units they own or co-own, irrespective of the number of clients served. In cases of multiple job-holding, the main job is that with the most hours usually worked, as defined in the international statistical standards on working time.

Source: ILO (2013b).

Labour force survey

A labour force survey is a household-based sample survey focused on the labour force status of the working-age population and related statistics. Survey respondents are members of sampled households. The survey seeks to provide reliable, coherent information from a socioeconomic perspective about the total working-age population and its components, in particular the labour force. Such surveys often allow disaggregation of the labour force by personal characteristics such as sex, age, educational attainment and, in some cases, by migrant status and ethnicity, as well as information about the jobs held by employed persons (e.g. occupation and type of contract).

The labour force survey, which is most often conducted at least once a year (in many cases on a quarterly, monthly or even continual basis), constitutes the main data-collection instrument for statistics on employment and unemployment worldwide. The concept of employment in household surveys refers to employed persons, including self-employed workers, rather than to jobs, since a person may have several jobs and work in different establishments. Some labour force surveys allow breakdowns of employed persons according to multiple job-holding characteristics. Labour force surveys are the main source of statistics for monitoring labour markets, labour underutilization, including unemployment, and the quality of jobs and working conditions of persons in employment and in unpaid trainee work.

Source: ILO. Glossary of Skills and Labour Migration. Available at www.ilo.org/resource/glossary-skills-and-labour-migration.

Mobile broadband

See *Internet connections*

Narrowband

See *Internet connections*

Non-employer enterprises

Non-employer enterprises are enterprises with no employees, such as the self-employed who work on their own account and do not employ others.

Source: OECD (2017). *Entrepreneurship at a Glance*. Paris. Available at www.oecd-ilibrary.org/docserver/entrepreneur_aag-2017-en.pdf?expires=1617311393&id=id&accname=guest&checksum=23A6EECA896E301450DEC77583B0F8B1.

Patent

A patent is an intellectual property right issued by authorized bodies which gives its owner the legal right to prevent others from using, manufacturing, selling, importing and so on, in the country or countries concerned, for up to 20 years from the filing date. Patents are granted to firms, individuals or other entities as long as the invention satisfies the conditions for patentability, that is, novelty, non-obviousness and industrial applicability. A patent is known as a utility patent in the United States of America.

Source: OECD (2009), glossary.

Personnel costs

Within the context of structural business statistics, personnel costs are defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees, as well as home workers) in return for work done by the employee during the reference period.

Personnel costs are made up of wages, salaries and employers' social security costs. They include taxes and employees' social security contributions retained by the employer, as well as the employer's compulsory and voluntary social contributions.

Average personnel costs (or unit labour costs) equal personnel costs divided by the number of employees (persons who are paid and have an employment contract).

Source: Eurostat. Statistics explained, glossary.

Persons employed

The number of people employed is defined as the total number of people who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons working outside the unit, but who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair, and maintenance teams). It includes persons absent for a short period (e.g. on sick leave, paid leave or special leave), as well as those on strike, but not those absent for an indefinite period. Persons employed includes part-time workers who are regarded as such under the laws of the country concerned and who are on the payroll, as well as seasonal workers, apprentices and home workers on payroll.

Source: OECD and Eurostat (2007), glossary.

Statistical business register (SBR)

The statistical business register is a fully and comprehensive, regularly updated and structured list of business units engaged in the production of goods and services, which is maintained by national statistical authorities for statistical purposes. It assists the compilation of statistical data, and in particular, it is a (backbone) tool for the preparation and coordination of surveys, as a source for information for statistical

analysis of the business population and its demography, for the use of administrative data, and for the identification and construction of statistical units.

Sources: Eurostat (2021c); and United Nations Economic Commission for Europe (2015). *Guidelines on Statistical Business Registers*. New York and Geneva. Available at https://unece.org/DAM/stats/publications/2015/ECE_CES_39_WEB.pdf.

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ISBN 978-92-1-259220-6

22-25430