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**European business statistics
compilers guide for European
statistics on international
supply of services
by mode of supply**

2023 edition

**MANUALS AND
GUIDELINES**



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1

Introduction

This chapter discusses the context for compiling statistics on international supply of services by mode of supply (MoS) by describing the policy drivers behind measuring international trade in services by modes of supply and outlining related work at national and international level.

Finally, the chapter sets out the scope of this guide.

This guide assumes that the compiling countries have already developed the necessary source data and statistics, needed for the compilation of MoS statistics.

1.1. The importance of measuring international supply of services by modes of supply for policy needs

The proportion of the production of services in economies varies according to their income levels and is between 40 and 70 per cent on average. Investment in the services sector continues to increase as new technologies and consequent business models bloom.

The World Trade Organization (WTO) General Agreement on Trade in Services (GATS) ⁽¹⁾, in force since 1995, was the first trade agreement to cover services on a multilateral basis. In the GATS, the supply of services is defined based on the location of the supplier and consumer at the time when the transaction takes place. The GATS defines trade in services as ‘the supply of a service through four modes of supply’. Services broken down by the mode of supply give an indication of where and in which ways the services are supplied to foreign customers. For example, legal services may be supplied to the customer through email (cross-border supply or ‘Mode 1’) or by the customer travelling to the lawyer’s country (consumption abroad or ‘Mode 2’). However, these services may also be provided to the customer by the lawyer, in person, travelling to the customer’s country of residence (presence of natural persons or ‘Mode 4’) or by an established affiliate of the lawyer in the customer’s country of residence (commercial presence or ‘Mode 3’).

This extended dimension of international trade in services, also referred to as **international supply of services**, matters greatly from a trade policy perspective, as market access conditions vary among the four ways of supplying services internationally. Since GATS, most other regional (bilateral or plurilateral) trade agreements follow similar principles in setting out their commitments according to the four modes of supply.

Consequently, trade policy makers need statistics to support them in negotiating commitments in their services markets and to monitor the results of their negotiations. These negotiations can take place at global, plurilateral or bilateral level, for individual service sectors and according to how the respective services are supplied internationally, i.e. by mode of supply. For monitoring how these commitments are implemented,

⁽¹⁾ https://www.wto.org/english/docs_e/legal_e/26-gats_01_e.htm

politicians, governments and analysts require statistics to assess whether such commitments create trade or divert trade.

Statistics on services supplied through all four modes are also used for economic analysis and economic policy, as they provide a more complete picture of how businesses supply and purchase services internationally, by combining services traded across the border (by a non-resident to a resident) with services supplied via foreign affiliates. A sounder understanding of the trade-investment nexus in the services sector would allow for a more accurate assessment of the role of services in the productive structure of an economy and their contribution to its economic and social development, as well as its position in regional and global supply chains.

Detailed information on international supply of services statistics by services category, mode of supply and partner country help policymakers carry out the ongoing and future trade negotiating agenda with facts and strong, evidence-based arguments. Statistics by MoS show how and where services are supplied internationally, and they allow for the impact of services trade agreements to be monitored.

Information on the international supply of services is provided by two different statistical frameworks.

1. The **balance of payments (BOP)** records transactions between residents and non-residents based on the centre of economic interest (residence) of an institutional unit. As such, it covers principally GATS Modes 1, 2 and 4, via international trade in services statistics (ITSS).
2. The **foreign affiliates statistics (FATS)** cover a number of indicators on the activity of controlled foreign affiliates, and thus provide information on the supply of services through GATS Mode 3.

Current information on international trade in services is structured around the dimensions of 'who' is trading (with whom), 'what' is being traded (the type of service), and 'how much' in terms of monetary value. The Manual on Statistics of International Trade in Services 2010 (MSITS 2010) ⁽²⁾, together with the corresponding Compiler's Guide ⁽³⁾, provide extensive guidance on how to collect, compile and disseminate trade in services statistics following internationally agreed standards. The information needs described in MSITS 2010 were, in fact, driven by the structure of GATS.

With more and more emphasis given on 'how' services are exchanged across countries, the purpose of this guide is to extend the existing guidance on how to:

- produce a breakdown of international trade in services data according to Modes 1, 2 and 4;
- better quantify commercial presence in line with the GATS definition;
- provide a bridge between the two different statistical frameworks (ITSS and FATS), so that a comprehensive view of services trade can be presented.

⁽²⁾ [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf)

⁽³⁾ https://unstats.un.org/unsd/trade/publications/14-66197-E-MSITS%202010%20Compilers%20Guide_WEB.pdf

Box 1.1. Modes of supply data and other domains

From a national perspective, MoS data are valued as an important way of improving the meaningfulness of trade in services statistics. The first step towards this has already been achieved by making data available by partner country/region and by type of service.

But, in a second step, statistics on trade in services must follow the typology of international trade agreements, which focus on the four modes of delivering services abroad. So, another dimension in trade in services statistics is needed from an economic policy perspective.

This also encompasses the alignment of cross-border transactions more narrowly and the establishment of international presences abroad, two features of trade in services that until now have been treated separately in statistical terms.

To support ongoing trade negotiations and to evaluate existing trade agreements – in particular the merits of the free market within the EU (free exchange of services and free movement of people) – an adequate statistical basis is needed, structured in line with the relevant architecture of these negotiations and agreements.

The availability of MoS data can help to put ongoing and future EU trade negotiations on a solid, information-backed basis.

However, more information should not lead to a significantly heavier reporting burden for respondents. Therefore, a stepwise introduction, based on meaningful estimates, will facilitate the process of compiling new official statistics and keeps a balance between benefit and work required.

Box 1.2. Services trade data by modes of supply

Services trade data by modes of supply will improve the negotiating process and other critical trade policy priorities.

In the absence of a good, detailed economic assessment, services negotiations may take longer and achieve less than if supported by a robust dataset and refined analytical tools with built-in modes of supply parameters. There is a lot at stake if trade negotiations are delayed or lead to a suboptimal outcome. ...

Beyond the EU agenda, given the growing importance of services for many developing countries, it is extremely important to ensure an optimal negotiating outcome at the global level, focusing on the most important combinations of sectors and modes of supply that lead to higher economic gains for all negotiating parties.

A global dataset of bilateral services trade flows by modes of supply that can be corroborated with the existing information on services trade barriers already classified by modes of supply – such as the ones collected by the Organisation for Economic Cooperation and Development (OECD), the World Bank, or the World Trade Organization (WTO) – will offer a tremendous tool for trade policy analysts and negotiators in achieving this goal.

Having a services trade dataset by modes of supply will not only improve the negotiating process but also other critical trade policy priorities, such as monitoring and implementation of existing trade agreements, *ex post* evaluations, etc. Providing clear evidence that trade agreements work well not just in terms of boosting trade in goods from tariff removal but that they are also beneficial for services companies and their customers is of paramount importance, at a time where many sceptical voices call into question the benefits of trade liberalisation.

Source: The Chief Economist Note of DG TRADE – Issue 3/November 2016

1.2. Statistics on trade in services by mode of supply in a national, international and supranational context

International and supranational organisations are users of detailed trade in services statistics for their monitoring and analytical purposes, but they also support the development of such statistics at national level. While the legal frameworks of each country give the boundaries for collecting, exchanging, processing, compiling, and disseminating such statistics, it is the international and supranational organisations' role to guide the development of statistics that follow international guidelines to guarantee comparability, consistency, accuracy and timeliness.

Statistics by mode of supply require the combination of two statistical frameworks (BOP and FATS). For this, institutional arrangements between the respective data compilation entities (where more than one institution is involved) need to work efficiently together from the start of developing such a dataset. This data compiler expertise needs then to be combined with analytical users' knowledge to allow a country's situation to be efficiently assessed (MSITS 2010 CG, para. 3.10).

Data quality assessment frameworks, as recommended by the UN Statistical Commission and the IMF Data Quality Assessment Framework ⁽⁴⁾, are signposts to be followed. The [Quality Assurance Framework of the European Statistical System](#) ⁽⁵⁾ serves as guidance on how to implement the European Statistics Code of Practice ⁽⁶⁾, which sets the standard for developing, producing and disseminating statistics in the EU Member States.

In recent years, several statistical offices have begun producing experimental estimates of services trade by mode of supply, using the MSITS 2010 simplified approach as a starting point and often going further in refining their measures (by using surveys, for instance, and additional data sources to make estimations). Similarly, Eurostat developed a 'pilot model' methodology to derive information on trade in services by modes of supply using existing sources and a number of assumptions. Eurostat's Task Force on Modes of Supply was established in 2017 to support work in this area. The task force brings together several international organisations (Eurostat, WTO, OECD, UNSD) and countries. Some countries have already developed approaches allowing them to estimate the international supply of services by modes (Spain, Norway, USA, the UK, Estonia, Hungary, Poland, Italy, the Netherlands and others). Not all these results are disseminated publicly yet. In 2019, the WTO, supported by the European Commission, published the first experimental dataset at global level (TiSMoS ⁽⁷⁾). It provides an overall picture of international trade in services by modes of supply, as defined by GATS.

The guide builds on this work, as well as on the first edition of this guide (December 2021) and provides signposts for compiling such statistics.

⁽⁴⁾ <https://dsbb.imf.org/dqrs/DQAF>

⁽⁵⁾ <https://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>

⁽⁶⁾ <https://ec.europa.eu/eurostat/web/products-catalogues/-/KS-02-18-142>

⁽⁷⁾ https://www.wto.org/english/res_e/statis_e/daily_update_e/Tismos_methodology.pdf and https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm.

Table 1.1: Selected MoS publications from international and national institutions

Country/ Organisation	Dataset / publication	Link to the data / publication
Spain – National Statistical Office (INE)	International Trade in Services Survey. 2014-2019 Series Evaluation of Trade Policy By mode of service supply	https://ine.es/dynt3/inebase/en/index.htm?type=pcaxis&path=/t37/p198/p01/serie&file=pcaxis&d h=0&capsel=0
France – Central Bank	French international trade in services by mode of supply	https://publications.banque-france.fr/sites/default/files/medias/documents/818046_qsa49_web.pdf#page=25
Eurostat	Services trade statistics by modes of supply	https://ec.europa.eu/eurostat/statistics-explained/index.php/Services_trade_statistics_by_modes_of_supply
WTO	TISMOS: An experimental dataset built in modular form with a transparent methodology.	https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm
Australian Department of Foreign Affairs and Trade	DFAT (2007) 'Trade in services statistics – the Australian experience'	https://www.dfat.gov.au/sites/default/files/trade-in-services-statistics-the-australian-experience.pdf
United Kingdom – Office for National Statistics (ONS)	Modes of supply, UK experimental estimates: 2018	https://www.ons.gov.uk/releases/modesofsupplyexploratoryestimatesfortheuk
USA – Bureau of Economic Analysis (BEA)	Measuring Trade in Services by Mode of Supply (August 2019)	https://www.bea.gov/system/files/papers/WP2019-7_2.pdf
	Exploratory Estimates of U.S. International Services by Mode of Supply (May 2017)	https://www.bea.gov/system/files/papers/WP2017-6.pdf
US BEA and UK ONS	Measuring trade in services by Modes of Supply - A report on the parallel efforts by the U.S Bureau of Economic Analysis and the UK Office for National statistic	https://ec.europa.eu/eurostat/web/products-statistical-working-papers/-/KS-TC-19-007?inheritRedirect=true

Source: Eurostat and Eurostat Modes of supply task force

1.3. Statistical and legal framework

The MSITS 2010 and MSITS 2010 Compiler's Guide provide recommendations on the international statistical framework regarding collecting and compiling data for measuring international trade in services and the international supply of services.

The manuals and statistical frameworks relevant to the international supply of services data collection are:

- **Manual on Statistics of International Trade in Services 2010 (MSITS 2010)** ⁽⁸⁾ – a system for measuring services trade, which helps international negotiations on trade in services. The services definitions of MSITS 2010 are based on the BPM6 classification (see below).
- **Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6)** ⁽⁹⁾ - a standard framework for statistics on transactions and positions between an economy and the rest of the world.
- **System of National Accounts (2008 SNA)** ⁽¹⁰⁾ - international statistical standard for the national accounts. 2008 SNA and BPM6 have a common conceptual framework.
- **European System of Accounts (ESA 2010)** ⁽¹¹⁾ - European statistical standard for the national accounts, i.e., the equivalent of the SNA on an EU level.

Other useful manuals include the Eurostat Foreign Affiliates Statistics (FATS) recommendations manual ⁽¹²⁾ and the European business statistics methodological manual for statistical business registers ⁽¹³⁾.

As regards modes of supply, the data requirements for the EU Member States and EFTA countries are set out in the following legislative acts:

[Commission Implementing Regulation \(EU\) 2020/1197](#) of 30 July 2020 laying down technical specifications and arrangements pursuant to Regulation (EU) 2019/2152 of the European Parliament and of the Council on European business statistics.

[Commission Implementing Regulation \(EU\) 2020/1470](#) of 12 October 2020 on the nomenclature of countries and territories for the European statistics on international trade in goods and on the geographical breakdown for other business statistics.

[Regulation \(EU\) 2019/2152](#) of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing 10 legal acts in the field of business statistics.

As regards statistics on balance of payments and international trade in services, the data requirements for the EU Member States and EFTA countries are set out in the following legislative acts:

[Commission Delegated Regulation \(EU\) 2019/505 of 19 December 2018](#) amending Annex I to Regulation (EC) No 184/2005 of the European Parliament and of the Council, as regards the geographical breakdown levels.

[Regulation \(EU\) 2016/1013 of the European Parliament and of the Council of 8 June 2016](#) amending Regulation (EC) No 184/2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment.

[Commission Regulation \(EU\) No 555/2012 of 22 June 2012](#) amending Regulation (EC) No 184/2005 of the European Parliament and of the Council on Community statistics concerning balance of payments, international trade in services and foreign direct investment, as regards the update of data requirements and definitions.

[Commission Regulation \(EU\) No 1227/2010 of 20 December 2010](#) amending Regulation (EC) No 1055/2008 implementing Regulation (EC) No 184/2005 of the European Parliament and of the

⁽⁸⁾ [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf)

⁽⁹⁾ <https://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm>

⁽¹⁰⁾ <https://unstats.un.org/unsd/nationalaccount/sna2008.asp>

⁽¹¹⁾ <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-02-13-269>

⁽¹²⁾ <https://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-RA-12-016>

⁽¹³⁾ <https://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/ks-gq-20-006>

Council, as regards quality criteria and quality reporting for balance of payments statistics.

[Commission Regulation \(EC\) No 1055/2008 of 27 October 2008](#) implementing Regulation (EC) No 184/2005 of the European Parliament and of the Council, as regards quality criteria and quality reporting for balance of payments statistics.

[Regulation \(EC\) No 184/2005 of the European Parliament and of the Council of 12 January 2005](#) on Community statistics concerning balance of payments, international trade in services and foreign direct investment.

National laws and regulations further define the rights and responsibilities of national agencies involved in collecting, exchanging, processing, compiling, and disseminating data on services transactions between residents and non-residents, foreign affiliates' statistics and additional monetary and non-monetary indicators for analysing the international supply of services. Having this legal basis puts the agencies involved in the process in a better position to draw up the necessary institutional arrangements detailing the involvement of each actor in the statistical process.

1.4. Institutional arrangements

Often, more than one national institution is involved in collecting, compiling, and disseminating data in accordance with the statistical framework recommended in MSITS 2010 for measuring the international supply of services. In most cases, the responsible national authority is either the national statistical office or the national central bank. It is good practice that institutions and agencies involved in collecting and compiling data on the international supply of services draw up institutional arrangements (such as a memorandum of understanding or an agreement for interinstitutional database exchange) that involve the key data producers and properly reflect the country's needs, priorities, and resources. These institutional arrangements should provide a clear division of responsibilities and work between the agencies involved in compiling statistics on services transactions between residents and non-residents, FATS and additional monetary and non-monetary indicators for analysing the international supply of services. It is essential that appropriate channels of communication and mechanisms of coordination are set up.

These institutional arrangements are generally understood as a set of agreements on the division of the responsibilities between the agencies involved in collecting, compiling, and disseminating data pertaining to a given statistical area. These arrangements ensure that official statistics meet users' needs, follow quality standards, and are compiled and disseminated in the most efficient way. The scope of institutional agreements may range from setting out the complete statistical production and dissemination process, to regulating only certain parts of this process.

Detailed descriptions of the characteristics and best practice for effective institutional arrangements are available in the MSITS 2010 Compiler's Guide ⁽¹⁴⁾.

Box 1.3. Institutional arrangements on a national level

As an example, central banks may have responsibility for obtaining data from financial institutions, while the national statistical agency has responsibility for collecting data from other institutions and for compiling and disseminating the data. Alternatively, an investment approval agency or a financial supervisor may be a very important source of information about cross-border transactions in services. Under these circumstances, it is important that the necessary legal or other arrangements are in place to allow the agency responsible for compiling a particular data set to receive or have access to the relevant data sources.

Source: MSITS 2010 Compiler's Guide

⁽¹⁴⁾ See: https://unstats.un.org/unsd/trade/publications/MSITS2010_Compilers%20Guide%20-%20Unedited%20White%20Cover%20Version%20-%202019%20December%202014.pdf

1.5. Digital trade and modes of supply

When thinking about ‘how’ services are supplied, one cannot ignore the role of the digital transformation. More and more services have become tradable across borders thanks to digital tools, while new types of *digital* services have been created (e.g., based on data analytics or cloud computing).

Several initiatives, most notably the Partnership on Measuring ICT for Development ⁽¹⁵⁾ led by UNCTAD, have started to tackle this phenomenon in recent years. Most recently, the second edition of the IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade ⁽¹⁶⁾ provided a comprehensive conceptual framework for measuring digital trade.

The Handbook defines ‘digitally delivered trade’ as ‘*All international trade transactions that are delivered remotely over computer networks*’.

This definition better aligns with the pre-existing concepts of *ICT-enabled services* developed by UNCTAD ⁽¹⁷⁾ and the concept of cross-border supply of services (Mode 1).

By definition, ‘digitally delivered trade’ refers only to services.

In the Handbook, it is further stated that: ‘Digitally delivered services are not defined by a complete absence of human-to-human interaction in the delivery of the service, but when such interactions happen, they occur remotely through computer networks. As such, the range of technologies relevant to digital delivery is wider than for digital ordering; **services delivered through video calls and manually typed emails, as well as voice calls, fax messages and any other digital communication devices, and through cloud networks, are included in digitally delivered trade.**’

For digitally deliverable services, Mode 1 cross border supply is de facto equivalent to digitally delivered services in the Handbook.

As noted in the Handbook, some services are deemed to be delivered via Mode 1, without being digitally deliverable: for example, transport services belong to Mode 1 but not to digitally delivered trade. However, ‘...as transport is easily identifiable, remaining Mode 1 estimates can be considered digitally delivered trade’.

The Handbook also includes examples of services that do not belong to Mode 1 but may be digitally delivered and consumed abroad (such as digitally delivered services consumed by the customer via Mode 2). The value of such cases can be considered negligible.

As further explained in Chapter 7, surveys on digitally delivered cross-border services can be used to derive a lower bound estimate of overall mode 1 transactions.

The Handbook also defines the concept of *digitally ordered* trade. This concept refers to both services and goods and is defined in the Handbook as:

‘The international sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders.’

As regards services, *the way a service was ordered* (via digital or any other means) has no bearing on the associated mode of supply.

1.6. Scope of the guide

This second edition of the modes of supply Compiler’s Guide builds upon the first edition and proposes a further improved version of the Eurostat-WTO model. This is a generic standard model that can be used to

⁽¹⁵⁾ U. N. Conference on Trade & Dev., Division on Tech. & Logistics Sci., Int. Trade in ICT Services and ICT-Enabled Services: Proposed Indicators from the Partnership on Measuring ICT for Development, Technical Note No 3 Unedited, TN/UNCTAD/ICT4D/03, (2015).

⁽¹⁶⁾ WTO | Publications - Handbook on Measuring Digital Trade https://www.wto.org/english/res_e/publications_e/digital_trade_2023_e.htm

⁽¹⁷⁾ United Nations Conference on Trade and Development, UNCTAD Expert Meeting on Results from Pilot Surveys on Exports of ICT-enabled Services, UNCTAD (Nov. 28-29, 2017), <https://unctad.org/en/pages/MeetingDetails.aspx?meetingid=1651>.

compile MoS data; it can be seen as a operationalised version of the MSITS 2010 simplified approach.

For EU and EFTA countries, this guide describes all recommended methods that can be used to fulfil the requirements of the EBS Regulation ⁽¹⁸⁾ in relation to MoS statistics. As mentioned in Annex 6 to Commission Implementing Regulation (EU) 2020/1197: 'The revised second edition of the Compilers Guide will contain recommended methods that can be used to estimate modes of supply, goods values and distribution services, using all available sources, and modelling techniques. The recommended methods are approaches that can be used to further refine the generic estimation methods, taking into account the specific administrative and economic situation of a country. Several approaches will be provided, to cover all typical set-ups.'

The second edition of the guide builds upon the fine-tuning methods already included in the first edition and provides comprehensive approaches to cover all typical set-ups.

EU / EFTA countries may therefore choose the method most relevant to them for compiling data. A country may:

- directly apply the standard Eurostat-WTO model (see Chapter 6);
- choose to work on fine-tuning the parameters of the model, based on national specificities (see methods described in Chapters 6 - 10); or
- use direct data collection or/and add some additional questions to existing survey questionnaire to enable the estimation of the modes of supply.

Although the primary focus of this compilers guide is on European Business Statistics, the methods and tools described herein can be used by non-EU countries as well. In fact, many presented methods and examples come from non-EU countries. Therefore, the methods described in this guide are in principle applicable worldwide; statisticians from both European as well as non-European countries may apply these methods to compile MoS statistics. Using the same methods will further improve international comparability of MoS statistics. For this reason, where appropriate, the text refers to international manuals, frameworks, and classifications as well as the equivalent European ones.

This guide provides recommendations on how to compile statistics on the four modes of supply, defined in the GATS. In the literature, there is often reference to a 'mode 5' of supplying services. Mode 5 refers to services embedded in goods, which are subsequently traded (e.g., apps already installed on a mobile phone). Mode 5 is very interesting for certain economic analyses, but it is not part of GATS (i.e., it is not in scope when undertaking international trade negotiations on services trade). Therefore, 'mode 5' is out of scope for this guide and will not be discussed further.

The MSITS 2010 also recommends collecting further indicators (besides the value of trade supplied via each mode). For instance, the number of people crossing a border to supply services is a useful additional indicator that can be collected (see MSITS 2010, para. 5.81). However, the aim of this guide is to provide recommendations on compilation methods to compute the trade values supplied via each mode and satisfy the data requirements set out in the EBS Regulation. Additional indicators such as the number of people crossing the border (or present in the reporting economy) to provide services are therefore not discussed. However, a summary of related advice is provided in Section 5.3.4, for the interested reader.

The main sources for compiling MoS data are international trade in services statistics (coming from the BoP framework) and foreign affiliates statistics (FATS). Other statistical collections and tools may also be necessary or helpful, such as a statistical business register, structural business statistics, tourism statistics, foreign direct investments, etc. This guide assumes that the compiling country has already established these basic statistics and frameworks. Therefore, the recommendations focus on how the compilers can utilise these existing statistics and frameworks to compile MoS data.

⁽¹⁸⁾ Regulation (EU) 2019/2152 of the European Parliament and the Council of 27 November 2019 on European business statistics.

1.7. Structure of this guide

The rest of the guide is structured as follows:

PART A: Definitions and concepts

Chapters 2 to 4 summarise the definitions and statistical concepts and variables that are useful in MoS compilation and which are already defined in other manuals or frameworks.

- Chapter 2 'Modes of supply explained' describes in statistical terms the four modes that can be used to supply services internationally.
- Chapter 3 'Definitions and key concepts' summarises all statistical concepts that are relevant for MoS compilation; these concepts are set out in existing manuals and frameworks, and the necessary references are provided for the interested reader.
- Chapter 4 'Classification systems' summarises the relevant classification systems for MoS data.

PART B: Recommended methodology and estimation models

- Chapter 5 'Data sources - overview' provides an overview of the main and auxiliary data sources that can be used for MoS compilation.
- Chapter 6 'Estimating the modes of supply' describes the Eurostat-WTO model. More detailed recommendations per mode are provided in the following chapters.
- Chapter 7 covers estimating Mode 1 and Mode 4.
- Chapter 8 covers estimating Mode 2.
- Chapter 9 covers estimating Mode 3.
- Chapter 10 covers estimating distribution services.

PART C: Focus on the users

- Chapter 11 'Dissemination of statistics by mode of supply' describes some considerations for a common approach on MoS dissemination. For EU and EFTA countries, the MoS technical document and the EBS Regulation define a common framework for data transmission and the requested level of detail.

PART D: Possible directions for future research

- Chapter 12 discusses future work and challenges.

Part E: National experience and country cases

- Chapter 13 describes some country experiences and country cases relating to MoS estimations.

2

Part A: Definitions and concepts

Modes of supply explained

This chapter describes in statistical terms the four modes for supplying services internationally, complementing the definitions given in MSITS 2010 and GATS.

Examples highlight cases where more than one mode is involved or where deciding on the mode(s) to which an operation should be allocated is not straightforward

2.1. The four modes of supply according to the General Agreement on Trade in Services (GATS)

The WTO's General Agreement on Trade in Services (GATS) identifies four modes of supplying services internationally (GATS art. I:2):

Mode 1: Cross-border supply – takes place when a service is supplied 'from the territory of one [WTO] Member into the territory of any other Member' ⁽¹⁹⁾.

The definition implies that both the supplier and the consumer remain in their respective territories when the service is consumed. This is similar to trade in goods, where the product is delivered across borders and the consumer and the supplier remain in their respective territories. Examples include banking or engineering services transmitted via the internet or mail.

Mode 2: Consumption abroad – takes place when the service is supplied 'in the territory of one Member to the service consumer of any other Member'.

This means that either: (i) the consumer is abroad when consuming the service; or (ii) the service transaction related to their property ⁽²⁰⁾ takes place abroad. Typical examples of the former are tourist activities, such as visits to museums and theatres, or travel abroad to receive medical treatment or follow language courses. For transactions related to a consumer's property, Mode 2 is only relevant when the nature of the service changes the condition of the good or physical asset itself (including transporting, cleaning, repairing or otherwise transforming the good). These include services such as ship repair abroad, or manufacturing services using inputs owned by others ⁽²¹⁾.

⁽¹⁹⁾ 'Territory' refers to the economic territory of a WTO member.

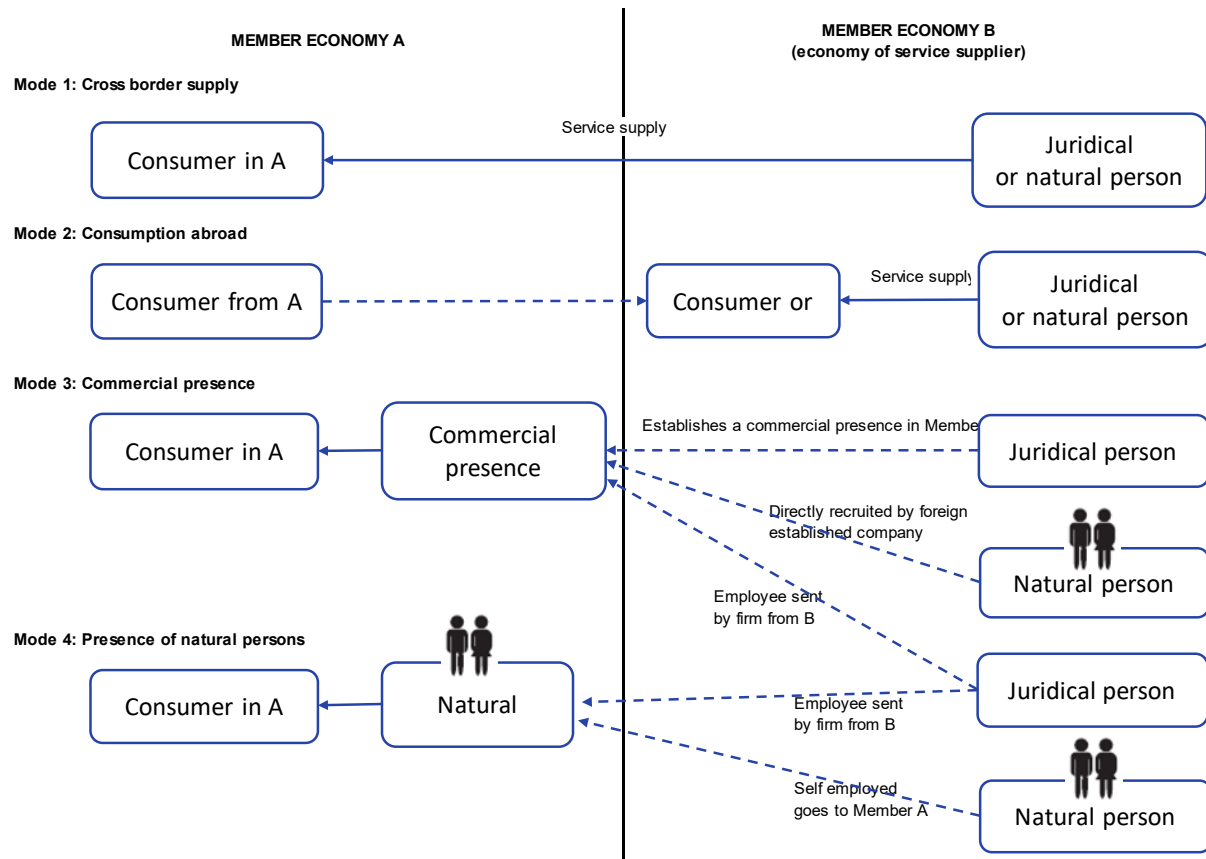
⁽²⁰⁾ 'Property' should be understood to refer to physical assets / goods, i.e., something that can be repaired, processed, etc.

⁽²¹⁾ If the consumer's property is sent abroad to support the delivery of a service (e.g., copies of accounting records to be processed), but the service itself is not about the consumer's property per se, this would be considered as Mode 1.

Mode 3: Commercial presence – takes place through the supply of a service ‘by a service supplier of one member, through a commercial presence in the territory of any other member’.

Commercial presence is defined in statistical terms as the establishment of a controlled affiliate abroad and covers not only juridical persons in the strict legal sense, but also legal entities that share some of the same characteristics, such as representative offices and branches.

Figure 2.1: A synthetic view of modes of supply



Source: MSITS 2010

Mode 3 should only include sales to the host (reporting) country ⁽²²⁾. Services provided by a foreign-controlled entity to residents of other economies (including the economy of the investor) are considered to be supplied via Mode 1, 2 or 4 (depending on the case), and are recorded as trade in services of the host economy. This is because once a commercial presence has been established (i.e., any restrictive measure on foreign control has been overcome), foreign-controlled entities are resident in the host (reporting) economy and any resident to non-resident transaction is therefore recorded in the balance of payments of the host economy.

Examples of services supplied via Mode 3 include financial services provided by a branch or subsidiary of a foreign bank, medical services provided by a foreign-owned hospital and courses offered by a foreign-owned school.

⁽²²⁾ It should be noted that any foreign-controlled enterprise (i.e., controlled by a non-EU country) resident in one EU country may export services to several EU countries. Therefore, if one is looking at mode 3 exports to the EU as a whole, then all sales by the foreign affiliate to any EU country should count as mode 3 exports to the EU.

Mode 4: Presence of natural persons – this takes place when an individual is temporarily present in the territory of an economy other than their own to provide a service. In GATS, Mode 4 is defined as the supply of a service ‘by a service supplier of one member, through the presence of natural persons in the territory of any other Member’. Mode 4 covers ⁽²³⁾:

- a) contractual service suppliers, whether employees of a foreign service supplier or self-employed;
- b) intra-corporate transferees and foreign employees directly recruited by foreign-owned companies;
- c) service sellers who enter the host country to set up contractual relationships for a service contract, or people responsible for setting up a commercial presence.

However, only services provided by contractual service suppliers (a) are in scope when measuring the value of services supplied via Mode 4, while all cases (a to c) are covered when measuring non-monetary (quantitative) data ⁽²⁴⁾ on the number of natural persons crossing borders in order to supply services (see MSITS 2010 Compilers Guide Box 1.1).

Ultimately, the GATS modes of supply are defined based on the location of the supplier and the consumer at the time when services are rendered, the nationality of the supplier and the way in which the service is provided (see MSITS 2010 para. 2.25). MSITS figure II.1, reproduced above (see Fig. 2.1), provides a visual description of the modes of supply as defined in the GATS ⁽²⁵⁾.

2.2. Modes of supply in practice

In practice, allocating the international supply of a service to a specific/unique mode is difficult, as a service can often be delivered through many modes and involve complex relationships between the actors.

Simplified statistical criteria can be used to allocate service transactions to the relevant mode of supply. They are based on the residence of the consumer and supplier, their territorial location at the time the service is supplied, and the type of supplier (legal unit / individual or business enterprise ⁽²⁶⁾, MSITS 2010 para. 5.32).

The simplified statistical criteria which should be used to assign each service transaction to the relevant mode of supply are outlined in Figure 2.2.

In general, if the consumer or its property are located in the territory of the supplier when consuming the service, then the service is supplied via Mode 2. If the consumer remains in their territory while consuming the service, then the next step is to establish if the supplier has a presence in the territory of the consumer. If it does not, then the service is supplied cross-border (Mode 1). If the supplier is present in the territory of the consumer, then it can either be through Mode 3 (establishment of an affiliate, office, branch etc.) or through Mode 4 (presence of a natural person) ⁽²⁷⁾.

⁽²³⁾ As described in MSITS 2010, Chapter 5.B.

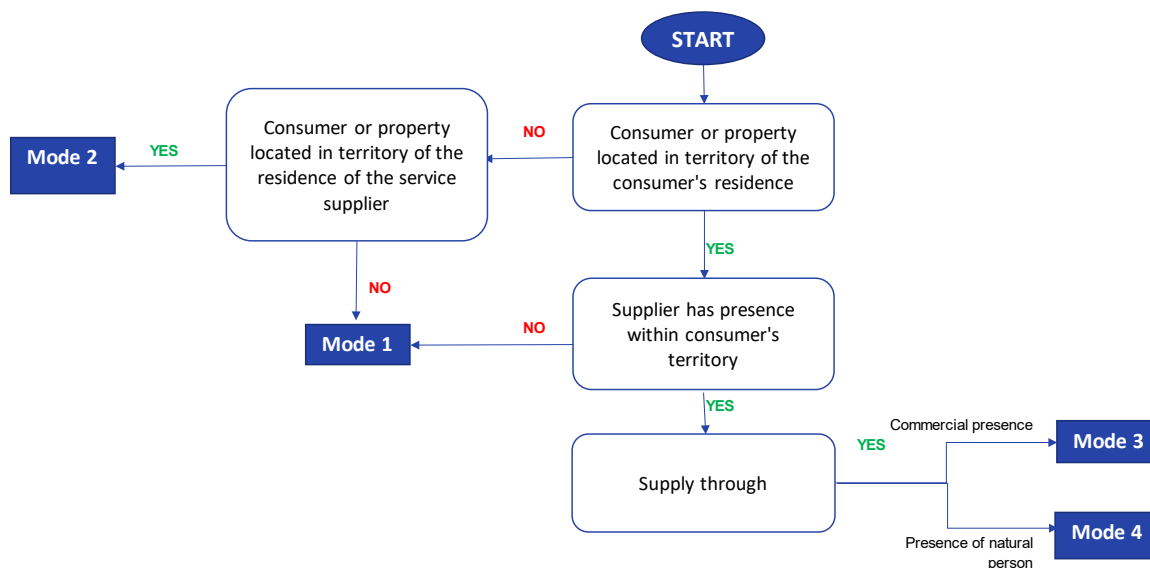
⁽²⁴⁾ In case (b) the service is supplied through a commercial presence (mode 3) and in case (c) there is no actual service produced/rendered (yet).

⁽²⁵⁾ Further information can be found in MSITS 2010, Chapter V and MSITS 2010 Compiler's Guide, Chapter 1.

⁽²⁶⁾ Termed ‘natural person’ and ‘juridical person’, respectively, in the GATS.

⁽²⁷⁾ See MSITS 2020 paras 3.22-3.23 for the criteria to identify separate entities or branches.

Figure 2.2: International supply of services by the four modes of supply; simplified statistical criteria



Source: adapted from MSITS 2010, Figure V.1.

The flowchart also caters for more complex cases such as those where the service is provided outside of the economic territory of any of the two parties in the transactions. In this case, the country of residence of the service provider and of the consumer will determine the mode of supply. For instance, a company resident in economy A provides icebreaking services to a company resident in economy B. If the service is rendered on the high seas, meaning not in the territory of any economy ⁽²⁸⁾, the related transactions will be accounted for under Mode 1. This treatment could be extended to any type of service provided in international territory, third territories (meaning not in the territory of the service provider nor in that of the consumer) or in space ⁽²⁹⁾.

Finally, it should be highlighted that, in some cases, services transactions may include the value of some goods (for instance, the balance of payments items ‘maintenance and repair services not included elsewhere (n.i.e.)’, ‘travel’ and ‘construction, government goods and services’ ⁽³⁰⁾). Isolating the service component is necessary to measure the international supply of services by modes ⁽³¹⁾.

2.2.1. Multimodal supply

A single service contract may often bundle together different modes of supply (see MSITS 2010, para. 5.22). For instance, a doctor may provide online advice to a foreign patient (Mode 1) and ask them to travel for an appointment (Mode 2). Similarly, an architect may deliver the design of the construction project to a client abroad via email (Mode 1), and also make occasional visits to the country of the client during the implementation phase (Mode 4). A foreign-controlled affiliate may provide computer services to residents of the host economy (Mode 3), and the service delivery may require the transfer of technicians from the parent enterprise to the affiliate (guaranteed by Mode 4 commitments).

In these cases, a precise allocation of a single service contract across different modes can only be achieved via surveys. However, respondents cannot always be reasonably expected to provide an accurate breakdown of the value of the contract across the different modes. Consequently, a pragmatic approach from compilers should be encouraged, where transactions are allocated to the predominant mode.

⁽²⁸⁾ If the service was provided in the territorial waters of country A (the supplier) this would instead be considered mode 2.

⁽²⁹⁾ A similar line of thought would apply for offshore oil platforms, which could be considered an extension of the territory of the consumer. Services provided to offshore oil platforms would also be recorded as Mode 1.

⁽³⁰⁾ See MSITS 2020 para 2.62.

⁽³¹⁾ As regards EU and EFTA countries, in the Regulation (EU) 2020/1197, it is necessary to single out goods for the relevant EBOPS 2010 detailed components. The international supply of services contains only the services values.

Some examples with suggested recording are provided below.

- **Supply of computer services via commercial presence**

A computer services supplier, resident in economy A, controls a foreign affiliate in economy B. In this case, the service provider has a commercial presence in the customer's territory. The output (sales) from the affiliate sold to residents of economy B constitutes the supply of services via Mode 3. However, exports from the affiliate to third countries are recorded in economy B's balance of payments and considered to be the supply of services from economy B (not economy A), according to the relevant mode (1 or 4).

- **Supply of services via a commercial presence with transfer of personnel, e.g., construction services**

The operation of an affiliate in a foreign economy supplying services under Mode 3 may require the transfer of managers, technicians, etc., from the parent enterprise to the affiliate. While those transfers of employees are generally guaranteed by Mode 4 commitments, the supply of a service via a foreign affiliate based in the client's economy is considered to be under Mode 3 and is recorded in FATS sales/output. This is also applicable in the context of a short-term establishment (e.g. site office), where transactions would qualify as trade in services as covered in the balance of payments.

For example, when a construction company signs a contract with a client abroad, this may involve the establishment of a temporary site office and/or the transfer of workers at whatever skill level (all recorded under the relevant services item – in this example, under construction). The transaction would be recorded as 'construction' in the balance of payments. If a site office is set up, then the transaction should be allocated to Mode 3. If this is not the case and, instead, personnel are transferred to fulfil the service contract, then this would be considered as Mode 4. In the absence of information on the establishment of a site office, simplified allocation proportions can be used to attribute the transactions both to modes 3 and 4 (see 6.4.1 for more details) ⁽³²⁾.

- **Supply of architectural services**

A single contract between an architect and his client abroad may cover various modes of supply. For instance, the design of the construction project (e.g. working drawings) may be delivered to the client through electronic means. In this case, the amount recorded under 'working drawings' in the invoice will be considered Mode 1. If the customer is travelling to the architect's country of residence (the architect being the service provider) to receive the working drawings or for some consultations related to the project, then the service is supplied via Mode 2. Occasional visits to the client's economy (e.g. inception, work on existing premises, close-out) require the physical movement of the service provider, and therefore, are considered Mode 4. As the service provider can be hired for one phase of the project, only one mode may be registered, whereas a combination of modes is possible if there are multiple interventions in the project ⁽³³⁾. Conducting a survey gives information on how architectural services are provided by, for example, assessing the proportion provided under Mode 1 or by directly asking for the share of modes. In the absence of a survey, compilers may choose to allocate architectural services (SJ311) using the default allocation shares as described in Chapter 6.

- **Supply of health services**

The provision of health services may cover all of the four different modes. A doctor may provide online medical consultation and assessment to a patient by telephone or video, then travel abroad temporarily to treat the client. This type of services is compiled under EBOPS 2010 sub-category 'health services' (SK21). The online part should be allocated to Mode 1 and the rest to Mode 4. An enterprise or household survey can be conducted to collect the proportions and break it down by modes. As an alternative, compilers may

⁽³²⁾ As indicated in MSITS para 2.62, only an estimate of the services provided should be included (i.e. the value of goods should be excluded). Also, as indicated in Section 2.1, consumption by foreign-controlled entities in the host economies (e.g. acquisition of goods and services as inputs to production) will not be considered as international supply (under any of the four modes). However, as explained in Section 2.2.2, if there is no physical establishment (i.e. no affiliate or office, meaning that the supply takes place exclusively through mode 4, or is completely subcontracted to a company in the territory where the construction project is taking place or a company in a third territory), then the consumption of foreign-controlled entities in the host economies will be recorded as Mode 1.

⁽³³⁾ As noted above, in such cases of multimodal supply, it may be difficult in practice to allocate part of the value to each mode. If the amounts are significant, practical approaches may be devised, for instance splitting the amount based on the hours worked in the office (corresponding to Mode 1 in this case) and the hours worked while visiting the customer (mode 4), or according to the costs involved.

apply the default allocation shares of the Eurostat-WTO model described in Chapter 6. If the treatment requires the physical presence of the patient in the resident economy of a doctor, the related transactions would be recorded under travel (EBOPS 2010 sub-category 'health-related travel' (SDB1)), and therefore allocated 100 % to Mode 2. If a doctor opens a practice abroad, it will be allocated to Mode 3.

- **Supply of legal services**

A lawyer working in a law firm travels abroad to negotiate a business contract with a client; at that point, no service has been provided. The lawyer's movement is not directly associated with the supply of a service so no value would be associated⁽³⁴⁾. The lawyer, in the context of a subsequently signed contract, provides advice to the client abroad exclusively by email/telephone – there is no face-to-face contact between the lawyer and the customer, either in the economy of the service supplier or in that of the service consumer. As the lawyer is supplying their legal services exclusively online, the value of the transaction will be allocated in full to Mode 1 and recorded as 'international trade in services'. The lawyer then attracts new clients from neighbouring countries, who travel to the firm's office to receive in-person advice. The value of this service supply, taking place through Mode 2, is included in the travel item in EBOPS⁽³⁵⁾. Only the alternative breakdown of 'travel' by detailed type of services consumed would capture this service supply. The same lawyer is then sent to work in an affiliate established in the economy of the original client. Legal services supplied by the branch to local consumers through Mode 3 are recorded in FATS output (sales)⁽³⁶⁾. The lawyer's movement as an intra-corporate transferee is covered by Mode 4 (as regards the non-monetary variables; see Section 2.1). Exports from the branch to other (third) countries would be recorded as trade in services of the economy hosting the branch.

2.2.2. Subcontracting of services

Services such as transport, construction, computer services and many others may be 'subcontracted' or 'outsourced'. These arrangements typically involve a service arranger (or principal) which is paid by a customer for the provision of a service, with the service provision itself being subcontracted⁽³⁷⁾ to another service provider (BPM6, para. 10.160). BPM6 recommends that these transactions are recorded on a gross basis and classified in the appropriate service category. Similarly, the appropriate mode of supply should be attributed to each 'gross' transaction. In a basic scenario where the principal and contractor are resident in different economies and located in different economies at the time of the transaction, such a transaction would necessarily be classified under Mode 1, regardless of the type of service supplied. Furthermore, if in the basic scenario we assume that the subcontractor has the same residency as the customer, no further ITSS-BoP transactions arise.

- **Subcontracting of computer services**

A service supplier in economy A is commissioned to provide computer services to a customer in economy B. However, the service provider contracts a company resident in economy B to do the work. No personnel are sent from economy A to B, and the customer remains in economy B when receiving the service. All the transactions are to be recorded on a gross basis.

- Economy A (economy of the principal) imports a service from economy B (economy of the subcontractor). As neither the service consumer nor the service provider leave their economic territory, the service is deemed to be provided via Mode 1.
- Economy A (economy of the principal) exports a service to economy B (economy of the customer). As neither the service consumer nor the service provider leave their economic territory, the service is deemed to be provided via Mode 1.

- **Full subcontracting of construction services**

⁽³⁴⁾ However, because service sellers are mode 4 persons, it would be useful, for analytical and monitoring needs, to track their movement in statistics.

⁽³⁵⁾ If the consuming entity is a household / individual.

⁽³⁶⁾ Outward FATS surveys could provide information on the number of intra-corporate transferees working in the branch of the law firm abroad.

⁽³⁷⁾ At the time of drafting this guide, the BPM update was still ongoing. Eurostat notes that the recommendation in BPM7 on subcontracting will be further clarified (see IMF Guidance Note C.4). Once the BPM update is finalised, Eurostat will update the recommendation, if needed.

A construction company in economy A is commissioned to do construction work in economy B. However, the work is subcontracted in full to an enterprise resident in economy B. All personnel involved in the construction works are employed by the contractor enterprise resident in economy B.

In this case no physical presence is established by the construction company in economy B. The gross recording of the transactions would be:

- a) For economy A:
 - construction abroad exports allocated to Mode 1 (full value of the project),
 - construction abroad imports allocated to Mode 1 (value of the subcontracting).
- b) For economy B:
 - construction in compiling economy imports allocated to Mode 1 (full value of the project),
 - construction in compiling economy exports allocated to Mode 1 (value of the subcontracting).

- **Subcontracting of construction services with movement of personnel**

A construction company in economy A is commissioned to do construction work in economy B. The work is subcontracted to an enterprise resident in economy B, but part of the work is carried out by personnel employed by the construction company in economy A (temporarily sent to economy B).

In this case no physical presence is established by the construction company in economy B. The gross recording of the transactions would be:

- a) For economy A:
 - construction abroad exports allocated to modes 1 and 4 (full value of the project split between the two, Mode 1 being the value of the subcontracting),
 - construction abroad imports allocated to Mode 1 (value of the subcontracting).
- b) For economy B:
 - construction in compiling economy imports allocated to modes 1 and 4 (full value of the project split between the two, Mode 1 being the value of the subcontracting),
 - construction in compiling economy exports allocated to Mode 1 (value of the subcontracting).

- **Subcontracting of construction services with establishment of commercial presence**

A construction company in economy A is commissioned to do construction work in economy B. It establishes a physical presence (office, branch or other forms, whether short-term or long-term) in economy B. Work is fully subcontracted to an enterprise resident in economy B. The assumption here is that the subcontracting takes place between the affiliate in economy B and the subcontractor resident in economy B.

In this case, a commercial presence is established in economy B ⁽³⁸⁾. The gross recording of the transactions would be:

- a) For economy A:
 - Construction abroad exports allocated to Mode 3 (full value of the project),
 - Construction abroad imports (value of the subcontracting) out of scope of international supply of services (see Section 2.1).
- b) For economy B:

⁽³⁸⁾ In many cases, there may be an obligation to establish a temporary site office (commercial presence) in order to carry out construction projects. For short projects (duration of less than 1 year) within the European Union (carried out by an EU resident enterprise), establishing a commercial presence may not be required.

- Construction in compiling economy imports allocated to Mode 3 (full value of the project),
- Construction in compiling economy exports (value of the subcontracting) out of scope of international supply of services (see Section 2.1).

In all the above examples involving construction, the goods values included in the construction item should be excluded from the MoS data (see also 6.3.1.2 Construction).

2.2.3. Digital intermediation platforms (DIPs)

The rise of digital intermediation platforms (DIPs) has not only transformed the way consumers work and seek entertainment but also affected international trade in goods and services. While there is no explicit guidance in BPM6⁽³⁹⁾ and MSITS 2010 on how to treat the transactions facilitated by DIPs, the second edition of the Handbook on Measuring Digital Trade provides an operational characterisation of such platforms, defined as:

‘Online interfaces that facilitate, for a fee, the direct interaction between multiple buyers and multiple sellers, without the platform taking economic ownership of the goods or rendering the services that are being sold (intermediated).’

The Handbook describes the role of DIPs as follows:

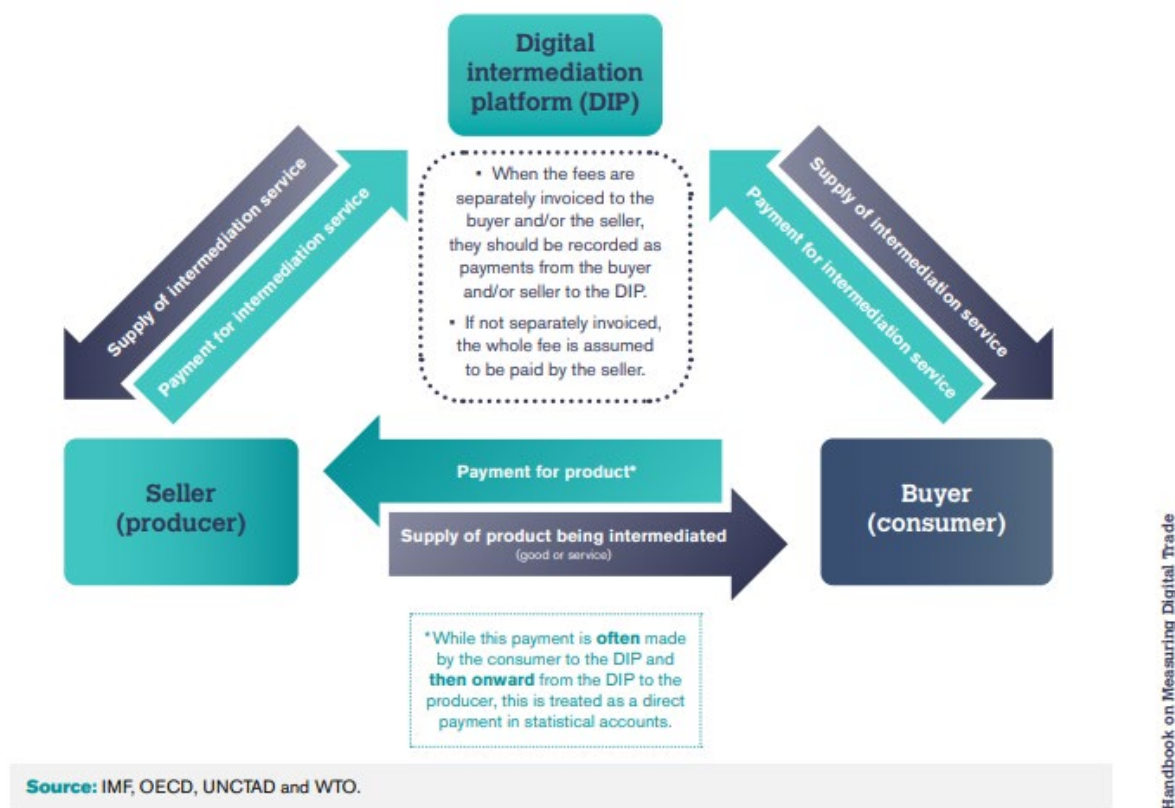
‘Transactions facilitated by DIPs involve at least three actors: a buyer (or consumer) of the goods or services being intermediated; a seller (which may also be the producer) of the goods or services being intermediated; and a digital intermediation platform facilitating the transaction and thus providing digital intermediation services. When at least one of these actors is resident in a different economy than the others, the relevant transactions must be recorded in the international accounts.....’

By definition, DIPs do not take ownership of the goods nor render the services being intermediated. Their facilitating or “match-making” role is assimilated to that of an arranger, as defined in BPM6 (paragraph 3.10): “one unit (an agent) arranges for a transaction to be carried out between two other units in return for a fee from one or both parties to the transaction”.

Figure 2.3 provides an illustration of a possible transaction facilitated by a DIP.

⁽³⁹⁾ At the time of finalising this guide, the BPM update process was still not finalised.

Figure 2.3: Illustration of a transaction facilitated by a DIP



Source: IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade, second edition.

Identifying the residence of the different actors involved (digital intermediation platform, buyer and seller) is necessary to disentangle the transaction and record the associated trade flows. As a first step, 'in analysing transactions facilitated by DIPs, it is necessary to distinguish the supply of goods or services (transaction between the seller and the buyer) from the provision of intermediation services (transaction between the DIP and the seller and the buyer). Explicit fees should be recorded as a payment to the DIP for intermediation services, from the buyer and/or the seller as appropriate. Implicit fees need to be imputed ...'

The increasing importance of the intermediation services has been recognised in the update of the NACE⁽⁴⁰⁾, i.e. NACE Rev. 2.1, in which intermediation services activities are defined as follows:

'Intermediation services activities are activities that facilitate transactions between buyers and sellers for the ordering and/or delivering of goods and services for a fee or commission, without supplying the services or taking ownership of the goods that are intermediated. These activities can be carried out on digital platforms or through non-digital channels. Revenue for the intermediation activities can include other sources of income, such as revenues from sale of advertising space.'

In response to the increasing importance of intermediation service activities, several new classes have been created in the NACE Rev. 2.1, under each division for which intermediation services are relevant.

⁽⁴⁰⁾ NACE Rev. 2 Statistical classification of economic activities in the European Community, available at: <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015>

Information on NACE Rev.2.1 is available at: <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/wdn-20230210-1>

3

Part A: Definitions and concepts

Definitions and key concepts

This chapter summarises the main concepts and variables used in MoS statistics. The text draws largely on existing statistical standards (both international and European): the IMF's 6th edition of the Balance of Payments Manual (BPM6), MSITS 2010, MSITS 2010 Compiler's Guide, FATS Recommendations Manual, and Handbook on Digital Trade, as well as the European Business Statistics Regulation (Regulation (EU) 2020/1197).

3.1. Main concepts

3.1.1. Statistical units

For trade in services statistics under BPM6, the statistical units cover institutional units such as households, enterprises, quasi-corporations, non-profit institutions and government units, and other types of units. For FATS, the statistical units can be enterprises or establishments.

For European Business Statistics, the statistical unit⁽⁴¹⁾ used for compiling FATS statistics is the enterprise⁽⁴²⁾. Annex II of the EBS Regulation (Regulation (EU) 2019/2152) uses the following to define the statistical units.

- For the ITS domain, the statistical unit is not applicable. The data refer to the trade in services carried out by resident units.
- For FATS, the statistical unit is the enterprise.

The statistical unit enterprise is further defined in the Statistical Unit Regulation (Council Regulation (EEC) No 696/93):

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

In an international set-up, countries that work with another statistical unit (e.g. the establishment) should be able to easily adapt the concepts discussed here to suit their practices.

⁽⁴¹⁾ Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system and Regulation (EU) 2019/2152 of the European Parliament and the Council of 27 November 2019 on European business statistics.

⁽⁴²⁾ The European Business Statistics regulation (Regulation (EU) 2019/2152) defines the enterprise as the statistical unit for FATS statistics.

3.1.2. Residence

The concept of residence of institutional units is used to identify when international transactions have to be recorded. The residence of an institutional unit is the economic territory with which it has the strongest connection, constituting its centre of predominant economic interest. According to BPM6, para. 4.113-4.114, ‘an institutional unit is resident in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging in economic activities and transactions on a significant scale’⁽⁴³⁾. According to ESA 2010⁽⁴⁴⁾ statistical units are resident units of a country.

3.1.3. Direction of supply

The supply of services abroad – also referred to as the provision of services or ‘exports’ in a broad sense (i.e. covering the four modes of supply as defined by the GATS) – consists of the sum of:

- the value of services supplied by residents to non-residents (i.e. as recorded in the balance of payments); and
- the value of services supplied through an affiliate established in another jurisdiction (and controlled by a resident unit of the compiling economy) to residents where it is established.

Services supplied by residents to non-residents mainly come under modes 1, 2 and 4 and services supplied through a foreign affiliate come under Mode 3.

The supply of services in the compiling economy, also referred to as the acquisition of services or ‘imports’ in a broad sense, consists of:

- the value of all services supplied by non-residents to residents; and
- the value of services supplied internationally to residents through foreign affiliates established in the reporting economy and controlled by a non-resident unit.

Services supplied by non-residents to residents mainly come under modes 1, 2 and 4 and services supplied to residents through foreign affiliates established in the reporting economy come under Mode 3.

In the European Business Statistics Regulation (see Regulation (EU) 2020/1197) the supply of services abroad (‘exports’ in a broad sense) corresponds to the ‘exports and provision of services’ variable, and the supply of services in the compiling economy (‘imports’ in a broad sense) to the ‘imports and acquisition of services’ variable.

3.2. Data needs for measuring the international supply of services

The objective of this chapter is to define the scope and coverage of the international supply of services and describe the main concepts and variables used to measure it, drawing on the existing statistical frameworks and standards.

In the 2008 SNA, **services**⁽⁴⁵⁾ are defined as ‘the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets’. Typically, services are not separate items over which ownership rights can be established and cannot generally be separated from their production (2008 SNA, para. 6.17).

⁽⁴³⁾ Further details are given in BPM6 and the Manual on Statistics of International Trade in Services, 2010 edition (para. 3.4 to 3.31).

⁽⁴⁴⁾ Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union Text (OJ L 174, 26.6.2013, p. 1-727).

⁽⁴⁵⁾ <https://unstats.un.org/unsd/nationalaccount/docs/sna2008.pdf>

The scope of **'international supply of services'** is defined in the MSITS 2010⁽⁴⁶⁾. The MSITS recognises that, while **'international trade in services'** is often interpreted by users to refer only to services transactions between residents and non-residents (i.e. as covered in the goods and services account of the balance of payments), **'international supply of services'** should be interpreted as a broader concept which covers:

- trade in services between residents and non-residents; and
- supply of services through the operations of foreign affiliates.

The compilation of statistics on the international supply of services broken down by modes relies on existing statistical frameworks. The balance of payments trade in services statistics provide information on transactions between residents and non-residents, while foreign affiliates statistics (FATS), and in particular the output variable, provide a measure of commercial presence. However, a number of adjustments are required to align the data collected via the two statistical frameworks to measure the international supply of services.

On the balance of payments side, additional data sources (besides those used for compiling the balance of payments items) will be needed to break down services transactions into modes 1, 2 and 4 (as well as Mode 3 for construction). Adjustments will also be needed to exclude the value of goods⁽⁴⁷⁾ from some transactions, namely maintenance and repair services n.i.e., travel, construction and government goods and services n.i.e. (for more details, see Section 6.3.1).

Within FATS, only services provided in the territory of establishment of a foreign affiliate should be considered as measuring Mode 3 supply in that economy. Supplementary information (on exports, for instance) should therefore be used to derive a measure of locally sold output (rather than total output). Output referring to goods should be excluded for the purpose of measuring the international supply of services, which would require adjustments or estimations if the output variable is classified by activity, not products.

The rest of the chapter presents the statistical conceptualisation of the international supply of services, building on the definitions provided in the 2008 SNA, the BPM6, MSITS 2010, the EBS regulation ([Commission Implementing Regulation \(EU\) 2020/1197](#)), and the Eurostat Foreign Affiliates Statistics (FATS) Recommendations Manual. It also outlines the refinements and additional information needed to build statistics on the supply of services by mode from existing statistical frameworks, which will further described and developed in the rest of this guide. Table 3.1 summarises the concepts listed in this chapter.

⁽⁴⁶⁾ [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=36](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=36)

⁽⁴⁷⁾ The implementing act of the EBS Regulation ([Commission Implementing Regulation \(EU\) 2020/1197](#)) stipulates that the total international supply of services should be reported. Annex VI of the regulation defines this as follows:

'The international supply of services includes:

- Trade in services between residents and non-residents (corresponding to Modes 1, 2 and 4 as defined in Section 2, II), and
- Supply of services through the operations of foreign affiliates (Mode 3 as defined in Section 2, II).'

Therefore, the international supply of services includes services values only.

Table 3.1: Measuring the international supply of services: an overview

	International trade in services / balance of payments	FATS
Scope based on	Residence of statistical units	Residence and foreign control of statistical units
Modes covered	1, 2, and 4 1, 2, 4 and 3 (construction only)	3
Measure	Value of services supplied Value of services received	Value of output / production value OR Turnover of the foreign affiliates
Direction of supply	Exports Imports	Provision of services (outward) Acquisition of services (inward)
Product breakdown	EBOPS 2010	- no product breakdown - breakdown by main economic activity. This can then be used as a proxy to product breakdown
Partner breakdown	The economy of residence of the parties to the transaction	Country of the ultimate controlling institutional unit (acquisition of services) Country of location of the controlled affiliate (provision of services)
Adjustments to align with international supply of services	Exclusion of goods where transactions include goods and services	Exclusion of goods, where transactions include goods and services Exclusion of output sold to third economies
Further data needs	Distribution services (included with goods trade) must be added in Mode 1 ⁽⁴⁸⁾	

Source: Eurostat and Eurostat Modes of supply task force

The term 'distribution services'⁽⁴⁹⁾ refers to the trade margins of wholesalers and retailers, which is considered a service in GATS terms. Distribution services are discussed further in Chapter 10.

3.3. Trade in services as defined in the balance of payments framework

A transaction is defined as an interaction between two institutional units by mutual agreement that reflects the creation, transformation, exchange, transfer or extinction of economic value, and involves changes in the volume, composition or value of an institutional unit's assets and liabilities.

Trade in services is defined as a service transaction (i.e. the payment for a service rendered) between residents and non-residents in the reporting economy. Services credits correspond to services exports, and services debits correspond to imports. The BPM6 and MSITS 2010 categorise services into 12 main categories, further broken down in the extended balance of payments services classification (EBOPS 2010)⁽⁵⁰⁾. Further information on classifications is provided in Chapter 4.

Trade in services, as measured by transactions between residents and non-residents, is usually measured in terms of sales (apart from any services that may have been donated). When it comes to measuring the supply of services, in certain instances it is necessary to focus on a portion of these sales which corresponds to the value of the services that are supplied: for instance, by removing the value of any goods that may be

⁽⁴⁸⁾ Mode 3 also includes distribution services; these are already added automatically when adding Section G (therefore, no extra step is needed).

⁽⁴⁹⁾ Distributions services include the trade margins of wholesalers and retailers. In the 2008 SNA, wholesalers and retailers are defined as entities that purchase and resell goods with no, or only minimal, processing (for example, cleaning and packaging). They supply a service to producers and consumers of goods by storing, displaying and delivering a selection of goods in convenient locations, thus making them easy to buy. Their output is measured by the total value of trade margins realised on the products that they purchase for resale. The margins that represent these distribution services either are included in the f.o.b. values of the goods to which they relate or are provided by the importer.

⁽⁵⁰⁾ The EBOPS 2010 classification provides a breakdown of the balance of payments trade in services item, as defined in BPM6, by types of services. The classification thereby meets a number of user requirements, including providing more detailed information on trade in services, as required in connection with the GATS.

part of the transaction recorded under services (e.g. goods acquired while travelling, margin on the product that is sold etc.).

Valuation of transactions

International trade in services transactions as recorded in the balance of payments are valued⁽⁵¹⁾ at market prices (MSITS 2010, 3.32-3.40).

The accrual principle

One of the key elements in the recording of BOP/SNA transactions is the application of the accrual principle, as set out in detail in the BPM6 Manual⁽⁵²⁾. This principle states that, with regard to time of recording, transactions should be recorded at the time the services are supplied, rather than when the actual payments are made by the customer.

Institutional sectors

The MoS framework covers all institutional sectors, as defined in the 2008 SNA, Chapter 4⁽⁵³⁾, IMF, MFSM 2000, Chapter 3⁽⁵⁴⁾ and the BPM6 Manual, Chapter 4⁽⁵⁵⁾. However, it should be noted that for MoS purposes, government services are relevant only in relation to imports.

3.4. Foreign affiliates statistics (FATS)

In the context of MoS data compilation, the main concepts and requirements regarding FATS are described in the MSITS 2010, Chapter IV.

In the EU, the definitions for the foreign affiliates statistics (FATS), inward and outward FATS are set out in the EBS Regulation (Commission Implementing Regulation (EU) 2020/1197).

The FATS variables to be used for MoS compilation purposes are the following:

Table 14. Country-level business statistics on enterprises by country of ultimate control
250601. Net turnover of foreign-controlled enterprises and
250701. Value of output of foreign-controlled enterprises.

Table 33. Statistics on international activities – control by institutional units of the reporting country on enterprises abroad
440101. Net turnover of enterprises abroad ultimately controlled by institutional units of the reporting country.

⁽⁵¹⁾ VAT treatment: BPM6 and MSITS 2010 do not provide any reference to VAT treatment in relation to the data on international supply of services, however ESA 2010 para. 4.17 says that VAT is recorded net, in the sense that:

(a) outputs of goods and services and imports are valued excluding invoiced VAT;

(b) purchases of goods and services are recorded inclusive of non-deductible VAT. VAT is recorded as being borne by purchasers, not sellers, and then only by those purchasers who are not able to deduct it. The greater part of VAT is recorded as being paid on final uses, mainly on household consumption.

In that sense the treatment of services is the same as for goods. Transactions reported by enterprises should be exclusive of VAT (but purchases by households should include VAT as it is then non-deductible). A similar provision for VAT treatment can be found in the SNA 2008, para. 7.89.

⁽⁵²⁾ BPM6 Manual, Chapter III, Time of recording of flows, see: <https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf#page=54>.

⁽⁵³⁾ 2008 SNA, Chapter 4 Institutional units and sectors.

⁽⁵⁴⁾ IMF, MFSM 2000, Chapter 3, Institutional units and sectors.

⁽⁵⁵⁾ BPM6 Manual, Chapter 4, Economic territory, units, institutional sectors, and residence. see: <https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf#page=78>.

Box 3.1. Definitions relating to FATS

...**foreign-controlled enterprise**: an enterprise resident in the compiling country over which an ultimate controlling institutional unit not resident in the compiling country has control.

Control: the ability to determine the general policy of an enterprise, for example by choosing appropriate directors, if necessary. In this context, enterprise A is deemed to be controlled by an institutional unit B when B controls, directly or indirectly, more than half of the shareholders' voting power, or by other means secures the control over A.

Foreign control: the ultimate controlling institutional unit is resident in a different country from the one where the institutional unit over which it has control is resident. Branches are defined as local units of foreign enterprises not constituting separate legal entities. They are treated as quasi-corporate enterprises within the meaning of Regulation (EU) No 549/2013 and deemed to be enterprises for the purposes of foreign affiliates statistics.

Ultimate controlling institutional unit of an affiliate: the institutional unit, proceeding up an affiliate's chain of control, which is not controlled by another institutional unit.

Foreign affiliate: an enterprise resident in the compiling country over which an institutional unit not resident in the compiling country has ultimate control, or an enterprise not resident in the compiling country over which an institutional unit resident in the compiling country has ultimate control.

Country of ultimate control: the country of residence of the ultimate controlling institutional unit, or group of units acting in concert. Institutional unit and local unit each have the same meaning as in Regulation (EEC) No 696/93. Inward foreign affiliates statistics are defined as statistics describing the activity of foreign affiliates resident in the compiling country.

Source: EBS Regulation, Annex IV (Commission Implementing Regulation (EU) 2020/1197)

MSITS 2010 notes⁽⁵⁶⁾ that the immediate investor ('first foreign parent') may be controlled by another unit in a third country. The concept of ultimate controlling institutional unit (UCI) denotes the ultimate investor in the chain of control.

MSITS 2010 recommends⁽⁵⁷⁾ attributing the FATS variables to the country of the ultimate investor (country of residence of the UCI). The concept of the UCI is also used in the European FATS statistics⁽⁵⁸⁾.

FATS Variables

Sales/turnover

In MSITS 2010, sales and turnover have the same meaning and are used interchangeably.

Turnover is one of the output measures of economic activities. Strictly speaking, turnover (sales to the market) is a variable that can only be observed for the enterprise unit.

Turnover is the main FATS variable used for Mode 3 estimation, as it is typically available for the breakdown level required. For most types of economic activities, turnover provides a good estimate of Mode 3 services. However, turnover has specific limitations (see the next paragraph and [Chapter 9 for more details](#)).

The corresponding variables in the European Business Statistics Regulation are 'net turnover' (SBS), 'net

⁽⁵⁶⁾ MSITS 2010, 4.12 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=104](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=104).

⁽⁵⁷⁾ MSITS 2010, 4.20-4.31 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=106](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=106).

⁽⁵⁸⁾ Annex IV of the Regulation (EU) 2020/1197 stipulates that: '...foreign-controlled enterprise shall mean an enterprise resident in the compiling country over which an ultimate controlling institutional unit not resident in the compiling country has control ... Ultimate controlling institutional unit of an affiliate shall mean the institutional unit, proceeding up an affiliate's chain of control, which is not controlled by another institutional unit.'

turnover of foreign-controlled enterprises' ⁽⁵⁹⁾ (IFATS) and 'net turnover of enterprises abroad ultimately controlled by institutional units of the reporting country' ⁽⁶⁰⁾ (OFATS).

Box 3.2. Net turnover

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

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

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

Excluded from net turnover are:

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

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

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

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

For the activities of NACE K653 the net turnover is defined as total pension contributions

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

Source: EBS Regulation (Commission Implementing Regulation (EU) 2020/1197)

Value of output / production value

The definition of output in MSITS 2010 follows the one provided in the SNA 2008 (see also ESA 2010 3.42-3.83). MSITS 2010 recommends ⁽⁶¹⁾ using output as the preferred variable for compilation, considering it to be a superior and more refined measure of activity for most purposes. For many service sectors, output and sales (or turnover ⁽⁶²⁾) are equivalent. Therefore, as turnover is more commonly available, turnover can be

⁽⁵⁹⁾ Table 14, variable: 250601. Net turnover of foreign-controlled enterprises.

⁽⁶⁰⁾ Table 33, variable: 440101. Net turnover of enterprises abroad ultimately controlled by institutional units of the reporting country.

⁽⁶¹⁾ MSITS 2010 4.46 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page114](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page114).

⁽⁶²⁾ In this guide, as in MSITS 2010, sales and turnover have the same meaning and are used interchangeably.

used in practice instead of output, for most economic activities. However, there are some notable exceptions ⁽⁶³⁾. These cases are summarised in Box 3.3.

In the EU/EFTA countries, the FATS/SBS variable 'production value' (renamed 'value of output' ⁽⁶⁴⁾ in the European Business Statistics Regulation) can be used to better estimate output. The value of output measures the amount actually produced by the unit, based on sales, including changes in stocks and the resale of goods and services.

The value of output is defined ⁽⁶⁵⁾ as the sum of:

- + net turnover,
- +/- change in stock of finished goods and work-in-progress,
- +/- change in stock of goods for resale,
- + income from product or turnover related subsidies and
- + capitalised output
- purchases of goods and services purchased for resale.

For non-financial enterprises, income and expenditure classified as financial or extraordinary in company accounts is excluded from production value.

In the EBS Regulation (Regulation (EU) 2020/1197), the corresponding variables are:

250301: **Value of output** and

250701: **Value of output of foreign-controlled enterprises**

Box 3.3 describes the three notable cases for which value of output should be used instead of turnover.

Gross margin on goods for resale

This corresponds to the return on the activity of purchase and resale without further processing. It is calculated from turnover, purchases and changes in stocks of goods and services purchased for resale in the same condition as received. Included in turnover, purchases and changes in stocks of goods and services for resale are the sales, purchases and changes in stocks of services purchased in order to be rendered to third parties in the same condition. Also called the **gross trading margin**. In the EBS Regulation (Regulation (EU) 2020/1197), the corresponding variable is: 250201 – **Gross margin on goods for resale** ⁽⁶⁶⁾.

⁽⁶³⁾ MSITS 2010 4.47 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page114](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page114).

⁽⁶⁴⁾ Table 14; variable 250701. Value of output of foreign-controlled enterprises.

⁽⁶⁵⁾ Commission Implementing Regulation (EU) 2020/1197, see: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1197&qid=1597836386474&from=EN>.

⁽⁶⁶⁾ In the EBS Regulation variable 250201 is required for NACE Sections B to G.

Box 3.3. Sales/turnover and output

Sales measure gross operating revenues, less rebates, discounts and returns.

Output differs from sales because it includes changes in stocks of finished goods and work-in-progress and because of differences in measurement applicable to activities involving wholesale and retail trade or financial intermediation. Since many service activities do not involve stocks of finished goods and changes in work-in-progress will usually be impossible to measure, output will be identical to sales for most service activities.

MSITS 2010 recommends **output as the preferred variable** for compilation, considering it to be a superior and more refined measure of activity for most purposes. The definition of output in MSITS 2010 follows the one provided in the SNA 2008 and ESA2010. However, sales data are easier to collect and may present more options for disaggregation. In any case (see MSITS 2010 4.47), output is a better measure of the provision of services for: wholesale and retail trade, insurance and financial services:

(a) For wholesale and retail distribution, output reflects the trade margins realised on goods purchased for resale.

(b) For financial intermediaries, output includes not only services that are charged for by explicit fees, but also all implicit fees (margins on buying and selling transactions, asset management costs deducted from property income receivable in the case of asset-holding entities) and margins between interest payable (or receivable) and the reference rate on loans (financial intermediation services indirectly measured (FISIM)).

(c) For insurance, output is measured not by total premiums earned, but by a service charge that takes into account the income earned on technical reserves and also the fact that a portion of premiums must be devoted, not to the provision of services, but to the payment of claims and to the accumulation of capital sums guaranteed under life insurance policies, annuity plans and pension entitlement schemes. In all these cases, output will generally be considerably lower than sales because, unlike sales, it excludes the amounts — which may constitute a large portion of total operating revenues — that pass through the enterprise without being considered a part of its intermediate consumption.

Furthermore (see Section 9.5.1), this guide recommends using the production value (value of output) also for Section D, electricity, gas, steam, and air conditioning supply.

Sources: 2008 SNA paras. 6.157-6.174, MSITS 4.46-4.47 and MSITS CG 15.59-15.61.

3.5. Main breakdowns for targeted variables

3.5.1. Partner country

The classification of the partner country is based on:

- the country to which services have been supplied in the accounting period; and
- the country from which services have been procured.

For BOP transactions, the geographical allocation follows the economy of residence of the trading partners⁽⁶⁷⁾. For commercial presence, the services supplied by foreign affiliates to the compiling economy are attributed to the country of the ultimate controlling institutional unit (UCI). The services supplied by resident entities are instead attributed to the country of location of the controlled affiliate (MSITS 2010 4.31

⁽⁶⁷⁾ With the notable exception of freight and insurance, see BPM6 4.151.

and 4.32).

Because of the globalisation of business locations, the residence of the principal customer who initiated the purchase, the actual customer to whom services are delivered, and the invoice recipient may be different from each other. In such cases, the country of residence of the principal, the actual contracting partner, is the one that must be recognised ⁽⁶⁸⁾ (BPM6 4.149).

For the MoS data in the EBS Regulation, the partner country breakdown follows a GEO level 5 breakdown as defined in Annex II to Commission Implementing Regulation (EU) 2020/1470.

3.5.2. Product breakdown

A product is the outcome of an economic activity, and this generic term is used for both goods and services. Product classifications are designed to categorise services that have common characteristics. They provide the basis for preparing statistics on production, consumption, international trade and distributive trade. The product breakdown follows the extended balance of payments services classification (EBOPS 2010) ⁽⁶⁹⁾. Note that for compiling statistics by modes of supply, it is recommended to use a product breakdown presentation (GATS commitments are made for services products). However, FATS are often compiled and presented by activity, which is why some assumptions have to be made in order to convert FATS (output) results to a product-based presentation (see Table 6.3, in Chapter 6), in particular in the absence of a breakdown of FATS data by product ⁽⁷⁰⁾.

In the EBS Regulation a product breakdown based on EBOPS is used for the modes of supply data (see Annex VI to Regulation (EU) 2020/1197).

3.5.3. Economic activity

Economic activity consists of offering goods and services in a given market. An activity is characterised by an input of products, a production process and an output of products. In other words, an economic activity is said to take place when resources such as equipment, labour, manufacturing techniques, information networks or products are combined, leading to the creation of specific goods or services. Classifications of economic activities are designed to categorise data that can be related to the unit of activity. They provide the basis for preparing statistics on output, the various inputs to the production process, capital formation and the financial transactions for such units.

In Europe, economic activities are classified according to the statistical classification of economic activities (NACE). The equivalent international classification is the international standard industrial classification of all economic activities (ISIC) ⁽⁷¹⁾. In the international trade statistics context, the NACE classification ⁽⁷²⁾ refers to the economic activity of traders, i.e. enterprises that are active in international trade. In Chapter 4, Section 4.3.2 we describe in detail the current version of the economic activities classification, the NACE Rev.2 classification.

⁽⁶⁸⁾ Note that from a GATS perspective, it is the country of the actual customer that would be relevant to identify the importing country.

⁽⁶⁹⁾ See: https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/EBOPS2010_english.pdf.

⁽⁷⁰⁾ Note that MSITS 2010 recommends the compilation of FATS sales/turnover be broken down by main EBOPS2010 items and goods for each activity, and if not possible by total sales of goods and total sales of services for each activity.

⁽⁷¹⁾ See: <https://unstats.un.org/unsd/classifications/Econ/isic>.

⁽⁷²⁾ See <https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>.

4

Part A: Definitions and concepts

Classification systems

The purpose of this chapter is to introduce the typical classifications and statistical systems that can be used for compiling statistics on the international supply of services by modes and provide the appropriate references for further reading. Both European and International classifications are mentioned for completeness.

At the time this edition was finalised, the process of revising NACE and ISIC was still ongoing. In this guide, we use the NACE Rev. 2.

4.1. Introduction

This chapter presents the commonly used classifications for products and economic activities to be considered when producing data on the international supply of services by modes of supply. The chapter describes the internationally used classifications and their equivalents applicable at EU level, as well as the classifications required by the European Business Statistics Regulation. In order to compile MoS statistics there is a need to bridge between classifications, most notably between NACE/ISIC classifications and EBOPS, and this is not always straightforward. Chapter 6 and Chapter 9 discuss the bridging (mapping) issue and offer some examples of mapping tables.

It is also important to note that GATS describes categories of services in terms of the W120 classification⁽⁷³⁾. Even though it is not a statistical classification, for the sake of completeness the W120 is also presented in this guide.

The classifications⁽⁷⁴⁾ and manuals related to compiling statistics on the international supply of services worldwide and on an EU level are graphically presented in Fig. 4.1.

Eurostat Classifications (RAMON Archives)⁽⁷⁵⁾ and UNSD⁽⁷⁶⁾ provide correspondence tables among the different classifications.

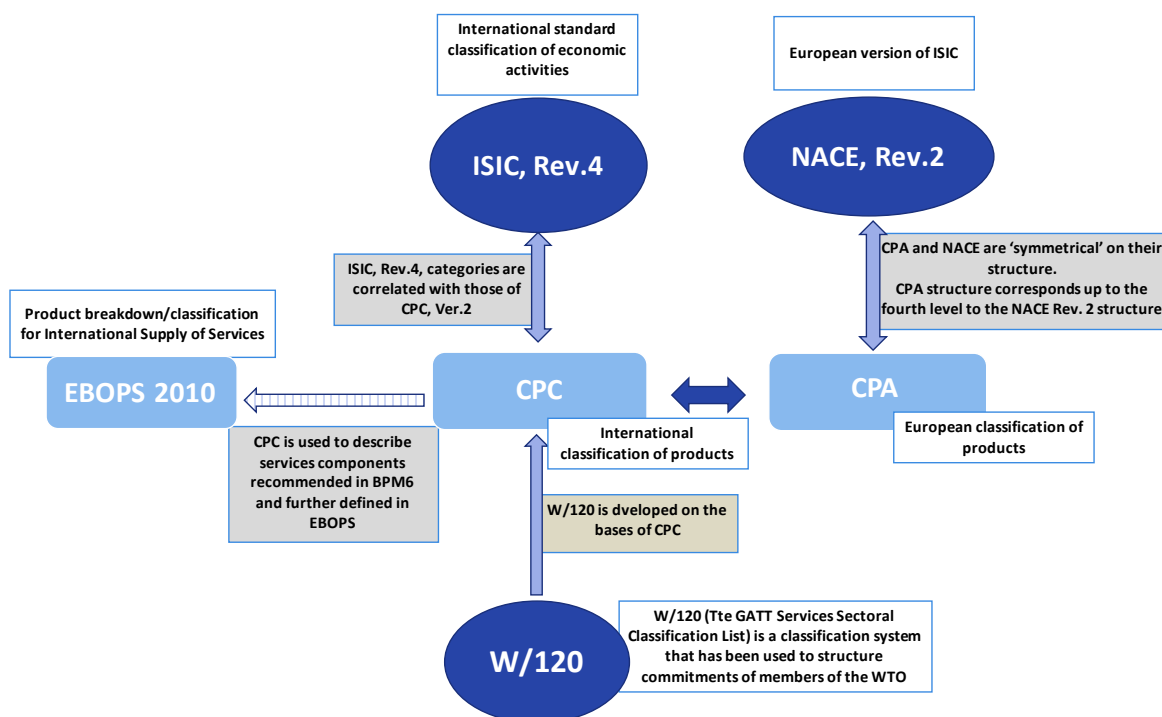
⁽⁷³⁾ MSITS 2010, Annex IV Services Sectoral Classification List (MTN.GNS/W/120) – see: [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=170](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=170).

⁽⁷⁴⁾ The UNSD provides correspondence tables between the various classifications: see: <https://unstats.un.org/unsd/classifications/Econ#Correspondences>.

⁽⁷⁵⁾ <https://circabc.europa.eu/ui/group/c1b49c83-24a7-4ff2-951c-621ac0a89fd8/library/d3056f31-a684-430a-a77d-12d1d0dffffa>

⁽⁷⁶⁾ UNSD correspondence tables - see: <https://unstats.un.org/unsd/classifications/Econ#Correspondences>.

Figure 4.1: Graphical presentation of classifications used for statistics on the international supply of services



Source: Eurostat

4.2. Classifications of products

4.2.1. Extended balance of payments services classification 2010 (EBOPS 2010)

The extended balance of payments services classification (EBOPS 2010) is presented in the MSITS 2010, Annex I⁽⁷⁷⁾ and is based on the definitions provided in the BPM6 (Chapter 10)⁽⁷⁸⁾. EBOPS 2010 is the classification commonly used to report international trade in services data. The definitions of the EBOPS 2010 components are presented in the MSITS 2010 – Chapter III.

EBOPS 2010 is a primarily product-based classification; however, there are some transactor-based, or mode of consumption based items: *travel*, *construction* and *government goods and services n.i.e.*

Detailed correspondence tables between EBOPS 2010 and CPC, Version 2, and EBOPS 2010 and W/120 can be found in the [UNSD website](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=160). These correspondence tables can be used to assist the compiler in resolving classification problems and to link statistical classifications with the classifications used in GATS commitments.

The standard definition of some items (such as travel and construction) contains also the goods value. Following GATS provisions, for MoS purposes the value of goods should be estimated and subtracted from the corresponding item, to estimate the international supply of services (as only services values should enter MoS data). More details on this are provided in Chapters 6 and 8.

For MoS data compilation, the recommendation is to use a less detailed breakdown (as compared to the full

⁽⁷⁷⁾ MSITS 2010, Annex 1 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=160](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=160).

⁽⁷⁸⁾ BPM6, Chapter 10 - see: <https://www.imf.org/external/pubs/ft/bop/2007/pdf/chap10.pdf>.

EBOPS detailed breakdown typically used for annual ITSS data collections). For EU and EFTA data compilers, the recommended level of detail for product breakdown by EBOPS 2010 components, complementary groupings and detailed components is described in the European Business Statistics Regulation (Commission Implementing Regulation (EU) 2020/1197).

It should also be noted that apart from the usual EBOPS items, to report on the international supply of services, it is necessary to include the category 'distribution services' (see Chapter 10 and 12).

Correspondence tables for converting EBOPS 2010 to CPA 2008 and CPC 2 are available online ⁽⁷⁹⁾. However, it should be noted that there are items in these correspondence tables that need to be treated with caution, due to omissions, such as travel, FISIM, distribution services.

4.2.2. Central product classification (CPC), Version 2.1.

The United Nations' central product classification (CPC) ⁽⁸⁰⁾ is a standard classification for all products that are an output of an economic activity, including transportable and non-transportable goods and services, as well as originals. It provides a comprehensive classification of all goods and services. The CPC, Version 2.1, may be used to describe the balance of payments services components recommended in BPM6 and further defined in EBOPS.

4.2.3. Statistical classification of products by activity (CPA)

The statistical classification of products by activity (CPA) is the European version of the United Nations' CPC ⁽⁸¹⁾. The CPA is structured according to the industrial origin of goods or services, using NACE as the reference classification, i.e. each type of goods or services is produced by one and only one activity as defined in NACE. This means that the CPA is used in such a way that each product heading is assigned to a single heading in the NACE classification. The structure of the CPA corresponds up to the fourth level with the structure of NACE Rev. 2, e.g. at all levels of CPA, the coding of the first four digits is identical to that used in NACE ⁽⁸²⁾.

4.2.4. The General Agreement on Tariffs and Trade (GATT) services sectoral classification list (W120)

The GATT services sectoral classification list ⁽⁸³⁾, known as W/120, is a classification system that has been used to structure commitments by members of the World Trade Organisation (WTO). It is reproduced in full in Annex IV of the MSITS 2010 ⁽⁸⁴⁾. It should be noted that W120 is not a statistical classification ⁽⁸⁵⁾. It is mentioned here only for information and completeness.

⁽⁷⁹⁾ See: <https://circabc.europa.eu/ui/group/c1b49c83-24a7-4ff2-951c-621ac0a89fd8/library/4f9765bb-5d1a-474c-84f9-7b8dc4be2759/details> and <https://unstats.un.org/unsd/classifications/Econ#Correspondences>.

⁽⁸⁰⁾ See: <https://unstats.un.org/unsd/classifications/unsdclassifications/cpcv21.pdf>.

⁽⁸¹⁾ For correspondence tables between CPA 2008 and CPC 2 see:

<https://circabc.europa.eu/ui/group/c1b49c83-24a7-4ff2-951c-621ac0a89fd8/library/1caf5290-fa85-4128-8d4d-6ec846525ab0/details>

⁽⁸²⁾ Regulation (EC) No 451/2008 of the European Parliament and of the Council.

⁽⁸³⁾ See <http://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/annexes.htm>.

⁽⁸⁴⁾ See: [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf).

⁽⁸⁵⁾ A further correspondence between EBOPS and W/120 has been created and is available online, see: <http://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/annexes.htm>.

Box 4.1. MSITS 2010, services sectoral classification list

2.21. On 10 July 1991, the GATT Secretariat issued a note setting out a classification of service sectors (document No. MTN.GNS/W/120, entitled 'Services Sectoral Classification List', hereinafter referred to as W/120) based on consultations with members. The list identifies relevant sectors and subsectors so as to enable members to undertake specific commitments. W/120 should therefore be viewed as an optional classification system of services sectors for trade negotiating purposes, rather than as a statistical classification.

2.22. The 12 major categories in the W/120 list are:

1. Business services.
2. Communication services.
3. Construction and related engineering services.
4. Distribution services.
5. Educational services.
6. Environmental services.
7. Financial services.
8. Health-related and social services.
9. Tourism and travel-related services.
10. Recreational, cultural, and sporting services.
11. Transport services.
12. Other services not included elsewhere.

Source: MSITS 2010

4.3. Classification of economic activities

4.3.1. International standard industrial classification of all economic activities (ISIC), Rev. 4

The United Nations' international standard industrial classification of all economic activities (ISIC) ⁽⁸⁶⁾ Rev.4 is a basic tool for supporting international comparability of data across a wide range of economic and social statistics. ISIC, Rev.4 categories are correlated with those in the CPC, Version 2 ⁽⁸⁷⁾. It is a standard classification of economic activities linked, as far as possible, to the means by which economic processes are organised into units. An industry is defined as the set of production units engaged primarily in the same or similar kinds of economic activity.

4.3.2. Statistical classification of economic activities in the European Community (NACE) Rev.2

NACE Rev.2 ⁽⁸⁸⁾ is the European standard classification of economic activities and presents the universe of economic activities ⁽⁸⁹⁾ divided in such a way that a NACE code can be associated with a statistical unit carrying them out. Fig. 4.2 sets out the NACE structure. The use of NACE is mandatory within the European statistical system. Statistics produced on the basis of NACE are comparable at European and, in general, at

⁽⁸⁶⁾ <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27&Lg=1>

⁽⁸⁷⁾ Correlation tables can be found at <http://unstats.un.org/unsd/class/default.Asp>.

⁽⁸⁸⁾ <https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF.pdf/dd5443f5-b886-40e4-920d-9df03590ff91?t=1414781457000>

⁽⁸⁹⁾ An economic activity takes place when resources such as capital goods, labour, manufacturing techniques or intermediary products are combined to produce specific goods or services. An economic activity is therefore characterised by an input of resources, a production process and an output of products (goods or services).

global level.

NACE is derived from the ISIC; both classifications have exactly the same items at the highest levels, where NACE is more detailed at lower levels ⁽⁹⁰⁾. In order to ensure international comparability, the definitions and the guidelines established for using NACE within the EU are consistent with those published in the introduction to ISIC.

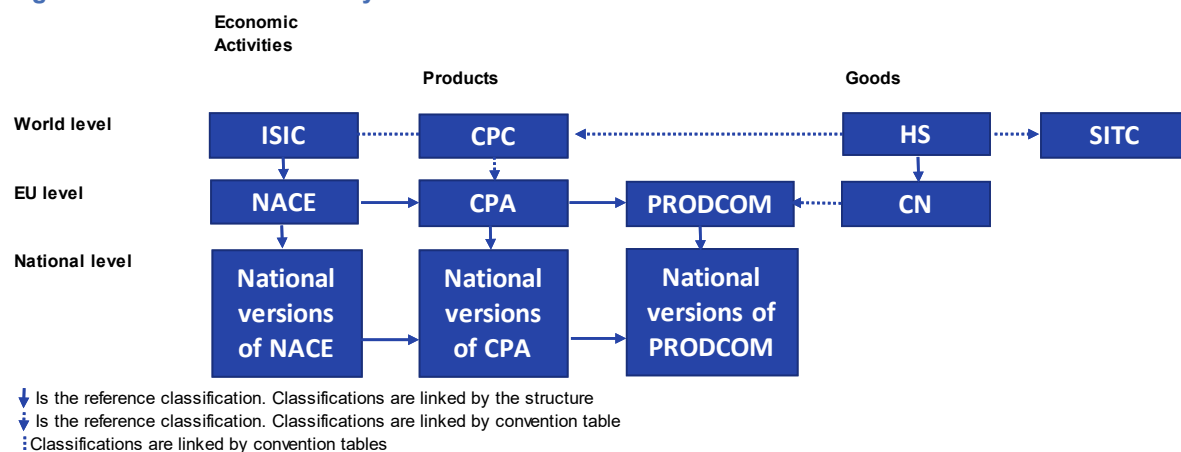
Figure 4.2: Structure of the NACE Rev.2 classification

Nomenclature	Level of breakdown	Code	Number
NACE Rev.2	Section	Alphabetical letters A to U	21
	Division	Two-digit numerical code	88
	Group	Three-digit numerical code	272
	Class	Four-digit numerical code	615

Source: Eurostat

NACE is part of an integrated system of statistical classifications, developed mainly under the auspices of the United Nations Statistical Division. Fig. 4.3 presents the links between international and European classifications in this system ⁽⁹¹⁾.

Figure 4.3: The international system of economic classifications



Source: NACE Rev.2

During 2023, the revision of NACE was concluded. The resultant new classification NACE Rev. 2.1 will become mandatory in European statistics for reference year 2025 onwards. A correspondence table between NACE Rev.2 and NACE Rev 2.1 has been published:

<https://ec.europa.eu/eurostat/web/nace/correspondence-tables>

NACE Rev. 2 is used throughout this document, as it was still the legal requirement by the time this guide was finalised. Using the above correspondence table, transposing any mapping table from NACE Rev. 2 to Rev 2.1 is still straightforward. In any case Eurostat will update the NACE to EBOPS correspondence tables to NACE Rev. 2.1 in due time.

⁽⁹⁰⁾ See the correspondence tables NACE REV. 2 - ISIC REV. 4: <https://circabc.europa.eu/ui/group/c1b49c83-24a7-4ff2-951c-621ac0a89fd8/library/b68c1e00-ed20-49a7-8f77-1330df2cb648/details>

⁽⁹¹⁾ HS is the harmonised commodity description and coding system, managed by the World Customs Organisation. Prodcom is the classification of goods used for statistics on industrial production in the EU – see: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Industrial_production_statistics_introduced_-_PRODCOM

CN stands for the 'combined nomenclature', a European classification of goods used for foreign trade statistics – see: [https://ec.europa.eu/eurostat/web/metadata/classifications#Combined%20Nomenclature%20\(CN\)](https://ec.europa.eu/eurostat/web/metadata/classifications#Combined%20Nomenclature%20(CN)).

4.4. Classification of countries, geographical breakdown for partner countries

For MoS and FATS statistics to be compiled under the European Business Statistics Regulation, Annex II of Commission Implementing Regulation (EU) 2020/1470⁽⁹²⁾ defines the geographical breakdowns to be used for partner countries. The EBS Regulation stipulates that for MoS statistics the level to be used for the partner area breakdown is the GEO level 5 (defined in Annex II of Regulation (EU) 2020/1470 and presented in the [Annex V - Counterpart area requirements](#)).

⁽⁹²⁾ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2020.334.01.0002.01.ENG

5

Part B: Recommended methodology and estimation models

Data sources – overview

The purpose of this chapter is to describe all possible data and information sources, including examples from the countries having some experience with data collection.

5.1. International supply of services (ISS) data collection and modes of supply

The conceptual framework ⁽⁹³⁾ for the development of international supply of services (ISS) by modes of supply statistics is built upon existing statistical systems and classifications that could provide information for measuring the supply of services.

The calculation of the international supply of services requires a combination of statistics sourcing from different domains:

- international trade of services statistics (ITSS) (calculated under the balance of payments (BOP) framework);
- foreign affiliates statistics (FATS) data (available from business statistics); and
- distribution services (derived from the international trade in goods statistics (ITGS) and trade by enterprise characteristics (TEC) data).

These calculations require the use of a common product classification (such as EBOPS 2010) to avoid the double counting issues, estimate the missing variables and, as a final step, allocate the data to the relevant modes of supply.

The international trade in services statistics (ITSS), following the EBOPS 2010 products classification, are allocated mainly to modes 1, 2 and 4 (see Chapter 6). ITSS follow internationally agreed rules of compilation ⁽⁹⁴⁾ and are regularly compiled in most countries worldwide (and in all EU countries in particular).

The data for Mode 3 are mainly derived from the foreign affiliates statistics (FATS), based on the activities of

⁽⁹³⁾ It is consistent with concepts and definitions included in the 2008 System of National Accounts (2008 SNA), ESA 2010, and the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6). The compilation guidance provided for these frameworks should be used as a starting point and this guide should be read as an extension of that guidance intended to cover specific compilation needs in the context of MSITS 2010 implementation.

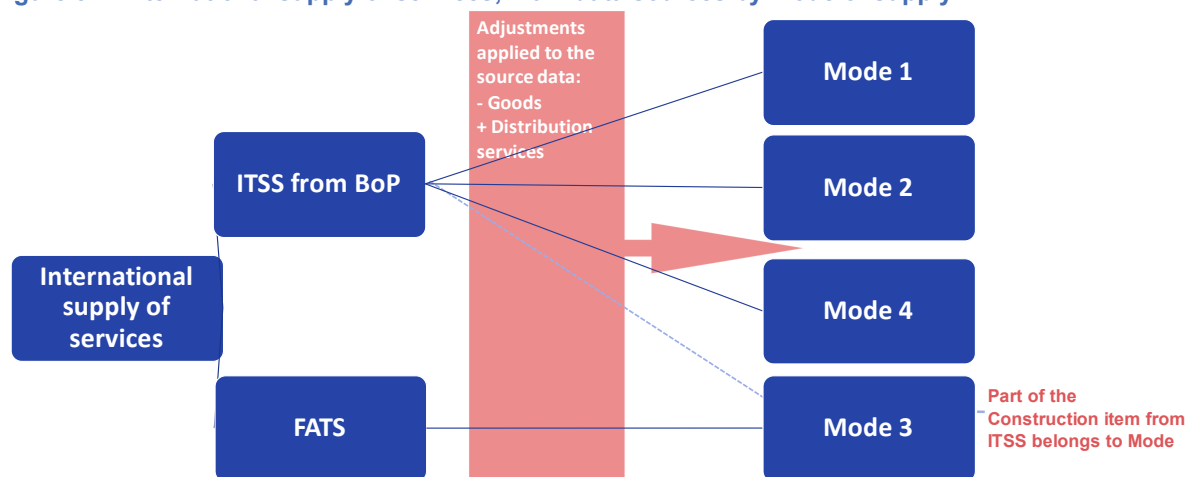
⁽⁹⁴⁾ IMF Sixth edition of the balance of payments manual (BPM6) (<https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf>) and BPM6 Compilation Guide (https://www.imf.org/external/pubs/ft/bop/2014/pdf/BPM6_12F.pdf).

enterprise affiliates – outward FATS and inward FATS.

Distribution services are an important element of the international supply of services, both in Mode 3 (FATS statistics) and Mode 1 (ITSS statistics).

Data on international supply of services by mode of supply can be either collected through direct reporting (surveys) or estimated/modelled. A combination of the two approaches may also be used to obtain the required aggregates. In the context of Regulation (EU) 2019/2152 on European business statistics and Commission Implementing Regulation (EU) 2020/1197, EU/EFTA data compilers may choose the most suitable compilation method (modelling using the recommended Eurostat/WTO model, survey, or a combination) to compile ISS by mode of supply.

Figure 5.1. International supply of services; main data sources by mode of supply



Source: adapted from MSITS 2010

Collecting data by means of a survey may give compilers significantly more control and flexibility over the collected data; compilers may design the survey questions to reflect the policy needs at the time. However, surveys are more demanding and costly both for compilers and for respondents. Modes of supply data are unlikely to change significantly in the short term, so the extra questions may not need to be included in each survey run; a good solution might be to add the MoS-related questions to some already existing business surveys. However, data compilers should be cautious, as the burden and cost may increase if too many questions are added to the survey questionnaire. For the sake of completeness, we provide some guidance how a survey questionnaire can be developed and share some country experiences of using surveys to collect data on the modes of supply – see Section 5.4.

The MSITS 2010 Compiler's Guide ⁽⁹⁵⁾ suggests combining information from various sources to obtain the required level of detail and quality, and to reduce the excessive burden for respondents. Compilers are encouraged to determine the most appropriate data sources on a case-by-case basis, considering the strengths and weaknesses of each data source. They should first identify trustworthy data source(s) and then use them as a benchmark for the secondary data sources.

The following issues should be given special attention:

- statistical units used in each source;
- entities covered;
- services categories identified;
- variables compiled (e.g. value of services exports/imports by EBOPS categories for compilation of trade in services between residents and non-residents, output or turnover/sales and employment for

⁽⁹⁵⁾ MSITS 2010 Compiler's Guide, 13.1 – see: https://unstats.un.org/unsd/trade/publications/14-66197-E-MSITS%202010%20Compilers%20Guide_WEB.pdf#page=188.

- compilation of FATS etc.);
- availability of geographic breakdown;
- reference period;
- presence of thresholds; and
- survey frequency.

5.2. Main input data collections – best practices

5.2.1. International Trade in Services data collection

International trade in services data are the main source for modes 1, 2 and 4. In this section we summarise the main sources and methods used for ITSS compilation. Understanding such sources may be beneficial also for MoS compilation, for example by using underlying sources and information to fine-tune model parameters. Such approaches are described in more detail in Chapters 7-10.

Countries employ a mix of different methods for ITS data compilation in general, and often a mix of instruments are used to compute the different EBOPS categories. [Table 5.1](#) summarises the data collection methods most used ⁽⁹⁶⁾ to estimate the annual ITSS in general.

Table 5.1: Data source(s) for ITSS data collection

Data source	Number of countries using that data source for ITSS data collection	
	credits	debits
Enterprise survey(s)	33*	33*
Administrative records	23	23
Statistical models	19	19
Persons and households survey(s)	14	14
Customs revenue information	11	12
ITRS	10	9
Partner country data (mirror data)	7	8
Data from international organisations	7	6
MOSS (used for digital trade services)	5	6
VIIES (VAT Information Exchange System)	2	2
Commercial data sources	1	3
Other	7	8

**Of which 6 countries use only that source for ITSS data collection*

Source: 2020 edition of the EUROSTAT-OECD Metadata Questionnaire

5.2.2. Foreign Affiliates Statistics (FATS) data collection

FATS statistics are the main source for the estimation of Mode 3. Mode 3 is becoming more and more

⁽⁹⁶⁾ This information is derived from the 2020 edition of the joint EUROSTAT and OECD Metadata Questionnaire for International Trade in Services Statistics (ITSS) under BPM6. Some 34 countries answered the survey: 22 EU countries (Belgium, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Spain, Greece, Croatia, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Austria, Poland, Portugal, Finland, Romania, Slovakia, Sweden); 2 EFTA countries: Norway and Iceland; 5 EU candidate and potential candidate countries (Montenegro, Serbia, North Macedonia, Bosnia and Herzegovina, Turkey) and 4 OECD countries (Canada, Chile, Colombia and Mexico) and Hong Kong.

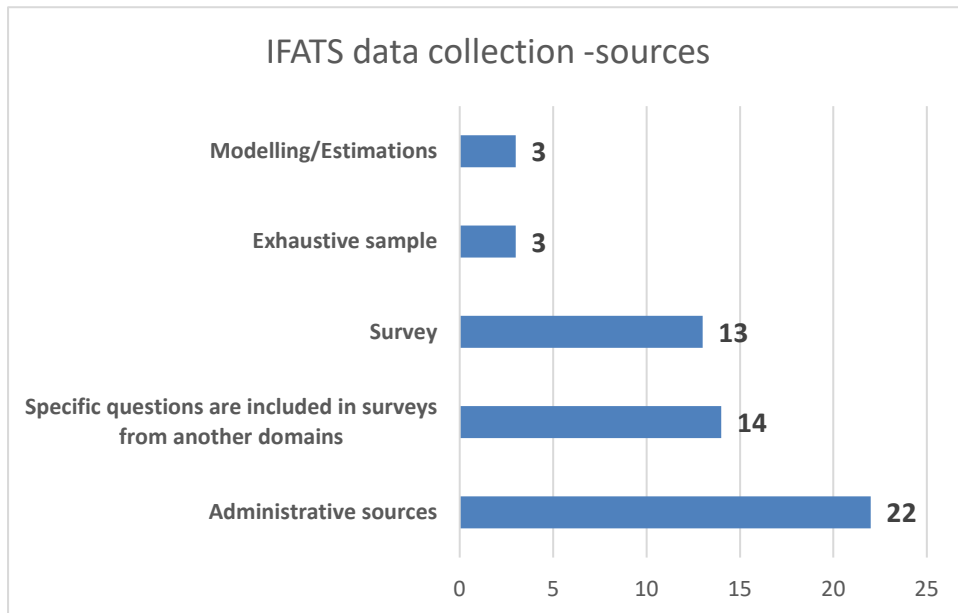
prominent, because ‘services suppliers may choose to set up affiliates as a means of selling their services in foreign markets as an alternative or complement to exporting through other modes’⁽⁹⁷⁾. Recent studies confirm that statement, showing that in the EU more than 60 % of EU total services (including ITSS and FATS services) are supplied to third countries through EU affiliates established in foreign countries (i.e. via Mode 3).

The main source for calculating Mode 3 is data on foreign affiliates’ statistics – outward foreign affiliates’ statistics (OFATS) and inward foreign affiliates’ statistics (IFATS).

Countries take different approaches for FATS data collections. We present below (fig. 5.2, fig. 5.3, table 5.2 and table 5.3) some of the results of the Eurostat’s questionnaire on ‘international supply of services by mode of supply – data availability in the FATS domain’. The questionnaire was run among IFATS and OFATS data compilers in the EU 27 Member States and in Norway, Switzerland, and the USA in April 2020.

In the IFATS domain, the information requested by the applicable regulations is collected mainly via administrative sources, followed by including specific questions in surveys from other domains (such as FDI, SBS and R&D surveys, exhaustive annual survey on enterprises, data from administrative data sources (business registers and the European Groups Register)).

Figure 5.2: IFATS data collection – sources (multiple answers possible)

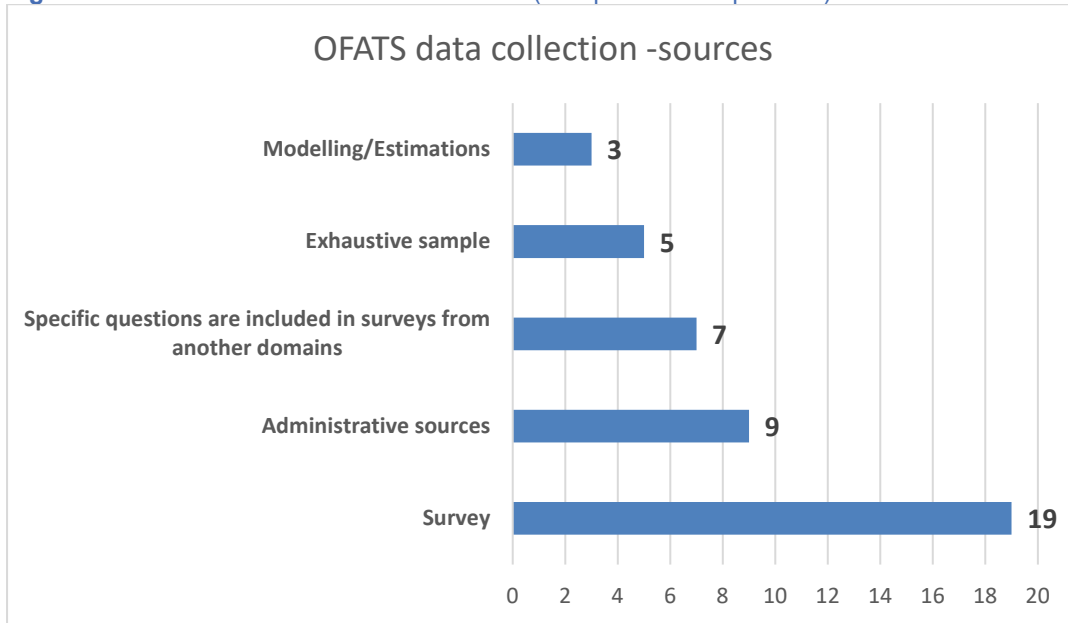


Source: Eurostat questionnaire on ‘international supply of services by mode of supply – data availability in the FATS domain’, (2020)

In the OFATS domain, data are collected mainly via survey, followed by administrative sources and via specific questions in surveys from other domains (such as FDI and SBS surveys, exhaustive annual survey on enterprises).

⁽⁹⁷⁾ See MSITS 2010, para. 5.64 – https://unstats.un.org/unsd/publication/seriesm/seriesm_86rev1e.pdf

Figure 5.3: OFATS data collection – sources (multiple answers possible)



Source: Eurostat questionnaire on 'international supply of services by mode of supply – data availability in the FATS domain', (2020)

In the FATS framework, additional variables that could facilitate estimations of the modes of supply may also be gathered – see Table 5.2. The data sources for the variables listed in Table 5.2 are presented in Table 5.3.

Table 5.2: Available information in the FATS domain in the different countries

	IFATS			OFATS		
	NACE	EBOPS	CPA	NACE	EBOPS	CPA
Turnover, goods	9 ⁽¹⁾ ES, PT, BE, RO, CZ, EL, FR, LT, BG	0	1	5 ⁽²⁾ CZ BE, SI, RO, CZ, EL	0	0
Turnover, services	9 ⁽¹⁾ ES, PT, BE, RO, CZ, EL, FR, LT, BG	0	1	5 ⁽²⁾ CZ BE, SI, RO, CZ, EL	0	0
Domestic sales, total	8 ⁽³⁾ ES, BE, HU, PL, RO, CZ, EL, FR	0	0	7 ⁽³⁾ BE, ES ⁽⁹⁾ , HU, SI, PL, EL, IT	0	0
Domestic sales, goods	2 BE, EL	0	0	3 BE, EL, SI	0	0
Domestic sales, services	2 BE, EL	0	0	4 ⁽⁹⁾ BE, EL, ES, SI	0	0
Exports, total	9 ⁽³⁾ ES, BE, HU, PL, RO, CZ, EL, FR, LT	0	0	8 ⁽⁴⁾ PT, BE, HU, SI, PL, EL, IT, CZ	0	0
Exports, goods	7 ⁽⁵⁾ PT, BE, PL, RO, EL, BG, CH	0	1	4 BE BE, SI, CZ, EL	0	1 BE
Exports, services	4 BE, RO, PL, EL	1 BE	0	4 BE, SI, CZ, EL	1 BE	0
Production value (value of output)	14 ⁽⁶⁾ ES, PT, BE, AT, HU, PL, RO, CZ, LU, HR, FR, BG, LT, IT	0	0	3 BE, SI, RO	0	0
Other	8 ⁽⁷⁾ ES, HU, PL, CZ, LU, HR, FR, CH	1 HU	1 HU	7 ⁽⁸⁾ HU, SI, PL, CY, HR, FR, PT	1 HU	1 HU

Notes:

(1) BG: Net revenues from sales of goods/goods.

PT: The references to the information available for Portugal are based on the information in the context of the structural business statistics (SBS) (the breakdowns by markets are compared with intra-group relations) and not in the context of the MoS, namely mode 3. In the context of the MoS, PT also has information on IFATS available for domestic sales (total, goods and services) and for exports (total, goods and services).

(2) SI: Variable: 'Revenues from sale': item does not include financial and other revenues and incomes received in other name and for that account.

(3) CZ: Available to the extent of SBS statistics requests (series 8B; 8D; 8F).

(4) SI: The variable 'Export / shipment of goods and services': value of total exports and shipment of goods and services of foreign controlled companies in the reporting year.

(5) CH: Exports of goods by activity (grouped NACE sections).

BG: Could be provided through microdata linking with ITGS.

(6) PL: Variable calculated within SBS domain.

(7) CH: Imports of goods by activity (grouped NACE sections).

PL: Total turnover of goods and services, total turnover of goods for resale.

HR: Business statistics variables (data source: SBS data).

LU: SBS core characteristics.

(8) HR: Country of foreign affiliates, NACE, Number of legal entities abroad, number of employees, total sale, total employee costs, value added, gross investments in tangible assets (data source: FDI).

CY: All additional variables are collected based on NACE classification.

PT: Portugal collects variables such as turnover, number of employees, gross added value, exports of goods and services, imports of goods and services, intra-group exports, intra-group imports.

PL: The total turnover of goods, services and goods for resale.

Additional remarks:

HR: All data collected for SBS is also available for iFATS purposes.

EE: IFATS: Export (i.e. turnover from clients abroad) is collected as total and export to EU MS

HU: By linking the International Trade and FATS data at entity level, turnover can be further broken down both by origin and the specified classifications, using the NACE-EBOPS bridge table and the NACE-CPA

USA: We publish all of the variables in the chart, but by NAICS, which is similar to, but not the same as NACE.

(9) Available as of reference year 2021 under Agreement INE-Ministry (see Ch.9 9.5.3.1.the Spanish example for OFATS).

Source: Eurostat questionnaire on 'International supply of services by mode of supply – data availability in the FATS domain' (2020) and own sources

Table 5.3: Frequency of use of the different data sources

Data source	No of countries
Structural Business survey(s) (SBS)	24 ⁽¹⁾
Trade by enterprise characteristics (TEC)	6 ⁽²⁾
Services trade by enterprise characteristics (STEC)	2 ⁽²⁾
Customs revenue information	2
VIES (VAT Information Exchange System)	6
FDI (data for specific partners)	5 ⁽²⁾
Statistical business registers, including the EGR and ADIMA	5
Financial statements	6
MOSS (used for the digital trade services)	1
Supply-use tables	1
Mirror data (using partner country data or data published on Eurostat database)	1
Data collected for national purposes	2
ITSS and ITGS surveys	1
Additional questions in the OFATS survey	1
Other	5

Notes:

⁽¹⁾ Of which 3 countries use only that source for data collection.

⁽²⁾ Of which 1 country uses only that source for data collection.

Source: Eurostat questionnaire on 'International supply of services by mode of supply – data availability in the FATS domain' (2020)

5.2.3. Sources for distribution services

Distribution services are defined as the distributive services provided by wholesale and retail trade industries. In the 2008 SNA, wholesalers and retailers are defined as entities that purchase and resell goods with no, or only minimal, processing (for example, cleaning and packaging). Although most of the distribution services of wholesalers and retailers are excluded from EBOPS, they are included in W/120, which is used in GATS negotiations ⁽⁹⁸⁾.

The distribution services are an important element of the international supply of services, both in Mode 3 (FATS statistics) and Mode 1 (ITSS statistics). In Mode 3, distribution services are estimated based on the value of output of NACE Section G, wholesale and retail trade (see Chapter 9).

However, the part of distribution services that should be allocated to Mode 1 is not captured by the ITSS data. Instead, the distribution service value is captured in ITGS and TEC, as this value is included in the total value of traded goods crossing the border. Hence, the margins of wholesalers and retailers are generally included indistinguishably in the value of the goods sold.

National Accounts data could also be used to calculate the trade margins. Estimation methods for distribution services are described in detail in Chapter 10.

5.3. Possible data sources for estimating the modes of supply

As already noted, (see Section 1.6), countries may directly use the Eurostat/WTO model with its standard recommended shares (see Chapter 6). If a country decides to work further on fine-tuning the allocation of the EBOPS items by mode, this paragraph summarises the recommended sources that can be used to obtain allocation shares fine-tuned to the specific national circumstances.

⁽⁹⁸⁾ MSITS 2010 para 3.53, [https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf) "page=53"

Table 5.4: Possible sources for estimating the modes of supply – common practices

	Manufacturing services on physical inputs owned by others (SA)		Maintenance and repair services n.i.e. (SB)		Transport (SC)		Travel (SD)		Construction (SE)		Insurance and pension services (SF)		Financial services (SG)		Charges for the use of intellectual property n.i.e. (SH)		Telecommunications, computer, and information		Other business services (SJ)		Personal, cultural, and recreational services (SK)		Government goods and services n.i.e. (SL)		IFATS	OFATS	
	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits	credits	debits			
Enterprise survey(s) (establishment surveys for FATS)																											
Administrative records/sources																											
Customs revenue information																											
Statistical models/Modelling/Estimation																											
Commercial data sources																											
Data from international organisations																											
ITRS																											
Not covered																											
Other																											
VIIES (VAT registration)																											
Partner country data (mirror data)																											
Persons and households survey(s)																											
MOSS (used for digital trade services)																											
Exhaustive sample																											
Specific questions, included in surveys from other																											

Legend:

Most commonly used

Moderate use

Limited use

No use reported

Source: Eurostat

Table 5.5: Possible data sources for estimating Mode 1

EBOPS 2010		Data sources										
Item	Item name	Enterprise survey(s)	Administrative records	ITRS	Statistical models	Data from international organisations	Customs revenue information	VIIES (VAT registration)	MOSS (used for digital trade services)	Commercial data sources	Partner country data (mirror data)	Persons and households survey(s)
SC	Transport	1st	2nd	3rd	1st		2nd					
SF	Insurance and pension services		1st	3rd	2nd							
SG	Financial services		1st	1st	1st							
SH	Charges for the use of intellectual property n.i.e.		2nd	1st								
SI	Telecommunications, computer, and information services		2nd	1st					2nd			
SJ	Other business services		2nd	1st					for debits			
SK	Personal, cultural, and recreational services		1st	2nd					for debits	for debits		
SL	Government goods and services n.i.e.	2nd	1st	3rd	2nd	1st			for credits			

: Most commonly used

Moderate use

Limited use

No use reported

Source: Eurostat

5.3.1. Main sources for Mode 1

This paragraph provides information and describes in detail only on the main sources for Mode 1 (Table 5.4). For the sake of completeness, more possible data sources are listed in Table 5.5.

ITSS data are the main source for Mode 1. However, not all EBOPS items are relevant for Mode 1. Table 5.5 presents an overview of the possible data sources for estimating Mode 1, focusing on the EBOPS items relevant for Mode 1.

For the detailed methodology on how to estimate Mode 1, see Chapter 7.

Enterprise surveys are suggested as the most appropriate data source for further improving the calculation of Mode 1. The recommendation is to add some questions to already existing surveys to identify the part of the services delivered via Mode 1. Possible example questions are provided in Table 5.10.

The surveys that could be used for that purpose are:

- enterprise surveys for collecting international trade in services statistics (ITSS)
- structural business surveys (SBS).

Sections 5.4.1, 5.4.2 and 5.4.3 provide real-world examples from national compilers that have designed and used surveys to ensure a fine-tuned allocation of EBOPS items to modes.

We identified administrative records, e.g., business registers, VIES and the one-stop-shop (OSS), as another data source.

As regards national statistical business registers (SBR), Eurostat recommends that countries put effort into developing high-quality statistical registers. The SBR plays a pivotal role in developing business and trade statistics, both as a data source, e.g. for microdata linking, and to select the most relevant samples for surveys.

Another possible source is VIES (the EU's VAT Information Exchange System ⁽⁹⁹⁾). VIES is a powerful tool that could be used more systematically to validate and adjust total intra-EU exports and imports of services transactions reported by enterprises for which VIES is applicable. In addition, through VIES exchanges Member States are informed more exhaustively about enterprises that are below the survey threshold and about non-reporting enterprises ⁽¹⁰⁰⁾.

The VIES systems of each EU country are used in different ways (only to control the base population of enterprises, to adjust the intra-EU total services' part, or to cross-check with the results of the national ITS survey). Several EU members states are using VIES in their ITSS compilation process, to control the enterprise population base / set-up survey strata, adjust intra-EU totals or cross-check survey results and/or geographical allocation.

The 'one-stop-shops' (OSS) system ⁽¹⁰¹⁾ focuses on transactions between enterprises providing telecommunications, television, radio broadcasting and electronically supplied services to private households in other Member States. OSS therefore captures digital service transactions that are very difficult to capture and offers full coverage of the intra-EU exports and imports of digital services with a full geographical breakdown. Eurostat considers that the use of MOSS would substantially improve the exhaustiveness of the relevant EBOPS categories.

At least 11 EU Member States report that they have already integrated this source in their regular compilation process.

⁽⁹⁹⁾ https://europa.eu/youreurope/business/taxation/vat/check-vat-number-vies/index_en.htm and https://ec.europa.eu/taxation_customs/vies/#/vat-validation

⁽¹⁰⁰⁾ VIES also includes export and import values of all enterprises that are below the thresholds of surveys.

⁽¹⁰¹⁾ The One-Stop-Shop (OSS) replaced the MOSS in 1 July 2021 (see: <https://vat-one-stop-shop.ec.europa.eu/one-stop-shop>).

5.3.2. Sources for estimating Mode 2

Mode 2 is estimated using ITSS data. In particular, the services that are part of the travel item are allocated 100 % to Mode 2 given its very definition as ‘consumption abroad’. Manufacturing services on physical inputs owned by others, and maintenance and repair services n.i.e., are also predominantly allocated to Mode 2, as well as some specific subitems of transport and other business services.

Table 5.6 presents an overview of the possible data sources for estimating Mode 2. Compilers may further enhance compilation (including the breakdown of the travel item) by adding additional targeted questions to existing surveys, namely:

- border surveys (tourism expenditure-credits)
- household surveys (tourism expenditure-debits)
- surveys of natural persons
- enterprise surveys (for manufacturing services on physical inputs owned by others, and for maintenance and repair services).

Possible example questions are provided in Table 5.10.

Travel services are closely related to the compilation of tourism statistics. Hence it is useful for compilers to understand the conceptual framework of tourism statistics, e.g. international recommendations for tourism statistics 2008 (IRTS 2008) and the tourism satellite account. Information on flows and stocks of persons is necessary for a more detailed analysis of Mode 2 and categories of persons identified within Mode 4.

Box 5.1. International recommendations for tourism statistics 2008 (IRTS 2008)

5.90. IRTS 2008 is a comprehensive methodological framework for the collection and compilation of tourism statistics. This conceptual framework defines tourism and refers to related concepts such as country of residence, place of usual residence, usual environment, etc. It introduces the activity of visitors from the point of view of their expenditure and presents the standard classification of products and productive activities that need to be considered to conduct a comparable analysis of the demand and supply related to tourism. An extension of IRTS 2008 is the tourism satellite account, through which tourism statistics are linked with mainstream macroeconomic analysis. Statistics compiled according to these frameworks would be a useful complement to an in-depth analysis of the tourism sector covering all modes of supply.

Source: IRTS 2008

Table 5.6: Possible data sources for estimating Mode 2

EBOPS 2010		Data sources										
Item	Item name	Enterprise survey(s)	Administrative records	ITRS	Statistical models	Data from international organisations	Customs revenue information	VIES (VAT registration)	MOSS (used for digital trade services)	Commercial data sources	Partner country data (mirror data)	Persons and households survey(s)
SA	Manufacturing services on physical inputs owned by others	1st	1st				1st					
SB	Maintenance and repair services n.i.e.	1st	2nd	1st			2nd					
SC	Transport											
	(SC13: Sea transport; Other than passenger and freight; SC23: Air transport; Other than passenger and freight; SC33: Other modes of transport; Other than passenger and freight and SC3G: Other supporting and auxiliary transport services)	1st	2nd	3rd	1st		2nd					
SD	Travel services	1st	2nd		2nd							1st
	Other business services											
SJ	(SJ32: Waste treatment and de-pollution, agricultural and mining services and SJ321: Waste treatment and de-pollution)		2nd	1st					for debits			
SK	Personal, cultural, and recreational services (SK1: Audio-visual and related services)		1st	2nd					for debits	for debits		

Legend:

Most commonly used

Moderate use

Limited use

No use reported

Source: Eurostat

The BPM6 recommend that compilers should ensure consistency between travel and other related statistics such as the tourism statistics, tourism satellite account or supply and use table.

Mobile phone data (MPD) ⁽¹⁰²⁾ – such data could serve as a complementary source to estimate the travel and international transport of passengers' items in the BOP. MPD could supplement the border survey on international tourism and help to estimate more accurately the number of travellers visiting/leaving a country each month (inbound and outbound flows), while still using the border survey to capture other relevant information not provided by MPD, such as expenditure, main reason of the visit, etc.

Migration statistics could also be a valuable source for calculating Mode 2.

Box 5.2 Migration statistics

5.94. Recommendations on Statistics of International Migration Revision 1 (RSIM, Rev.1), defines two main groups of internationally mobile persons: non-migrants and international migrants (comprising short-term migrants and long-term migrants). It also provides a framework for compiling statistics on the inflows and outflows of these groups of people.

5.98... Statistics collected along the lines of these recommendations would measure the number of people who are present abroad and, as a consequence, are consuming services, via Mode 2. In non-migrant categories, these persons should include border workers, tourists, business travellers, etc.; in migrant categories, they should include various types of nationals who change their place of residence and consume services abroad. For instance, one particular category of migrants that would be of interest encompasses those admitted for education or training.

Source: MSITS 2010

Payment card data (e.g. credit card information)

Mode 2 can also be estimated using information on credit card use. The main principle behind the use of payment card data involves the identification of an **issuer** corresponding to the establishment from which the card (held by a cardholder) originates, and an **acquirer**, corresponding to the establishment where the purchase is made. Eurostat recommends also using payment card data for compiling the travel item. Payment card data provide information ⁽¹⁰³⁾ on the incoming and outgoing payments of financial institutions offering payment card services, detailed by the country where the counterpart of the transactions resides, by aggregated economic sector in which the transactions take place.

The data compilers could receive payment statistics: (i) under interinstitutional agreements with national authorities collecting data from reporting agencies and responsible for managing the ATM and cash machines network and payment channels; or (ii) via purchases of databases from payment service providers and/or reporting agents for national banks.

For the euro area countries, it is worth mentioning the ECB Regulation (ECB/2020/59) ⁽¹⁰⁴⁾, which covers a variety of topics including some data compilation issues for the travel item. The new data requirements introduced by the ECB Regulation cover the number and value of payment transactions sent by non-MFIs (monetary financial institutions), broken down by merchant category codes (MCC) and geographical counterparts (Geo 6). The first data transmission was at the end of May 2022, covering the first quarter for reference period 2022.

⁽¹⁰²⁾ See Chapter 8 for a presentation of the Bank of Italy's experience of using MPD in their estimates.

⁽¹⁰³⁾ Payment card data are usually classified by the merchant category codes (MCC). Generally speaking, a mapping between MCC codes and EBOPS is possible. By the time when this edition was finalised, a correspondence table between the MCC and EBOPS 2010 was being worked on as part of the travel workshop initiative.

⁽¹⁰⁴⁾ Regulation (EU) 2020/2011 of the European Central Bank amending Regulation (EU) No 1409/2013 on payments statistics (ECB/2013/43) (ECB/2020/59) – see: (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R2011>).

As regards maintenance and repair services n.i.e., enterprise surveys are the most efficient method to collect the required information. To determine the mode of supply in the enterprises survey, appropriate screening questions could be included:

- questions on the value of the service fee;
- the value of the goods sent and received for processing or for repair;
- questions to determine partner country attribution;
- questions to determine the detailed product composition of exports and imports for firms that indicate they either receive or send goods abroad for processing or repair.

This information can be used to adjust the goods account to measure merchandise trade on a change of ownership basis.

The *MSITS 2010 Compiler's Guide* suggests comparing the trend in the value of goods under inward and outward customs procedures (and the use of the nature of transactions codes) against the trend in the magnitude of manufacturing services over time. While the actual monetary amounts will be different, compilers could expect the growth trend between the series to be similar, which could provide a useful quality check for compiling statistics on the international trade of manufacturing services.

Administrative sources, including tax records, can also provide useful information (see BPM6 CG 12.20-12.25 ⁽¹⁰⁵⁾ for manufacturing services and 12.35-12.37 ⁽¹⁰⁶⁾ (including Tables 12.1 and 12.2 for freight transport).

As for manufacturing services on physical inputs owned by others, the required information is collected equally using enterprise surveys, administrative records and customs revenue information.

For the estimations of other business services, in particular waste treatment and de-pollution, agricultural and mining services (SJ32) and waste treatment and de-pollution SJ321) information from the ITRS, administrative records and OSS could be used.

The part on personal, cultural, and recreational services – audiovisual and related services (SK1) is estimated via administrative records, ITRS and the OSS; commercial data sources might be used for the debits side.

5.3.3. Sources for estimating Mode 3

The main source for Mode 3 is FATS data. FATS data are typically compiled from several sources. The main sources for FATS (and consequently also for Mode 3 estimation) fall into three broad categories:

- **Enterprise / establishment surveys** – these are also the most common source for FATS data collection. These include structural business surveys, annual business surveys, the EGR, the annual business register maintenance surveys and data sourcing from information systems for the online collection of annual reports of all economic active enterprises. The annual reports normally contain a set of accounting and statistical questionnaires.
- **Foreign direct investment surveys** – FDI statistics can be considered as a rough indicator of the extent to which economies rely on commercial presence abroad to supply services.
- **Administrative records** such as tax records, annual declarations of enterprises, administrative sources, publicly available sources, and direct contacts are used as additional sources to identify the ultimate controlling institutional unit (UCI).

⁽¹⁰⁵⁾ BPM6CG 12.20-12.25 – see: <https://www.imf.org/external/pubs/ft/bop/2014/pdf/Guide.pdf#page=209>.

⁽¹⁰⁶⁾ BPM6CG 12.35-12.37 – see: <https://www.imf.org/external/pubs/ft/bop/2014/pdf/Guide.pdf#page=211>.

Table 5.7: Possible data sources for estimating Mode 3

	Survey	Exhaustive sample	Administrative sources	Modelling/estimation	Specific questions are included in surveys from another domains
IFATS					
OFATS					

Legend:

Most commonly used

Moderate use

Limited use

No use reported

Source: Eurostat

Business registers could serve to identify branches and commercial banks (NACE Rev. 2 code 64.19). An IFATS population could be completed using national register of enterprise groups and state tax authority data from a report on controlled and controlling units and persons.

On the other hand, the scope of OFATS might consist of the foreign subsidiaries of the country's UCIs, who have declared themselves to be the head of a multinational group in the EGR, or enterprises who have declared that they are not part of a group but have branches abroad.

Commercial databases on foreign affiliates could be used as supplementary sources. However, the forms and questionnaires used for the commercial databases cannot be easily designed in such a way that they provide useful data for statistical and analytical purposes.

Box 5.3 FDI statistics and the FATS framework

5.83. ...To conduct a more complete analysis of Mode 3, sales (and output) statistics need to be complemented by other statistical variables drawn from FDI statistics and the FATS framework. This supplementary information may be related, for instance, to the categories of limitations on supplies or suppliers as described in schedules of specific commitments. Such limitations relate to the number of service suppliers, the total value of assets, the number of natural persons that may be employees of service suppliers, the total value of individual or aggregated foreign investment, etc.

5.84. ... although FDI statistics (financial transactions, income and position) do not reflect the operations of foreign affiliates, they should be considered an important complement to FATS. Although they have a broader coverage (FDI considers all foreign affiliates, whereas FATS deals with those that are foreign controlled), FDI statistics can provide useful information when no FATS are available.

5.85. Compiling FDI statistics on stocks and flows, broken down by service activity and country of origin and destination of investment, is instrumental in assessing the impacts of commercial presence on economies. This would reflect the interest of foreign service suppliers in establishing affiliates in the host country and would provide useful information on the income on investment returning to the home economy.

Source: MSITS 2010

For countries that do not already produce a full FATS dataset, as a first step (and until FATS statistics are fully developed) we recommend adding some specific questions to surveys from other domains:

- **Structural business statistics (SBS) survey** – questions on the direct and indirect control and UCI residency of the foreign affiliates;
- **Foreign direct investment (FDI) surveys** – the standard FDI questionnaire can be supplemented by additional questions concerning:
 - ownership and UCI (to identify the inward FATS population and the country of residence of the UCI);

- questions on non-resident enterprises in which the country's enterprises control (directly or indirectly) more than 50 % of voting rights; such questions comprise their identification code, name, NACE Rev. 2 code, percentage share of voting rights, country of location, number of persons employed and turnover.

5.3.4. Sources for estimating Mode 4

The sources to estimate Mode 4 trade are the same as those for Mode 1.

Table 5.8 presents an overview of the possible data sources for estimating Mode 4, focusing on the EBOPS items most relevant to it. Enterprise surveys are suggested as the best data source, apart from the BOP item government services transactions, which are most commonly compiled using administrative records.

The rest of the paragraph summarises the advice on how to compile non-monetary variables for Mode 4 (number of Mode 4 persons working in the country).

Tourism and migration statistics can be used to complete the analysis of the international supply of services via Mode 4. These data are collected under the following frameworks:

- International Recommendations for Tourism Statistics 2008 (IRTS 2008);
- Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA-RMF 2008);
- Recommendations on Statistics of International Migration Revision 1 (RSIM, Rev.1).

MSITS 2010 recommends ⁽¹⁰⁷⁾ that data collected on flows of visitors for whom the trip's main purpose is business- or profession-related are useful for analysing flows of Mode 4 persons. Such data include the activities of the self-employed and employees (as long as they do not entail an employer-employee relationship with a resident producer in the country visited), and the activities of investors, businesspeople or any other type of persons travelling for professional reasons.

Box 5.4 A model border survey to identify Mode 4

5.116. In this regard, the World Tourism Organization developed a model border survey that combines administrative data (entry/exit cards) and statistical data obtained from surveys conducted when travellers leave the country visited. Some simple questions could be added to identify Mode 4 categories within the grouping of persons travelling internationally for business and professional reasons. In order to work, such a proposal would require, as with other types of data collection, clear-cut cooperation between national tourist authorities and migration and trade authorities.

Source: MSITS 2010

Some additional questions to identify people falling under Mode 4 could be included in the Labour Force Survey (LFS) and household surveys.

⁽¹⁰⁷⁾ MSITS 2010, 5.92 – 5.102 – see:

[https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20\(E\)%20web.pdf#page=151](https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=151)

Table 5.8: Possible data sources for estimating Mode 4

EBOPS 2010		Data sources										
Item	Item name	Enterprise survey(s)	Administrative records	ITRS	Statistical models	Data from international organisations	Customs revenue information	VIES (VAT registration)	MOSS (used for digital trade services)	Commercial data sources	Partner country data (mirror data)	Persons and households survey(s)
SB	Maintenance and repair services n.i.e.	1st	2nd	1st			2nd					
SE	Construction (10% is included in mode 3)	1st	2nd	1st								
SI	Telecommunications, computer, and information services (SI2: Computer services)		2nd	1st					2nd			
SJ	Other business services		2nd	1st					for debits			
SK	Personal, cultural, and recreational services		1st	2nd					for debits	for debits		
SL	Government goods and services n.i.e.	2nd	1st	3rd	2nd	1st			for credits			

Legend:

- Most commonly used
- Moderate use
- Limited use
- No use reported

Source: Eurostat

Box 5.5 Labour force surveys and Mode 4

5.117. Another possibility would be to use labour force surveys, which are conducted on a regular basis by many major economies supplying services through Mode 4. A limited number of questions on (recent) visits abroad by household members for the purpose of work could be added, including questions about the contracting parties, the duration and forms of payment. Such questions would also make it possible to identify Mode 4 types of visits separately from international labour mobility.

5.118. If information could be broken down into other categories (reasons for settlement, industry of employment and/or occupation of workers, length of stay), this would greatly enhance its usefulness when analysing the international supply of services ...

The International Monetary Fund (IMF) publication entitled *International Transactions in Remittances: Guide for Compilers and Users*, suggests that household surveys could be used to collect details on people moving for employment or migration purposes. This could be achieved by including a number of specialised modules or questions in existing surveys, or by conducting specialised surveys that would identify relevant households. In addition, including relevant Mode 4 modules/questions would help analysts understand the relations between supply of services, employment status, etc.

Source: MSITS 2010

Other complementary sources are:

- migration authorities and other administrative sources (population registers, permit data, visas, etc., to estimate the number of self-employed non-residents working in the compiling country);
- censuses (whose data could be used as a benchmark);
- household surveys, enterprise surveys, labour force surveys and border/passenger surveys.

Further recommendations can be found in MSITS 2010, Chapter V.

Table 5.9: Summary of the possible data sources

	mode 1	mode 2	mode 3	mode 4
Enterprise survey(s)				
Administrative records				
ITRS				
Statistical models				
Data from international organisations				
Customs revenue information				
VIES (VAT registration)				
MOSS (used for digital trade services)				
Commercial data sources				
Partner country data (mirror data)				
Persons and households survey(s)				
Foreign direct investment surveys				
Labour force surveys				

Legend:

Recommended – most commonly used
Moderate use – possibly some limitations
Limited use
No use

Source: Eurostat

5.4. Guidance for a survey design and using the survey responses to estimate the supply of services by modes of supply

As noted in (see Section 1.6), EU and EFTA data compilers may choose to use the Eurostat / WTO model with the standard recommended shares. Compilers may also choose to fine-tune the parameters of the model or obtain information on MoS data from respondents.

Considering that the data collection will have to be build up from scratch for many data compilers, we recommend that compilers carefully consider already at this stage the most suitable approach for data collection, including the possibility of establishing a survey to collect MoS data directly from respondents.

This section provides guidance for developing a MoS survey, providing examples from countries that have already performed such work.

Table 5.10 lists some suggestions for possible survey questions to help compile modes of supply data. These simple questions could also be included in already existing surveys, e.g. enterprise surveys. Enterprises should normally find it relatively easy to answer these very generic questions, at least as an informed estimate. The exact wording of the questions may need to be further adapted. The last column is for information only and is not meant to be added to an actual survey.

The following two paragraphs discuss in more detail the various options, with reference to actual surveys developed by countries worldwide; two such MoS questionnaires are presented in more detail (US and Norway questionnaires).

Table 5.10: Suggestions for possible survey questions to identify the modes of supply

				Answer is based on		Question relevant to
				Accounting records	General knowledge/ best guess	
1. Do you export services to customers abroad?	Yes	No	Don't know / Not applicable			All modes
2.a. Do you provide services to customers abroad remotely, by the means of email, telephone, post, fax, via online platforms, the internet, etc.? (Services are delivered without your personnel or the customer physically crossing the border of the country?)	Yes	No	Don't know / Not applicable			Mode 1
2.b. What is the percentage of your services delivered to customers abroad remotely?			Don't know / Not applicable			Mode 1
3.a. Do you provide services to foreign customers travelling to your country (e.g. residents of another country, who have physically crossed the country border to get the service)?	Yes	No	Don't know / Not applicable			Mode 2
3.b. What is the percentage of your services delivered to foreign customers travelling to your country?			Don't know / Not applicable			Mode 2

				Answer is based on		Question relevant to
				Accounting records	General knowledge/ best guess	
4.a. Do you have foreign affiliates abroad?	Yes	No	Don't know / Not applicable			Mode 3
4.b. Please estimate the turnover sold 'locally' (sold in the country of the foreign affiliate) by foreign affiliates abroad to residents of the country of the foreign affiliate.			Don't know / Not applicable			Mode 3
5.a. Do you deliver services through your personnel travelling to the customer's country?	Yes	No	Don't know / Not applicable			Mode 4
5.b. What percentage of your services are delivered through your personnel travelling to the customer's country?			Don't know / Not applicable			Mode 4
6.a. Do you import services from abroad?	Yes	No	Don't know / Not applicable			Mode 1, 2 and 4
6.b. What percentage of services are delivered to you remotely (neither your personnel nor the provider's personnel travelling to each other's countries)?			Don't know / Not applicable			Mode 1
6.c. What percentage of services are delivered to you through the provider's personnel travelling to your country?			Don't know / Not applicable			Mode 4
6.d. What percentage of services are delivered to you through your personnel travelling to/visiting the service provider's country?			Don't know / Not applicable			Mode 2

Source: Eurostat

5.4.1. Experience of Selected Countries Designing and Using Data Collected on Surveys

Many countries are currently using, or plan to use, trade in services surveys to collect information that can be used to estimate how to allocate trade to modes 1, 2 and 4. However, many questions remain about how best to design survey questions and, once responses are received, how to estimate the modes of supply data from survey data that are collected. In many areas, there are more questions than answers, but identifying the decision points to consider and sharing how different countries have dealt with these issues could be beneficial.

Survey design

- For which service types should MoS information be collected?
 - Is it better to ask survey respondents to report how their services were supplied/received for all service types, or to ask respondents to report only for a subset of service types and make assumptions for the remaining types?

- The United States (Bureau of Economic Analysis – BEA) chose to ask for MoS information for only a subset of service types on its Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons (BE-120) so as to limit respondent burden. MoS questions were later added to the BEA’s Benchmark Survey of Financial Services Transactions between U.S. Financial Services Providers and Foreign Persons (BE-180) for all types of financial service collected on the survey.
- The United Kingdom (Office of National Statistics – ONS) took a different approach and collected MoS information for all service types covered by its International Trade in Services Survey (Mann and Cheung ⁽¹⁰⁸⁾). The ONS reported differences between the mode reported by survey respondents and the mode suggested by the simplified approach. This may point to it being advantageous to ask for MoS information for a wider variety of services, but may also indicate a misunderstanding of the MoS questions.
- UNCTAD focused on a limited set of services it had already identified as possibly having relevant transactions on its questionnaire on exports of services that can be delivered remotely over ICT networks, which measures trade over ICT networks, a concept closely related to Mode 1 trade (UNCTAD ⁽¹⁰⁹⁾, p. 23).
- Should questions focus only on Mode 1 or be asked about all modes?
 - Asking only about the services provided via Mode 1 simplifies the question but requires assumptions about how to allocate the remaining transactions.
- How should MoS questions be worded and how can illustrations/diagrams be used to convey the concepts?
 - The mode of supply is difficult to describe to survey respondents, and survey design feedback indicates it can be misunderstood.
 - BEA and ONS, both asked for the share supplied/received via Mode 1.
 - Question wording differed slightly. BEA described Mode 1 trade as sales or purchases of services ‘performed’ remotely, while ONS described them as services ‘supplied’ or ‘received’ remotely.
 - Both BEA and ONS included examples to explain the concept.
 - BEA used an illustration with an example to help convey what types of transactions are considered to be ‘performed remotely’.
- What is the best approach to get a sufficient response rate when collecting MoS information?
 - Options include asking for the share supplied via one or multiple modes (BEA and ONS), asking for the value supplied via a mode, asking what the predominant mode was for a service type (as Spain does) or asking binary (yes/no) questions about whether a mode was used to supply a particular service? Are there other ways to elicit MoS information?
- If shares are collected:
 - Is it best to present ranges or ask respondents to enter precise values for the shares?
 - BEA and ONS used ranges; UNCTAD asked for values to be reported.
 - If ranges are used, how many should be presented and how should they be presented/spaced?

⁽¹⁰⁸⁾ Mann, Michael and Cheung, Daniel P.H., [Measuring Trade in Services by Modes of Supply](#), Eurostat Statistical Working Papers. 2019.

⁽¹⁰⁹⁾ United Nations Conference on Trade and Development (cited as UNCTAD) (October 2015), *Implementing a Survey on Exports of ICT-Enabled Services*, Technical Note No 11 Unedited TN/ UNCTAD/ICT4D/11, https://unctad.org/system/files/official-document/tn_unctad_ict4d11_en.pdf

- The use of many ranges will complicate the survey question and make it more difficult to answer, but too few will provide less-refined information (Iarossi ⁽¹¹⁰⁾, pp. 59-60).
- Survey methodology literature indicates that the selection of response categories can bias the responses (Schaeffer and Presser ⁽¹¹¹⁾, pp. 73). For example, skewed ranges for the response categories give an indication that the ‘middle’ response (50-74 %) is the average response, which can influence how someone responds (Dillman et al. ⁽¹¹²⁾, pp. 65 and Schwarz et al., pp. 392). These issues may not be typical for business surveys, where responses are largely based on accounting and other records, but insofar as respondents are relying on recall or their impressions, consideration should be given to how to present response dimensions.
- BEA used ranges skewed toward higher values (<25 %, 25-49 %, 50-74 %, 75-89 %, 90-99 %, 100 %).
- ONS used more symmetric ranges and included a response for ‘unknown’ (0 %, 1-24 %, 25-49 %, 50-74 %, 75-99 %, 100 %, unknown).
 - Should there be an option for unknown? On the one hand, this would possibly prevent respondents from putting unreliable responses, but it could be used as an easy way to avoid answering the question when there is any uncertainty. Survey methodologists typically suggest having an ‘opt out’ option to improve data quality (Iarossi, pp. 61).
- Is there additional information that could be collected that would be useful in constructing MoS statistics?
 - For example, BEA asked respondents to indicate whether responses were based on accounting records or recall/general knowledge of operations. This helps evaluate the quality of the responses.
- At what level of detail can MoS be best collected without excessive response burden?
 - BEA collected MoS information by service type; it did not collect any MoS information by affiliation or by country.

How to use survey responses

- If MoS information is collected in the form of the share of services supplied/received by mode, the general approach would be to multiply the shares by the reported value of trade.
 - If the share is collected as a categorical variable (ranges), what value in the range should be used to estimate values? The US used the midpoint, while Canada (Statistics Canada) is considering using the maximum. Presumably there is survey methodology literature that would indicate the optimal value in the range to use.
- If MoS information is not collected for all service types, what assumptions should be used to allocate the remaining service types?
 - To allocate the remaining service types across modes, BEA and ONS used assumptions largely based on the ‘simplified approach’ as described in Section C.1 of the Manual on Statistics of International Trade in Services (MSITS) 2010 (United Nations: New York, 2012).
- How should MoS be estimated for non-respondents? Using the ‘simplified approach’, using responses from similar companies, or something else?

⁽¹¹⁰⁾ Iarossi, Giuseppe. 2006. ‘The Power of Survey Design: A User’s Guide for Managing Surveys, Interpreting Results, and Influencing Respondents’. Washington, DC: World Bank.

⁽¹¹¹⁾ Schaeffer, Nora Cate, and Stanley Presser. ‘The science of asking questions’, Annual review of sociology 29 (2003).

⁽¹¹²⁾ Dillman, Don A., Jolene D. Smyth, and Leah Melani Christian, Internet, phone, mail, and mixed-mode surveys: the tailored design method, John Wiley & Sons, 2014.

- Can MoS information collected for a specific year be reliably applied to other years? Is there some adjustment that could be used to make it more applicable to other years?

Country experiences in designing surveys and analysis of their survey responses

The following are related issues and questions that can be explored further:

- What information has been collected from countries' outreach to survey respondents?
 - Do survey respondents tend to record MoS-related information in their accounting records? If not, can they easily report from their knowledge of the company's operations how services were supplied/received?
- Have countries found any indication that including MoS-related information on an existing survey affects response rates?
- Present findings from countries that have received survey responses that may be helpful for countries that are not collecting MoS information on surveys or that are collecting MoS information on surveys at a high level of aggregation (such as for all service types, or by service type but not by country).
 - Do MoS responses differ by country of supply/receipt?
 - How much do MoS shares based on survey responses differ across countries within service types?
 - How do survey-based MoS shares differ from the 'simplified approach' in MSITS?
- A tabular presentation of whether and how each country is going about collecting MoS information on surveys would be helpful. The following table presents information on five countries with MoS survey experience.

Table 5.11: MoS data collection in selected countries

Country	Survey used to collect MoS information?	What service types are covered by the survey	What modes are covered by survey questions	Is MoS information collected via reported shares?
Canada	Yes ⁽¹¹³⁾	Services delivered remotely	Mode 1	Yes
Norway	Yes – Statistics Norway		Development of a questionnaire for MoS data collection on Mode 1, 2 and 4	
Spain	Yes – National Statistical Office (INE)	All	Mode 1, Mode 2 (except travel), Mode 3 (except FATS) and Mode 4	No (only predominant mode is collected)
United Kingdom	Yes ⁽¹¹⁴⁾			
United States	Yes ⁽¹¹⁵⁾	Selected services and financial services	Mode 1	Yes

Source: Eurostat and the respective countries

⁽¹¹³⁾ See <https://www150.statcan.gc.ca/n1/en/pub/13-605-x/2020001/article/00005-eng.pdf?st=1yExstDk>.

⁽¹¹⁴⁾ See <https://ec.europa.eu/eurostat/web/products-statistical-working-papers/-/KS-TC-19-007?inheritRedirect=true>.

⁽¹¹⁵⁾ See <https://www.bea.gov/sites/default/files/2018-04/be120.pdf>.

5.4.2. The US Experience with Collecting Mode of Supply Information on Surveys

The US Bureau of Economic Analysis (BEA) began collecting information on mode of supply on its 2017 BE-120 Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons ⁽¹¹⁶⁾. This survey covers most business services other than insurance and financial services, and the mode of supply questions cover 13 service categories in other business services and personal, cultural and recreational services. The BE-120 survey form uses an innovative approach to collect information on mode of supply by simply having companies report one mode as opposed to all modes, with the idea that the other modes can be estimated as a residual or using other data sources.

Prior to launching its 2017 BE-120 survey, BEA undertook a cognitive review of the new modes of supply questions, which included site visits with respondent companies, to ensure that the data could be reported accurately. Most companies told BEA that their systems do not track or compile information on mode of supply and that it would be a significant burden to adjust systems to report this information. BEA tested several versions of the survey questions. One version asked companies to report the percentage supplied by modes 1, 2, and 4 separately. The respondents said that this was too burdensome. A second version asked respondents to simply check a box to indicate the predominant mode used for each service type. Although companies were receptive to this approach, BEA concluded that this information would not enable it to fine-tune the percentage supplied by mode to use it in its exploratory estimates in a meaningful way. Following collaboration with the modes of supply Task Force at Eurostat, BEA modified the questions to only collect information on services supplied through Mode 1. This version was well-received by respondents, who indicated it was not too burdensome and that they could reliably report data using this form. As an additional step to simplify reporting, the form asks respondents to report the percentage of its services supplied through Mode 1 by checking a box representing a range of values within which the percentage falls rather than requiring companies to report a precise amount, which might be difficult to calculate. Respondents were also asked to report whether their reported percentages were based on accounting records on their general knowledge of operations; responses indicate that the majority of the reported shares were based on the latter. [The final version of BEA's survey form](#) collects US sales of services on 'Schedule D' to and US purchases of services on 'Schedule E'.

For most service categories, the percentage attributed to Mode 1 from the survey data was reasonably close to that reflected in BEA's earlier exploratory estimates, which were based on application of the simplified approach recommended in the MSITS 2010. One exception was exports of computer services supplied remotely, where the survey data indicated a much higher percentage of services supplied via Mode 1 than BEA had previously estimated. Also, for education services survey results indicated that most services were supplied by teachers and trainers who go to the host country (Mode 4) rather than supplied remotely by teachers and instructors (Mode 1), which had been the dominant mode assumed for BEA's earlier estimates.

The residual of the percentage supplied through Mode 1 for most of the service categories covered by the modes of supply survey questions is attributed to Mode 4, with the exception of legal services, for which the residual is equally split between modes 2 and 4. For service categories not covered by the modes of supply questions, an enhanced application of the simplified approach, as recommended in the MSITS 2010, is used to allocate sales and purchases across the modes. BEA has begun collecting modes of supply information for financial services on its 2019 BE-180 Benchmark Survey of Financial Services Transactions Between U.S. Financial Services Providers and Foreign Persons.

In its [2022 Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons](#), BEA reframed its 2017 question that asked information about the percentage of services supplied through Mode 1 to focus on digitally delivered trade. It did this asking about the percentage of services supplied remotely via information and communications technology (ICT) networks. According to the IMF-

⁽¹¹⁶⁾ For more information on BEA's efforts to estimate trade in services by mode of supply, see Michael Mann, 'Measuring Trade in Services by Mode of Supply' BEA Working Paper, Washington, D.C., August 2019.

OECD-UNCTAD-WTO Handbook on Measuring Digital Trade ⁽¹¹⁷⁾, Mode 1 can, in practice, be considered equivalent to digitally delivered trade. BEA reframed its question because it judged that the concepts used to define digital delivery would be more accessible to survey respondents. In addition, the coverage of the survey question was expanded from 13 to 20 service categories, targeting all the categories for which digitally delivered/Mode 1 trade and trade via at least one other mode is feasible. Other changes were also incorporated, such as asking for the percentage to be reported as a numerical value (rather than asking respondents to check a box representing a range of values within which the percentage falls), and asking only once whether the information was primarily provided based on accounting records or recall/general knowledge of the U.S. reporter's operations (rather than for each service category).

5.4.3. Statistics Norway – development of a questionnaire for MoS data collection

Norway developed a web questionnaire for MoS compilation of modes 1, 2 and 4 in 2018. The aim of the project was to explore respondents' understanding of concepts and their ability to provide reliable data. This work was supported financially by the European Commission (Eurostat) via a grant. The project involved designing and testing a web questionnaire on a subset of the ITSS sample, selected based on export figures.

In the early stage of the project, a meeting with the Ministry of Foreign Affairs was arranged. The involvement of stakeholders and understanding their needs prior to the survey design was recognised as a very helpful and enriching experience.

A brief presentation of this work is included in this chapter for completeness. Full details can be found in Chapter 13.

During the testing phase, the primary focus was to investigate the responses to the survey questions and address problems in the questions: i.e.:

- Did the respondents understand the underlying concept of the different modes?
- Could they extract these data from their business records?
- How accurate would the allocation between the modes be?
- Other goals included assessing the response burden: is it a burdensome process?

The user test was divided into two main parts:

1. The respondents had the opportunity to read and comment on our draft questions.
2. The respondents could comment on the weaknesses or problems that had been uncovered in the first part.

The questionnaire covered both export and import. The testing was done by phone and the users were requested to allocate the values between all modes.

In the *final version* of the questionnaire, some important adjustments were made after the user tests. The first version of the questionnaire was tested on seven respondents and the questionnaire was adjusted based on the response and comments. The improved questionnaire, called the 'final version', was further tested on three respondents.

Questions on the accuracy of the estimates for the service types in question were added, aiming to investigate whether the modes vary by country. It was hypothesised that modes could differ between neighbouring countries and remote ones.

⁽¹¹⁷⁾ Handbook on Measuring Digital Trade, Second Edition: https://www.oecd-ilibrary.org/trade/handbook-on-measuring-digital-trade-second-edition_ac99e6d3-en.

6

Part B: Recommended methodology and estimation models

Estimating the modes of supply

This chapter describes the generic estimation method for MoS data compilation – the Eurostat-WTO model. This model is the starting point for compiling MoS statistics according to the data requirements set out in the EBS Regulation (Regulation (EU) 2020/1197).

6.1. Introduction

This chapter describes the generic estimation method for MoS data compilation – the Eurostat-WTO model.

The Eurostat-WTO model is based on official statistics, expert judgement, statistical modelling and estimation methods, other business statistics and administrative data sources. Generally, these approaches do not rely on country-specific assumptions and/or evidence, and they can be used irrespective of the country.

The first edition of the guide contained some first recommendations on more advanced methods that can be used to refine the generic model. This second edition of the Compiler's Guide further expands on the recommended methods that can be used to estimate modes of supply, including i) fine-tuning the Eurostat-WTO model's shares, ii) further clarifying advice on estimating goods values and distribution services, iii) using other available sources, and iv) modelling techniques. Moreover, the Eurostat-WTO model has been fine-tuned, based on empirical data and expert judgement.

The Eurostat-WTO model is generic and builds upon the approach suggested in the MSITS 2010 (known as the MSITS 2010 simplified approach), the MSITS 2010 Compiler's Guide and the experience of Eurostat, the WTO Secretariat (TiSMoS project) and MoS estimations from several countries. Both the Eurostat and WTO experiences were based on the MSITS 2010 guidelines as a basis, with some improvements, including the percentage distribution of each EBOPS category to the respective modes.

Before applying the model, some adjustments to the ITSS and FATS data should be made (see Sections 6.3.1 and 6.3.3).

The EBOPS 2010 classification is the best fit for the product-based classification used by trade negotiators. However, there are some cases in which the EBOPS classification partly deviates from the GATS / MoS needs, specifically:

- travel (which may include a wide variety of services and goods);

- construction (for which a large portion of the value is from goods components); and
- distribution services (most are not covered in EBOPS as their value is included in the value of goods traded).

EBOPS 2010 is the most commonly used classification for trade in services. Furthermore, the compilation systems of most countries currently use EBOPS 2010 for ITS data collection (the source data for modes 1, 2 and 4). Mapping Mode 3 (based on classification by economic activity, such as NACE or ISIC) to EBOPS brings some additional difficulties. The guide presents two ways to overcome this: mapping Mode 3 (NACE to EBOPS items using the mapping table of Table 6.3 (which allows countries to fulfil the requirements of the EBS regulation) or using an 'ISIC/EBOPS hybrid' classification by product (Annex I Table 1). In the future, a longer-term goal can be to develop trade in services and MoS statistics using a genuinely product-based classification such as CPC or CPA ⁽¹¹⁸⁾.

The rest of the Chapter is structured as set out below.

- Section 6.2 briefly presents the simplified approach of MSITS 2010.
- Section 6.3 presents the Eurostat-WTO model. The model consolidates the approaches developed by Eurostat (Eurostat-simplified model) and WTO (TiSMoS model) and is based on the simplified approach of the MSITS 2010.
- Section 6.4 discusses some limitations of the model and some reflections on the allocations of the modes of supply.
- Section 6.5 provides a summary of the recommendations on how to apply the Eurostat-WTO model.

Country examples on how to use the model in practice are included in Chapter 13.

6.2. The MSITS 2010 simplified approach

This section briefly presents the MSITS 2010 simplified approach, for completeness. The MSITS 2010 suggests a 'simplified approach' as a first step to produce estimates of services trade by mode of supply, starting from information available in the balance of payments and FATS domains.

The MSITS 2010 simplified approach is not a complete model that can be readily used by statisticians: for instance, it only provides advice on which modes should be considered for the allocation of each EBOPS item; however, it does not recommend actual shares for such allocation. The Eurostat-WTO model (presented in section 6.3 builds upon the simplified model and provides practical recommendations that can be used to compile MoS data.

The MSITS 2010 simplified approach can be summarised as follows:

- The FATS variables sales (turnover) and/or output provide information on Mode 3. Balance of payments services statistics generally correspond to modes 1, 2 and 4 (except for construction, which may be allocated to Mode 3 or 4).
- Each balance of payments services component (broken down according to EBOPS 2010) should be allocated to one dominant mode of supply. Where there is no single dominant mode, the allocation should be made to the most significant mode(s) of supply as suggested in MSITS 2010 Chapter V Table V.2, reproduced in Table 6.1 below.
- While trade in distribution services (that is, wholesaling and retailing) is included in the value of goods traded, separate estimation of trade margins would improve the estimation of the supply of services through Mode 1.

MSITS 2010 Table V.2 provides initial guidance on the estimation of trade in services by modes of supply covering the relevant EBOPS 2010 categories. If compilers encounter difficulties in implementing the

⁽¹¹⁸⁾ Table 2 of Annex VI to the EBS Regulation (Regulation (EU) 2020/1197) describes the suggested level of detail for a voluntary data transmission by the CPA classification.

allocation for detailed EBOPS 2010 items, the allocation may be limited to the higher level of aggregation of service transactions (i.e., the 12 main services items including, if possible, an estimation of distribution services).

MSITS 2010 stresses that the allocation may vary from country to country and recommends that compilers collect additional information to improve and extend on the simplified allocation. In particular for service sectors that are important for compiling economies, the estimations should be improved and refined over time based on how services are most commonly delivered in practice ⁽¹¹⁹⁾, following a three-step procedure of allocating, evaluating and refining the data:

1. **Allocate** each service item to the predominant mode in the transaction. This is, based on the assumption of how a specific service is most likely to be supplied by exporters (or to importers) of the economy (generic allocation).
2. **Evaluate** if the real distribution is comparable with the 'generic allocation'. For example, it may be worthwhile for the compiler to discuss with the institution in charge of trade in services negotiations whether the results reflect their knowledge of how services are supplied abroad and to their national economy, once considering transactions recorded in the BOPs. Checking whether the modelled data fits with the real data is also necessary.
3. **Refine** their allocation by gathering additional information to improve the representation of some specific service sectors. Such additional information can be gathered in cooperation with the national institutions in charge of trade in services and might validate the assumptions made earlier by statisticians or negotiators.

⁽¹¹⁹⁾ See MSITS 2010 para. 5.56-5.62 and Chapters 7 and 8 of this guide for more information.

Table 6.1: The MSITS simplified allocation of FATS and ITSS data to modes of supply^a

	FATS (sales or output) ^b	Balance of payments trade in services					
		Mode(s)					
		Mode 3	1	2	4	1 and 4	2 and 4
Manufacturing services on physical inputs owned by others	X		X				
Maintenance and repair services n.i.e.	X		X				
Transport	X	X					
Passenger	X	X					
Freight	X	X					
Other	X						
- Postal and courier services	X	X					
- Services to domestic carriers in foreign ports (and vice versa)	X		X				
- Other	X	X					
Travel			X				
Goods							
Local transport services	X		X				
Accommodation services	X		X				
Food-serving services	X		X				
Other services	X		X				
Construction	X						X
Goods							
Services	X						X
Insurance and pension services	X	X					
Financial services	X	X					
Charges for the use of intellectual property n.i.e. ^c	X	X					
Telecommunications, computer, and information services	X				X		
Telecommunications services	X	X					
Computer services	X				X		
Information services	X	X					
Other business services	X				X		
Research and development services	X				X		
Professional and management consulting services	X				X		
Technical, trade-related, and other business services	X						
- Architectural, engineering and scientific and other technical serv	X				X		
- Waste treatment and de-pollution, agricultural and mining serv	X						
* Waste treatment and de-pollution	X					X	
* Services incidental to agriculture, forestry and fishing	X			X			
* Services incidental to mining, and oil and gas extraction	X			X			
- Operating leasing services	X	X					
- Trade-related services	X	X					
- Other business services n.i.e.	X				X		
Personal, cultural, and recreational services	X				X		
Government goods and services n.i.e.							
Government goods n.i.e., credits and debits							
Government services n.i.e., credit							
Government services n.i.e., debits							
- Commercial services purchased in host economies							
* Government units in diplomatic and similar enclaves						X	
* Personnel from home economy and dependents			X				
- Other commercial services n.i.e. purchased by government						X	
- Non-commercial services acquired by government							
Distribution (wholesale, retail trade) services	X	X					

^a The allocation may vary from country (in respect of general needs as well as for specific sectors, data-collection system, resources, etc.)

^b In the economic territory where the affiliate is established. If it is not possible to break down sales or output by product using EBOPS 2010, then provide sales or output of services, broken down by activity using ICFA, Rev.1.

^c There is a certain degree of uncertainty about the coverage of certain charges for the use of intellectual property n.i.e. (see MSITS 2021, para. 5.43).

Source: MSITS 2010

6.3. The simplified approach in practice: the Eurostat-WTO model

This section describes the Eurostat-WTO model, which is an operational version of the MSITS 2010 simplified approach; it can be used to produce first estimates on the international supply of services based on existing statistics. The consolidated Eurostat-WTO model stems from the efforts of the two organisations, in cooperation with several countries. It builds upon and combines the experience acquired through two complementary exercises:

- The Eurostat-simplified approach ⁽¹²⁰⁾ was developed by Eurostat in cooperation with WTO and several countries. It builds upon the MSITS 2010. Eurostat has also developed a mapping table to allocate FATS turnover (Mode 3) by NACE to EBOPS items.
- The WTO Trade in Services by Mode of Supply (TiSMoS) project ⁽¹²¹⁾ is an experimental dataset produced by the WTO and funded by the European Commission's Directorate-General for Trade. TiSMoS covers 200 individual economies for the period 2005-2017. The European Union aggregate is available from 2010 to 2017. The information is broken down by service sector and refers to the economies' trade with the rest of the world.

Both approaches have the MSITS 2010 guidelines as a starting point. They use publicly available data from the ITSS (based on the EBOPS product classification) and FATS (based on the activities of the affiliates, reported according to the NACE classification) domains. The estimations are complemented with other data sources (such as tourism statistics, trade by enterprise characteristics (TEC), services trade by enterprise characteristics (STEC) and structural business statistics (SBS)).

The model consists of the following main steps:

- adjusting ITSS data (6.3.1);
- allocating adjusted ITSS data to one or more modes, based on the EBOPS item (6.3.2);
- adjusting FATS data (6.3.3);
- allocating adjusted FATS data to Mode 3 and to a specific EBOPS item, using the mapping table from main economic activity (NACE Rev. 2) to EBOPS 2010 (6.3.4).

As regards ITSS data, the model classifies each EBOPS item in one or more modes. As a first step, several adjustments are needed for certain items: (e.g., BOP travel and construction items are adjusted by singling out goods, and distribution services traded through Mode 1 are estimated from goods). Each EBOPS item is then assigned to one or more modes based on the MSITS 2010 suggestions and an expert assessment of how specific service items are most likely to be supplied to consumers. These assumptions were based on: (i) evidence and data from some EU countries; and (ii) expert opinion. The distributions provided are used for both trade flows and for all years. Generally (and in the absence of other evidence), the recommendation is to use the same allocation for all partner countries (a different allocation is suggested only for intra-EU construction trade).

For this second edition of the guide, the recommended standard shares for the ITSS data allocation to modes have not been revised. However, further advice has been provided to guide compilers on how the standard shares can be adapted to better fit the economic reality of the compiling country (see Section 6.3.2).

For the estimation of Mode 3, FATS economic variables are amended to cover only output sold locally. Furthermore, the results are presented using a bridge table, so that NACE/ISIC categories can be allocated to EBOPS items. For the second edition of the guide, the NACE Rev. 2 to EBOPS 2010 correspondence table has been further improved and fine-tuned to the EBS Regulation requirements (see Section 6.3.4).

⁽¹²⁰⁾ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services_trade_statistics_by_modes_of_supply#Applied_methodology

⁽¹²¹⁾ https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm

Data compilers are strongly encouraged to seek more evidence of how services are traded by their own country. They are advised to seek expert knowledge to adapt and fine-tune this consolidated model to better reflect the way services are provided. This can be achieved through contacts/interviews with the major players in each industry/field, dedicated surveys (or by including specific questions in the national enterprise surveys), or via desk research. It is recommended that such checks take place regularly, for example every 2 or 3 years.

To promote international comparability, the national practices and evidence-based assumptions should be recorded in the accompanying metadata information.

With the digitalisation of the economy accelerating in recent years, some assumptions made in the recent past (5-10 years) may need to be revisited, especially after the COVID-19 pandemic. These considerations are further discussed in Section 6.4.

In the following paragraphs, the steps needed to implement the consolidated model are described in detail. The sections describe separately the refinements and adjustments to make in the BOP and FATS data before merging the two datasets.

6.3.1. Step 1: BOP data collection and adjustments

The available balance of payments statistics, broken down by EBOPS category, represent the starting point of the Eurostat-WTO model. The assumption is that the compiling economy already produces international trade in services data by EBOPS, and (at least) major partner countries following the BPM6 framework. Specifically for EU/EFTA countries, reporting requirements for MoS data are stipulated in Annex I Table 38 of Regulation (EU) 2020/1197.

Several adjustments on the BOP data are required to meet the statistical definitions of international supply of services (as described in Chapter 2).

Excluding the value of goods

First, the value of goods included in some EBOPS items (travel, construction, maintenance and repair services and government goods and services) needs to be excluded or singled out. According to GATS, for MoS purposes only the services part of travel is relevant (i.e. services acquired by non-residents in the economy they visit).

Methods to estimate and single out the goods value are described in paragraph 6.3.1.1 (Travel) and 6.3.1.2 (Construction). As regards, maintenance and repair services ⁽¹²²⁾ and government goods and services n.i.e. the current recommendation is not to single out the goods value for these categories, as it is considered negligible in most cases; however, countries may include dedicated questions in the ITS survey, to capture any goods amounts in these items, if they so wish (see also 6.3.1.2).

Other adjustments

Second, the acquisition of inputs from residents of the host economy needs to be excluded from exports and imports of construction, being out of scope of the international supply of services as defined in Chapter 2 (see also Section 6.3.1.2). Finally, an estimate is needed of the services provided by wholesalers and retailers in the distribution of goods. In the BOP framework, those services are generally included indistinguishably in the value of the products sold and recorded in the goods account.

The main points for these adjustments are described in more detail in the following paragraphs. The full details are described in Chapters 7-10.

To apply the simplified approach at the required level of detail, first the data need to contain the service items

⁽¹²²⁾ As regards *maintenance and repair*, this refers to the value of parts and materials which may be included in the service price. Any parts or materials charged separately are excluded from services anyway; the value of the goods (on which the repairs take place) before and after the repairs is not included in the service price either (see MSITS 2010 3.79). Currently, compilers may have limited information to estimate the goods value in maintenance and repairs. Therefore, the current recommendation for this category is not to single out the value of the goods (parts and materials, used from the repairer while providing the service) for the MoS estimations. Moreover, the item for goods value in maintenance and repair is a voluntary item in the EBS Regulation.

presented in Table 6.2. Typically, a compiler will have information available at the required level of detail.

6.3.1.1. TRAVEL

The BOP *travel* item includes both goods and services acquired by non-residents in the economy they visit. However, only the services part is relevant in the context of modes of supply.

When the alternative presentation of travel by product is available, the identification of the service components is straightforward. This makes it possible to identify the goods that must be removed. When only the standard presentation of travel by purpose is compiled, estimates of the expenditure of foreign travellers on goods need to be produced to isolate the service component from business and personal travel, as well as from their subitems (see Section 8.3 for more details).

The share of goods acquired by non-residents can be estimated in one of the following ways:

1. The proportion of goods can be estimated on the exports side by using information on inbound tourism expenditure from tourism satellite accounts if available. Within the category of consumption products, if goods purchased by foreign travellers such as gifts and souvenirs are compiled, the ratio of goods acquired over total consumption products can be computed for all available years. In case of patchy coverage and small variations in the ratios across time, an average can be calculated by country over the available years. Using tourism statistics to estimate the proportion of goods in travel has some shortcomings as the concepts of tourism do not entirely match those of travel in BOP; moreover, detailed tourism statistics are mostly available on the inbound (exports) side. With some caution ⁽¹²³⁾, the export ratios could be applied on the imports, assuming the expenditure habits of travellers are similar.
2. Surveys of natural persons/households are another source ⁽¹²⁴⁾ providing information on the credit (exports) or debit (imports) side of tourism expenditure.
3. According to expert judgement or the knowledge of how services are supplied abroad and to their national economy.
4. Credit card data can be used to estimate the share of goods acquired by non-residents in the country. Depending on the associated merchant category code (MCC), for cards issued by non-resident banks, expert judgement can be used to allocate amounts to goods or services (see also Section 8.3.2).

6.3.1.2 CONSTRUCTION

The BOP item *construction* is reported on a gross basis. It identifies goods and services ⁽¹²⁵⁾ acquired from the residents of the economy where a construction project is taking place. However, the acquisition of inputs from residents of the host economy is excluded from the modes of supply framework (see Chapter 2) when the contractor establishes a commercial presence in the country where the construction project takes place (e.g. site office). This is the most likely scenario, and other cases may be difficult to identify in practice (i.e. where only Mode 4 is involved or where there is full subcontracting of the project, see Chapter 2). We therefore suggest removing completely the value of goods/services acquired in the country where the project is taking place (see Box 6.1 for a numerical example). This is also aligned with how FATS are treated (i.e. we do not measure the consumption of affiliates in host economy). For this reason, total exports and imports of construction are adjusted to only reflect the final value of construction work undertaken ⁽¹²⁶⁾ (i.e. the price paid by clients to contractors):

⁽¹²³⁾ Travel and expenditure behaviour are different for inbound and outbound travel from a country's perspective, as shown in Table 8.1.

⁽¹²⁴⁾ For instance, Poland used information from two surveys (on people and vehicles crossing the Polish border with the EU and on the participation of Polish citizens (residents) in travelling) to obtain estimates of the goods value.

⁽¹²⁵⁾ Construction services are very often captured by ITS enterprise surveys. Respondents are mostly requested to provide construction services according to the current definition in EBOPS, i.e. construction is valued on a gross basis, that is, inclusive of all goods and services used as inputs to the work (3.133 MSITS 2010).

⁽¹²⁶⁾ In TiSMOS, this correction reduces total construction flows by around 25 % on average.

- SE^* exports = construction abroad (SE1) exports
- SE^* imports = construction in reporting economy (SE2) imports.

If the sub-components of the construction item are not available, then the entire construction item (SE) can be used instead and allocated to modes 3 and 4 according to the best-estimated proportions.

The adjusted values need to be allocated to modes 3 and 4 (see MSITS 2010, paragraphs 5.53 and 5.54). The model recommends a 50-50 split in the general case (i.e. if further information on the typical situation of the country is absent). However, in the specific case of intra-EU construction, the recommendation is to minimise the allocation to Mode 3 to 10 %. The assumption is that in most cases, the operations can be completed without a commercial presence (i.e. for relatively small/short projects that an EU construction company may send workers registered in one EU country to work on temporarily in another EU country). Therefore, for intra-EU partners, the recommendation is to allocate 10 % of the SE values to Mode 3, and the remaining 90 % to Mode 4. Note that Construction is the only EBOPS item for which a Mode 3 allocation is considered (MSITS 2010, para. 5.54).

As already noted, following GATS, only the services part of construction should be taken into account. Given the current data availability (and irrespective of the correction SE^*), it may not be straightforward to identify separately the pure service component for construction. However, compilers can obtain a good estimate of the typical goods amounts included in a construction project, by interviewing some of the largest / most representative construction enterprises in the country that report trade in SE. This information can then be used to calculate the typical ratio of goods values in SE trade. Another approach is to directly ask the respondent (via the ITS Survey¹²⁷) to single out the goods involved in Construction services.

⁽¹²⁷⁾ This approach is used by Spain for Construction services as well as for Maintenance and repair services and Government goods and services n.i.e.

Box 6.1. A numerical example of the measurement of construction

Box III.6. A numerical example of the measurement of construction

Enterprise A, resident in economy A, undertakes construction in economy B valued at 10,260. To undertake the construction, enterprise A purchases inputs of materials and labour consisting of:

	Units
Materials (goods and services) and labour purchased in economy A	1 200
<i>Of which:</i>	
Goods	645
Services	120
Labour ^a	435
Materials and labour purchased from residents of economy B	6 655
<i>Of which:</i>	
Imported from economy A ^b	525
Imported from economy C	1 730
Sourced in economy B	2 290
Labour ^a	2 110
Total cost of purchased inputs	7 855
In addition, a gross operating surplus accrues to enterprise A of:	2 405
Giving a gross value of construction of:	10 260

The total value of construction is the sum of the inputs into the production process and the gross operating surplus accruing to the producing enterprise. Thus, the value of construction is 10,260 units.

What would be measured under construction between residents and non-residents?

In economy A	Units	In economy B	Units
<i>Construction abroad</i>		<i>Construction in the compiling economy</i>	
Credit	10 260 ^c	Credit	4 545 ^d
Debit	4 545 ^d	Debit	10 260 ^c

^a Labour (compensation of employees) is recorded as primary income in the macroeconomic statistics (see paras. 3.59-3.60 and chap. V for an explanation of the difference between service provision and the provision of labour). The labour purchased in economy B for 2110 was provided by residents of economy B, and will be recorded as compensation of employees in the primary income account of the balance of payments.

^b This is a transaction between a resident and a non-resident, as the goods are purchased from a resident of economy B by enterprise A. Although the goods were imported from A, they are now part of the stock of goods of economy B.

^c Gross value of construction.

^d Amount of goods and services purchased by enterprise A in economy B (the host economy), equal to 525 + 1730 + 2290 units (economy A debit; economy B credit).

Source: MSITS 2010

6.3.1.3. DISTRIBUTION SERVICES

In the balance of payments framework, the margins of wholesalers and retailers who buy goods before re-selling them are generally included indistinguishably in the value of the goods and recorded in the goods item. These margins, which represent the value of the supply of distribution services, should be separately estimated and included under Mode 1, as recommended by the MSITS 2010 and required by GATS.

Distribution services can be estimated by carrying out the following steps.

1. Estimating the amount of goods traded by the wholesale and retail industry.

This information is available in TEC data (exports of enterprises with a main activity in Section G). However, in TEC the amounts do not follow the change of ownership principle. It can be considered that most exports for enterprises in Section G will involve a change of ownership. In any case, the compiler may cross-check this assumption in cooperation with the ITGS and BoP colleagues in the NSAs.

2. Finding out the trade margin of the wholesalers and retailers.

This can be done, for example, using Eurostat SBS data ⁽¹²⁸⁾, by computing the share between the gross margins on goods for resale and turnover.

3. Multiplying 1 and 2 to obtain the estimation of distribution services.

Finally, the estimated distribution services are added to the trade-related services item under Mode 1.

Chapter 10 provides further details on estimating distribution services.

6.3.2. Step 2: allocation of EBOPS categories to modes of supply

Once BOP data have been collected and adjusted to modes of supply needs, trade values are distributed to one or more modes using a simplified allocation table (see [Table 6.2: Recommended default allocation by mode of supply according to the Eurostat-WTO model](#)). It is important to stress that such allocation shares reflect general assumptions and can be used when more detailed/country-specific information is not available.

The allocation of the items per mode is based on the simplified approach of the MSITS 2010. The recommended allocation shares are based on expert judgement and supported by empirical data in some cases. Transport of freight and passengers is allocated to Mode 1 regardless of the means of transport. Travel is allocated exclusively to Mode 2. There are several EBOPS items that are allocated exclusively to Mode 1 as due to their nature it can be safely expected that they will be traded remotely only. These are: insurance and pension services; financial services; and charges for the use of intellectual property n.i.e. These three items (as well as each of their subitems taken alone) are allocated 100 % to Mode 1, as also recommended in the MSITS simplified approach.

There are also some subitems that are allocated exclusively to Mode 1 (mainly telecommunications services, information services, sale of proprietary rights arising from research and development, operating leasing services and trade-related services).

In [Table 6.2: Recommended default allocation by mode of supply according to the Eurostat-WTO model](#), recommended allocations in the subitems might differ from those of their corresponding parent item. This occurs in transport; telecommunications, computer, and information services; personal, cultural, and recreational services; and other business services. Therefore, if data are available, the allocation of transactions at the more detailed level is encouraged. If only main categories are compiled, the corresponding recommended shares will apply.

National compilers are encouraged to gradually adapt the allocation shares to the reality of their own economies (see also Section 6.4 and the discussions in Chapters 7-9). Furthermore, it is recommended that compilers review the allocation shares at regular intervals (for example, every 2 to 3 years).

⁽¹²⁸⁾ Table [sbs_na_dt_r2](#).

Table 6.2: Recommended default allocation by mode of supply according to the Eurostat-WTO model

Level	EBOPS 2010		Mode type (%)			
	Category	Category description	M1	M2	M3	M4
0	ISS	International supply of services (incl. distribution services)				
1	S	Services				
2	SA	Manufacturing services on physical inputs owned by others		100		X
2	SB	Maintenance and repair services n.i.e.	X	90		10
3	SC	Transport	90	10		
		Alternative 1: mode of transport				
3	SC1	Sea transport	100			
4	SC11	Passenger (Sea)	100			
4	SC12	Freight (Sea)	100			
4	SC13	Other (Sea)		100		
3	SC2	Air transport	100			
4	SC21	Passenger (Air)	100			
4	SC22	Freight (Air)	100			
4	SC23	Other (Air)		100		
3	SC3	Other modes of transport	100			
4	SC31	Passenger (Other)	100			
4	SC32	Freight (Other)	100			
4	SC33	Other (Other)		100		
3	SC4	Postal and courier services	100			
		Extended classification of other modes of transport				
4	SC3A	Space transport	100			
4	SC3B	Rail transport	100			
4	SC3C	Road transport	100			
4	SC3D	Inland waterway transport	100			
4	SC3E	Pipeline transport	100			
4	SC3F	Electricity transmission	100			
4	SC3G	Other supporting and auxiliary transport services		100		
		Alternative 2: What is carried (For all modes of transport)				
3	SCA	Passenger (All modes of transport)	100			
3	SCB	Freight (All modes of transport)	100			
3	SCC	Other (All modes of transport)	50	50		
4	SC4	Postal and courier services	100			
4	SCC1	Other (All modes of transport – other than Postal and courier services)		100		
2	SD	Travel		100		
		Alternative 1: By product (preferred option)				
3	SD1	Goods (to be removed from travel)				
3	SD2	Local transport services		100		
3	SD3	Accommodation services		100		
3	SD4	Food-serving services		100		
3	SD5	Other services		100		
4	SD5z	Of which: Health services		100		
4	SD5y	Of which: Education services		100		
		Alternative 2: By purpose of travel (practical option)				
3	SDA	Business		100		
4	SDA1	Acquisition of goods and services by border, seasonal, and other short-term workers		100		
4	SDA2	Other (Business travel)		100		
3	SDB	Personal		100		
4	SDB1	Health-related		100		
4	SDB2	Education-related		100		
4	SDB3	Other (Personal travel)		100		

Level	EBOPS 2010		Mode type (%)			
	Category	Category description	M1	M2	M3	M4
2	SE	Construction			50	50
3	SE1	Construction abroad			50	50
3	SE2	Construction in the reporting economy			50	50
2	SE	Construction (special case of intra-EU trade)			10	90
2	SF	Insurance and pension services	100			
3	SF1	Direct insurance	100			
4	SF11	Life insurance	100			
4	SF12	Freight insurance	100			
4	SF13	Other direct insurance	100			
3	SF2	Reinsurance	100			
3	SF3	Auxiliary insurance services	100			
3	SF4	Pension and standardised guarantee services	100			
4	SF41	Pension services	100			
4	SF42	Standardised guarantee services	100			
2	SG	Financial services	100			
3	SG1	Explicitly charged and other financial services	100			
3	SG2	Financial intermediation services indirectly measured (FISIM)	100			
2	SH	Charges for the use of intellectual property n.i.e.	100			
3	SH1	Franchises and trademarks licensing fees	100			
3	SH2	Licences for the use of outcomes of research and development	100			
3	SH3	Licences to reproduce and/or distribute computer software	100			
3	SH4	Licences to reproduce and/or distribute audio-visual and related products	100			
4	SH41	Licences to reproduce and/or distribute audio-visual products	100			
4	SH42	Licences to reproduce and/or distribute other products	100			
2	SI	Telecommunications, computer, and information services	80			20
3	SI1	Telecommunications services	100			
3	SI2	Computer services	75			25
4	SI21	Computer software	75			25
5	SI21z	Of which: Software originals	100			
4	SI22	Other computer services	75			25
3	SI3	Information services	100			
4	SI31	News agency services	100			
4	SI32	Other information services	100			
2	SJ	Other business services	80			20
3	SJ1	Research and development services	90			10
4	SJ11	Work undertaken on a systematic basis to increase the stock of knowledge	90			10
5	SJ111	Provision of customised and non-customised research and development services	90			10
5	SJ112	Sale of proprietary rights arising from research and development	100			
6	SJ1121	Patents	100			
6	SJ1122	Copyrights arising from research and development	100			
6	SJ1123	Industrial processes and designs	100			
6	SJ1124	Other sales of proprietary rights arising from research and development	100			
4	SJ12	Other research and development services	90			10
3	SJ2	Professional and management consulting services	75			25
4	SJ21	Legal, accounting, management consulting, and public relations services	75			25
5	SJ211	Legal services	75			25
5	SJ212	Accounting, auditing, bookkeeping, and tax consulting services	75			25
5	SJ213	Business and management consulting and public relations services	75			25
4	SJ22	Advertising, market research, and public opinion polling services	75			25
5	SJ22z	Of which: Convention, trade-fair and exhibition organisation services	75			25
3	SJ3	Technical, trade-related and other business services	80			20

Level	EBOPS 2010		Mode type (%)			
	Category	Category description	M1	M2	M3	M4
4	SJ31	Architectural, engineering, scientific, and other technical services	75			25
5	SJ311	Architectural services	75			25
5	SJ312	Engineering services	75			25
5	SJ313	Scientific and other technical services	75			25
4	SJ32	Waste treatment and de-pollution, agricultural and mining services		10		90
5	SJ321	Waste treatment and de-pollution		75		25
5	SJ322	Services incidental to agriculture, forestry and fishing				100
5	SJ323	Services incidental to mining, and oil and gas extraction				100
4	SJ33	Operating leasing services	100			
4	SJ34	Trade-related services	100			
4	SJ35	Other business services n.i.e.	75			25
5	SJ35z	Of which: Employment services, i.e. search, placement and supply services of personnel	75			25
2	SK	Personal, cultural, and recreational services	75			25
3	SK1	Audio-visual and related services	70	10		20
4	SK11	Audio-visual services	70	10		20
5	SK11z	Of which: Audio-visual originals	100			
4	SK12	Artistic-related services	70	10		20
3	SK2	Other personal, cultural, and recreational services	75			25
4	SK21	Health services	75			25
4	SK22	Education services	75			25
4	SK23	Heritage and recreational services	75			25
4	SK24	Other personal services	75			25
2	SL	Government goods and services n.i.e. credits				
2	SL*	Government goods and services n.i.e. debits (commercial services only)	10	10		10
3	SL1	Embassies and consulates	10	10		10
3	SL2	Military units and agencies	10	10		10
3	SL3	Other government goods and services n.i.e.	10	10		10
1	S_DS**	Distribution services (from TEC data)	100			

Notes

*Only imports on a commercial basis are covered in terms of mode of supply. Non-commercial services are assumed to be 70 % of government goods and services n.i.e. debits.

** *Distribution services* is not an EBOPS 2010 standard category (in EBOPS it is included as part of the complementary item Total trade-related transactions); it is added for the Eurostat-WTO model.

Rows marked in bold denote items for which the standard model can always be used (i.e. it is not necessary to fine-tune the share distribution for these EBOPS 2010 items).

Cells with 'X' denote modes/items which are recommended for consideration when the compiler is fine-tuning their shares, via a survey, even if the share is considered to be negligible in the general case.

Recommended allocations in the subitems might differ from those of their corresponding item. This occurs in transport; telecommunications, computer, and information services; Other business services and personal, cultural, and recreational services. Therefore, if available, allocation at the more detailed level is encouraged. If only main categories are compiled, the corresponding recommended shares will apply.

The Eurostat-WTO model provides standard shares to be used in the default case. Nevertheless, compilers are encouraged to fine-tune the shares to better match the actual situation in the country. Model shares may be fine-tuned on a national level, collecting additional statistics, typically including questions in the ITS enterprise survey (see Chapter 7 and 13 for some national examples) or by interviewing some of the largest and/or most representative enterprises in each industry.

Fine-tuning the shares is only relevant for some types of services. Other types of services are always delivered by a specific mode; for instance, transport services are supplied via Mode 1 by convention, travel via Mode 2. Moreover, in many cases, a supply of a service via a non-standard mode is possible in theory but the involved amounts considered negligible in practice.

In Table 6.2, we mark in bold all rows corresponding to services for which the standard model can always be used, i.e. for these EBOPS items, it would not make sense to try fine-tuning the shares by using a survey question. For example, transport services (such as SC11, SC12) are allocated to Mode 1; support and

auxiliary transport services (such as SC13, SC23) belong to Mode 2.

The remaining rows (non-bold rows) denote all those EBOPS items for which it is envisaged that their shares may be fine-tuned (e.g. by using a survey).

For items SA and SB, a possible mode is noted with an 'X'. For these cases, although the supply of these services via the marked modes is theoretically possible, the share is considered negligible in the general case; thus a '0' share is recommended in the standard model. When the standard model shares are used, cases marked with an 'X' should be ignored. When a compiler chooses to fine-tune the share for such items, e.g. via a survey, then it is recommended that they allow for the possibility that the specific service could be supplied also via the mode marked with an 'X', in the wording of the corresponding question. For example, for manufacturing services Mode 4 is seen as a possible mode of supply (see also MSITS, para. 5.46). In addition, recent technological advances allow maintenance and repair services to also be supplied remotely via Mode 1 in some cases (i.e. repair of equipment / systems via a remote login).

MSITS 2010 para. 5.22 notes that services may actually be provided via a combination of several modes:

'A doctor, providing advice online to a foreign patient (Mode 1), may request his client to travel for an appointment with him (Mode 2), may decide to open a practice abroad (Mode 3), may relocate to work in his practice abroad (Mode 3 with a Mode 4 element) or simply travel abroad temporarily to treat an individual patient (Mode 4).

- A single service contract between an architect and his client abroad may cover the design of the construction project, its delivery to the client through electronic mail (Mode 1) and occasional visits to the country of the client during the implementation phase (Mode 4)....

- A lawyer working in a law enterprise travels abroad and establishes a business link with a client (Mode 4 movement, but initially no economic transaction), which may lead to the future supply of advisory work online to the client (Mode 1) and the attraction of new clients, who travel to consult the law enterprise (Mode 2)....'

MSITS 2010 para. 5.38 further mentions that:

'5.38. Some transactions covered by the balance of payments items listed above may also take place through other modes of supply, for instance:

- Transactions occurring through presence of natural persons (Mode 4), which are presumed to be marginal in these components.
- Transactions that involve elements of both Modes 1 and 4, like that involving an insurance agent travelling to discuss the terms of a contract (the insurance service would, for the most part, be produced in the country where the insurance enterprise is located). In such cases, it might appear reasonable to allocate the entire transaction to Mode 1.
- Transactions involving Mode 2 (like that involving the consumer of financial services who has travelled abroad to the supplier's offices to open a bank account). In general, these transactions are presumed to be marginal in these components. With respect to the determination of the mode of supply (1 or 2) for financial and insurance services, which is discussed in paragraph 5.23, MSITS 2010 recommends the full allocation of these transactions to Mode 1, unless this is an important issue in the compiling economy.'

The Eurostat-WTO model is based on the MSITS 2010 simplified approach and allocates EBOPS items to the dominant or most significant modes (see also MSITS 2010, para. 5.34). It is therefore recommended that, as a general rule, when compilers develop questionnaires to be used for fine-tuning the standard shares of the model, they include as options for each EBOPS item only the modes already considered in the Eurostat-WTO model.

The supply of services via an additional mode (not already noted in the model) may be explored only in exceptional cases (such as prior knowledge acquired by interviewing major actors in the market and when significant amounts are involved).

Adjusting the shares for covid pandemic years

The Eurostat-WTO model has been developed over several years, mostly before the COVID-19 pandemic of 2020. During 2020 and 2021, most countries worldwide imposed travel restrictions. Therefore, it is unrealistic to use the above shares for Mode 4 (when the EBOPS item is allocated between Mode 1 and Mode 4) for reference years 2020 and 2021.

The WTO developed a simple method to adjust the Mode 1 / Mode 4 shares for the reference years affected by COVID-19 and the associated lockdown measures, as during this time business travel was either not possible or minimal.

In this approach, the Mode 1 allocation shares are increased by 20 % for the respective years, as shown in the following example.

Consider SI2 computer services, for which the standard allocation is given in the model as:

75 % Mode 1 and 25 % Mode 4

For reference year 2020, international travel was severely reduced, therefore, the Mode 1 share is increased by 20 % to account for this, and the shares become:

90 % Mode 1 and 10 % Mode 4

Using increased Mode 1 shares is recommended for reference years 2020 and 2021.

For year 2022, several countries remained in lockdown for at least part of the year. For example, if in the compiling country travel was restricted for half of the year, then shares can be adjusted by a 10 % increase for Mode 1.

Another approach is to check the trend displayed by the business travel item between years 2018-2019 (i.e. pre-pandemic), years 2020-2021 (lockdown years) and from 2022 onwards. The observed trend can be used to increase the Mode 1 share by a corresponding amount.

The advantage of this method is that the trend in business travel can be checked and aligned to the specific partner area at hand (as the years and the duration of the lockdowns differed among the countries/continents).

Note that certain types of services have probably retained an increased Mode 1 share even after the travel restriction measures were fully lifted. For example, the provision of education services (SK22) remotely has increased significantly in recent years, as suppliers and consumers have adjusted to the supply of such services remotely. Compilers can therefore retain an increased Mode 1 share (by 10 %) for the post-COVID-19 years, although the amounts involved in this item are probably small in most cases.

When comparing travel amounts per year, compilers should also consider any significant increase in costs of international travel. In the last couple of years, there has been a general increase in the cost of travel (i.e., average cost of flight tickets / hotels) due to increased energy prices and other factors.

6.3.3. Step 3: FATS data collection and adjustments

Commercial presence, i.e., Mode 3, can be approximated using foreign affiliates statistics (FATS). This framework describes the activities of foreign-controlled affiliates in the reporting economy (inward FATS) and, conversely, the activities of majority-owned affiliates of resident enterprises established abroad (outward FATS). The MSITS 2010 (Chapter IV) provides recommendations regarding the FATS framework. In the EU, FATS data collection is covered in the EBS Regulation (Regulation (EU) 2019/2152). The most relevant variables for Mode 3 estimation are turnover and value of output.

The FATS framework classifies foreign affiliates according to their primary activity. The sales of foreign affiliates classified in one of the service industries under Sections D to S excluding O from the NACE Rev. 2 are considered for Mode 3 estimation. The affiliates operating in the manufacturing sector are not taken into account, except for maintenance and repair services (NACE C33). Ideally, secondary service activities of

enterprises in the manufacturing sector should also be considered. Currently, there is no straightforward method to identify such secondary activities, however some recommendations are provided in 6.3.4. This approach may overestimate the part of services on the one hand (e.g., if predominantly service enterprises also sell goods to the market as a secondary activity). On the other hand, other cases may be underestimated (such as for manufacturing enterprises, some of which also have service-oriented secondary activities).

The data availability of inward and outward FATS may differ, and some estimations may be needed. In the EBS Regulation, IFATS coverage has increased to include Sections P, Q, R, and K.

For OFATS, only net turnover is available; for IFATS, both net turnover and value of output are available.

Only services supplied to residents should be considered as Mode 3 supply of services; services supplied to non-residents should be excluded. If information (e.g., from tourism statistics) exists and indicates that a significant share of turnover is sold to non-resident individuals, this part should be excluded from Mode 3. Accommodation and food service activities; education; health services activities; or even arts, entertainment and recreation activities may present these characteristics. However, in general, affiliates in any other sector may also be exporting services to clients who are residents in other countries.

The FATS variable value of output is deemed to be the most pertinent measure of the international supply of services by mode, although in most cases turnover offers a very good measure as well. For wholesale and retail trade or financial intermediation, value of output should be used. In addition, similarly to what is described in Section 6.3.1 in the context of the balance of payments, FATS data also require some adjustments to fit the definition and scope of the service supply. These adjustments are described in more detail in the following paragraphs. Mode 3 estimation is described in detail in Chapter 9.

6.3.3.1. WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES (G)

The value of output is considered a superior measure of the service supply (see MSITS 2010, para. 5.65). For most service sectors, turnover (or sales) is equivalent to output, as also described in Section 9.5.1. However, for Section G *wholesale and retail trade; repair of motor vehicles and motorcycles*, the value of output should be used.

In the EBS Regulation, for Section G the value of output is available for IFATS only.

For OFATS, only net turnover is available. The value of output can be estimated using the average share between value of output and turnover, from IFATS or SBS data.

For the EU, the ratio of value of output to turnover for Section G is about 28 % (see Section 9.5.1). Therefore, when the value of output is not available for Section G (as is the case for OFATS), it can be estimated as 28 % of the corresponding turnover.

6.3.3.2. FINANCIAL AND INSURANCE ACTIVITIES (K)

For the financial sector, the value of output should be used whenever it is available.

In the EBS Regulation, for reference years 2021 onwards, SBS and IFATS data contain full coverage for Section K and both net turnover and value of output are available.

For OFATS, only net turnover is available. The turnover value can be corrected using the implied ratio from SBS data (see Section 9.5.1 for details).

Using the value of output is suggested for some other divisions as well, beyond Sections G and K (see Chapter 9 and Table 6.3).

6.3.3.3. ISOLATING OUTPUT SOLD LOCALLY

As described in Chapter 2, only the output sold locally (i.e. in the economy where the affiliate is located) constitutes supply of services via Mode 3. The affiliates' exports are considered Mode 1 of the economy where the affiliate is established and are captured by international trade in services statistics (this includes any exports to the affiliate back to the country of origin).

The share of output sold locally may be directly derived from FATS published at the national level by subtracting the exports (or imports) of goods and services from the production (or turnover) value. If exports (or imports) are not available, the breakdown of FATS turnover by residence of client needs to be estimated using, for instance, information available from TEC and STEC data. Both data collections provide a breakdown of goods and services trade by control status of the trading enterprise.

6.3.4. Step 4: merging the data sets using an EBOPS 2010-NACE Rev.2 correspondence table

EBOPS 2010 is mostly a product-based classification (which is more in line with the approach adopted in many trade agreements, including the GATS), whereas FATS variables follow a breakdown by activity, namely NACE Rev. 2 (or ISIC Rev.4). MSITS 2010 recommends presenting results by product.

Furthermore, the EBS Regulation stipulates that results are broken down by mode as well as by EBOPS item. Therefore, a bridge table is necessary to map NACE rev.2 categories to EBOPS 2010, so that results can be presented by mode and by type of product.

Table 6.3 presents the revised mapping table. This table is based on the mapping tables of the first edition of the guide. For completeness these mapping tables are included in Annex I.

The table 6.3 describes a mapping at the level of NACE Rev.2 divisions/groups, and EBOPS 2010 subitems, needed to achieve the most detailed level of disaggregation required in the EBS Regulation. Eurostat developed this table, using the aggregated tables as a starting point, by comparing the description of each NACE Rev.2 division/group/class⁽¹²⁹⁾ and the description of EBOPS 2010 items in the MSITS 2010.

Under the EBS Regulation, FATS data are reported at a higher level of aggregation than the mapping of items in Table 6.3. This is not contradictory as the table merely describes the recommended type and level of detail of statistical information necessary to compile MoS statistics according to the Regulation. Such detailed information may be communicated internally within the National Statistical Authorities (NSAs), to allow the compilation of the full detail of MoS data by EBOPS items.

Table 6.3 also suggests a possible method for identifying Mode 3 trade in manufacturing services. Foreign-controlled enterprises in Section C – manufacturing may also be selling manufacturing services (e.g. selling ‘machine time’, or services on physical inputs owned by others, etc.). Compilers may identify these cases by targeting those enterprises that report trade in SA and that are foreign controlled. Compilers may approach the largest / most representative of these enterprises and enquire if they also provide such services to domestic clients. Alternatively, such information may already be available from secondary activities.

As regards OFATS, compilers may approach domestic parents (controlling large manufacturing affiliates abroad) to enquire if the affiliates supply manufacturing services.

The aggregated mapping table (Annex I, Table 2) may still be used if less detail is required in the reporting (for instance, for the first years of implementation of the EBS Regulation for MoS). In any case, Eurostat recommends that NSAs already take steps to apply the detailed correspondence table that allows compilation of MoS data at the most disaggregated level as required in the Regulation and with an improved quality of data.

Table 1 of Annex I presents the equivalent mapping using the ‘hybrid’ EBOPS items, that overcomes some of the difficulties when mapping NACE items to EBOPS; this table is used in the WTO’s TiSMOS project.

⁽¹²⁹⁾ NACE Rev. 2 Statistical classification of economic activities in the European Community, available at: <https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-07-015>

Table 6.3: EBOPS 2010 - NACE Rev. 2 correspondence, disaggregated level

EBOPS code	Description	NACE Rev.2	Description	%
SA	Manufacturing services on physical inputs owned by others	-	Foreign controlled enterprises with main activity in Section C may also be trading <i>manufacturing services</i> . Cases may be identified by enquiring those enterprises that: <ul style="list-style-type: none"> - are foreign controlled and - report international trade in SA. This can be done on a sample level (interview some of the largest/most prominent foreign-controlled enterprises that report SA trade), and/or with a dedicated sub-question in the ITSS survey, or by micro-data linking (FATS/SBR and SBS if secondary activities are known). A similar approach can be used to identify secondary activity in SB.	
SB	Maintenance and repair services	C33	Repair and installation of machinery and equipment	100
		G45.2	Maintenance and repair of motor vehicles	100
		S95	Repair of computers, personal, household goods	50
SC1	Sea transport	H50	Water transport <i>If values for inland transport (50.3 and 50.4) are known, they should go to SC3.</i>	100
SC2	Air transport	H51	Air transport. <i>Space transport is in H51 (51.22). If values are known, they should go to SC3.</i>	100
SC3	Other modes of transport	D35.12	Transmission of electricity	100
		H49	Land transport and transport via pipelines	100
		H52	Warehousing and support activities for transportation	100
SC4	Postal and courier services	H53	Postal and courier activities	100
SD	Travel	-	-	-
SE	Construction	F	Construction	100
SF	Insurance and pension	K65*	Insurance, reinsurance and pension funding, except compulsory social security	100
		K66.2*	Activities auxiliary to insurance and pension funding	100
		K66.3*	Fund management activities	25
SG	Financial	K64*	Financial service activities, except insurance and pension funding	100
		K66.1*	Activities auxiliary to financial services, except insurance and pension funding	100
		K66.3*	Fund management activities	75
SH	Charges for the use of intellectual property	N77.4	Leasing of intellectual property and similar products, except copyrighted work	100
S11	Telecommunication services	J61	Telecommunications	100
S12	Computer services	J62	Computer programming, consultancy and related activities	100
		J58.2	Software publishing	100
		S95	Repair of computers, personal, household goods	50

EBOPS code	Description	NACE Rev.2	Description	%
SI3	Information services	J63	Information service activities	100
		J58.1	Publishing of books, periodicals and other publishing activities	100
SJ1	Research and development services	M72	Scientific research and development	100
SJ2	Professional and management consulting	M69	Legal and accounting activities	100
		M70	Activities of head offices; management consultancy activities	100
		M73	Advertising and market research	100
SJ3	Technical, trade related and other business services	D35.13	Distribution of electricity	100
		D35.14*	Trade of electricity	100
		D35.2	Manufacture of gas; distribution of gaseous fuels through mains	100
		D35.3	Steam and air conditional supply	100
		E	Water supply; sewerage, waste management and remediation activities	100
		L	Real estate activities	100
		M71	Architectural and engineering activities; technical testing and analysis	100
		M74	Other professional, scientific and technical activities	100
		M75	Veterinary activities	100
		N77 exc. 77.22, 77.4	Rental and leasing activities (excluding 77.22 and 77.4)	100
N78-82	Employment, travel agency, security. Office administrative/support activities <i>Exc. part of 79.1 - commissions for Transport; if values are known, they go to SC3 (see MSITS 3.251).</i>	100		
SK1	Audiovisual and related services	J59	Motion picture, video and television programme production, sound recording and music publishing activities	100
		J60	Programming and broadcasting activities	100
		N77.22	Renting of video tapes and disks	100
SK2	Other personal, cultural and recreational services	I	Accommodation and food service activities	100
		P	Education	100
		Q	Human health and social work activities	100
		R	Arts, entertainment and recreation	100
		S94	Activities of membership organisations	100
		S96	Other personal service activities	100
	Distribution services	G* excl. 45.2	Wholesale and retail trade; repair of motor vehicles and motorcycles <i>If values are known for 45.2, they should be recorded under SB.</i>	100

Note:

Turnover value should be used - except for the activities marked with an asterisk for which value of output should be used.

Source: Eurostat, adapted from Annex I Table 2.

6.4. Limitations of the Eurostat-WTO model and areas for future work

The Eurostat-WTO model presented in this chapter is the first step for national compilers to measure trade in services by mode of supply. It builds on existing statistics, applies only a few adjustments, and is aligned with the simplified allocation Table V.2 in MSITS 2010. The model readily allows for MoS data estimation with minimal cost, while ensuring cross-country comparability. Furthermore, the model uses a revised NACE Rev.2 to EBOPS 2010 mapping table for compiling Mode 3 data by EBOPS.

However, despite its advantages, notably ensuring cross-country comparability, the joint model has some shortcomings. Some, as explained earlier in the chapter, are intrinsically linked to the way statistics are compiled in international standards. For example, distribution services are part of MoS according to GATS but not part of EBOPS; thus, the margin of wholesalers and retailers in cross-border goods trade must be estimated from goods values. Some EBOPS sectors such as travel and construction include the value of goods purchased by non-residents during their stay abroad, or acquired from the economy where the construction project takes place. In some cases, there may not be a straightforward way to estimate the goods part.

For estimating services supplied through Mode 3, the model relies on the turnover / value of output of foreign-controlled affiliates classified by activity rather than by product (services vs goods), as these business statistics (FATS) are compiled by economic activity (and not by product). On the other hand, trade in services is compiled by EBOPS; it is not always straightforward to achieve a mapping of these two classifications. This limitation is inherent in statistics and, inevitably, also affects the joint model. The revised mapping table described in this edition of the guide partly overcomes some of these issues. Better mapping tables between the two classifications can be developed; on a national level, STEC data may offer a way forward in this respect.

There are further issues with using FATS for Mode 3 estimation; in many cases it is difficult to split goods sales from services sales. This issue is linked to distinguishing sales from secondary activities of an enterprise.

In the context of the revision of BPM6, launched in 2020, national compilers may be encouraged to identify services separately in transactor-based items in the new BPM7, to be published in 2025 (note that the BPM update was not fully finalised at the time of writing this guide). This area of future work will have a direct impact on the Eurostat-WTO model in the longer term.

Perhaps the most important shortcoming of the joint model relates to the allocation of fixed modal percentages over time. On one side, this facilitates the task of compilers. On the other side, it does not take into account ongoing changes in business models resulting from technological progress and digitalisation, in trade policy, or, more recently, health-related travel restrictions. In this second edition, more concrete advice is provided on how the model shares can be fine-tuned. Furthermore, the specific potential modes per EBOPS item are now clarified (Table 6.2). These issues require regular revisiting as technological breakthroughs keep making more types of services tradeable remotely via Mode 1.

For example, *maintenance and repair services*, which can only be supplied via Mode 2 according to MSITS 2010, can now be provided by remotely controlled machines⁽¹³⁰⁾, thus through Mode 1. Similarly, construction is allocated only to modes 3 and 4. However, the construction sector is increasingly making use of advanced technology such as drones for the aerial surveillance of building projects and construction through automated modular 3D printing in factories, thus providing services through Mode 1.

Following the COVID-19 pandemic, which has imposed restrictions on international travel, the offer of online courses has expanded. Distance learning, for example, may become a cheaper alternative for students worldwide who are unable to travel abroad to pursue higher education. As a result, the relative share of

⁽¹³⁰⁾ Nowadays, some maintenance, repair or similar services can be provided over the internet, as the service provider can have full access to many types of machines via remote login.

education services supplied through Mode 1 is expected to increase. Another example is the serious impact on the supply of services via Mode 4, where the service supplier physically travels to the economy of the service consumers, which is partially or totally replaced by virtual meetings/webinars/conferences – again supplied through Mode 1. The revised guide provides concrete recommendations on how to deal with pandemic years (although the first reference year for the EBS Regulation requirements is 2023).

These are just a few examples of recent developments which have an impact on how services are supplied, suggesting that the 'priors' in allocation table presented in the Table 6.2 might need to be revisited in the next years. Eurostat recommends that national compilers continuously reflect on how the standard shares allocated to modes relate to their national set-ups, and how they may evolve over time.

6.5. Summary of guidance notes

This section summarises how the Eurostat-WTO model can be used in practice:

- Adjustments: To meet the requirements of the MSITS 2010, the BOP and FATS data should be refined – e.g. subtracting the goods from the EBOPS 2010 items: maintenance and repair (if possible); travel; construction, and government goods and services (if relevant, as amounts will typically be negligible). In FATS data, goods turnover should be excluded, as well as turnover sold to non-resident clients (see Chapter 9 for more details).
- EBOPS allocation: Starting from EBOPS 2010 items and subitems, a national compiler can, in the absence of surveys or other evidence, estimate modes 1, 2, and 4 using the shares provided in the consolidated Eurostat-WTO model, which merges the Eurostat and TiSMoS models (see Table 6.2).
 - The consolidated model provides shares to be used. Data availability and other practical considerations may guide the compiler to use the more aggregated option or the more detailed one.
 - For any of the suggested shares, the national compiler may use additional sources to fine-tune the allocation shares to represent more accurately the compiler's economy, as also described in Section 6.3.2 and Chapters 7 and 8.
- Mode 3 and FATS data: Starting from FATS turnover and value of output, compilers can estimate Mode 3 and use a mapping approach (Table 6.3) to present Mode 3 by EBOPS items as requested by the EBS Regulation.
- Distribution services (estimated from trade in goods statistics) should be added to Mode 1 (see also Chapter 10).

This chapter presented the standard model for estimating MoS using the simplified approach and the Eurostat-WTO model. Further details for each mode are presented in the following Chapters 7 to 9.

7

Part B: Recommended methodology and estimation models

Estimating Mode 1 and Mode 4

There are several types of services that can predominantly be supplied through Mode 1 and/or Mode 4. This chapter describes recommended approaches to allocating balance of payments services transactions to these two modes.

The standard allocation shares for each EBOPS item are described in the Eurostat-WTO model (see Chapter 6). These shares can be used in the absence of further information.

This chapter focuses on possible recommended estimation methods and gives some suggestions on how to collect relevant data via existing data collections. The methods are based on practical experience and approaches developed by several countries.

7.1. Introduction

This chapter focuses on the services that are delivered by Mode 1 or/and Mode 4. The GATS states that:

- Mode 1 (cross-border supply) takes place when a service is supplied 'from the territory of one [WTO] Member into the territory of any other Member' ⁽¹³¹⁾ and
- Mode 4 (presence of natural persons) takes place when an individual is temporarily present in the territory of an economy other than their own to provide a service.

There are some services ⁽¹³²⁾ (such as legal, health, architectural and education services) that may be supplied either through Mode 1 or 4, or both. That implies that compilers need to identify Modes 1 and 4 in transactions, or estimate and allocate the respective shares to the two modes. The precise identification or allocation can be only achieved via surveys, interviews with enterprises, or based on expert knowledge. As this is not always easy in practice, a pragmatic approach in the absence of better information is to allocate the transactions to the predominant mode(s) and use the standard allocation shares for each EBOPS item, as already described in the consolidated model in Chapter 6.

⁽¹³¹⁾ 'Territory' refers to the economic territory of a WTO Member.

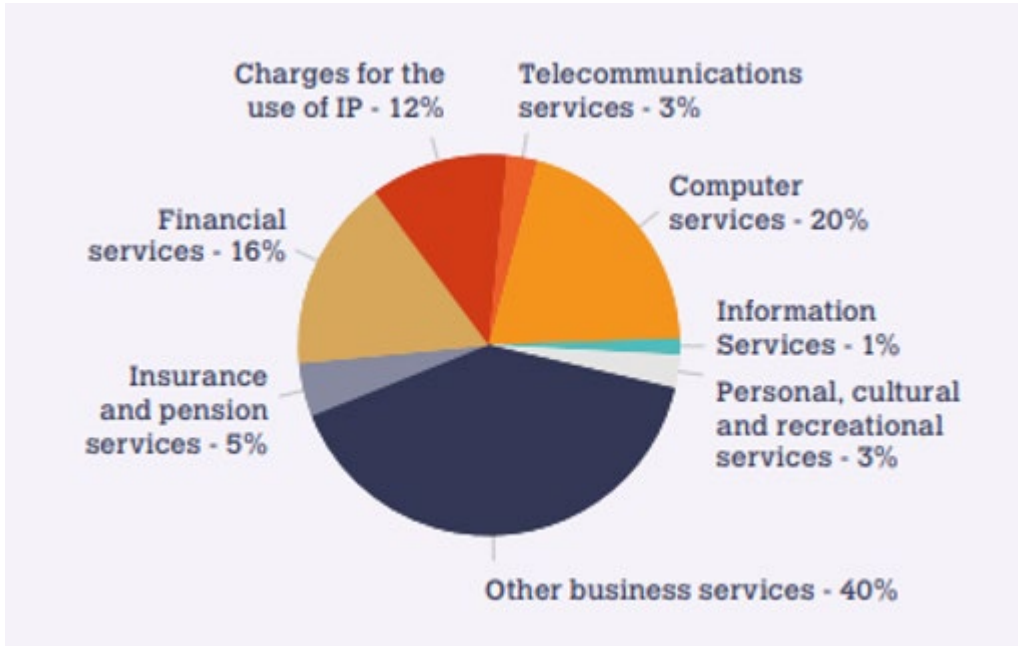
⁽¹³²⁾ See also Chapter 2, Section 2.2.1.

This chapter provides recommended estimation methods, discusses the relevant data sources and presents some ideas on how data could be collected using existing data collection systems. The methods are based on experience and approaches developed by several countries.

The chapter also discusses the relationship between Mode 1 and digital trade (digitally delivered services).

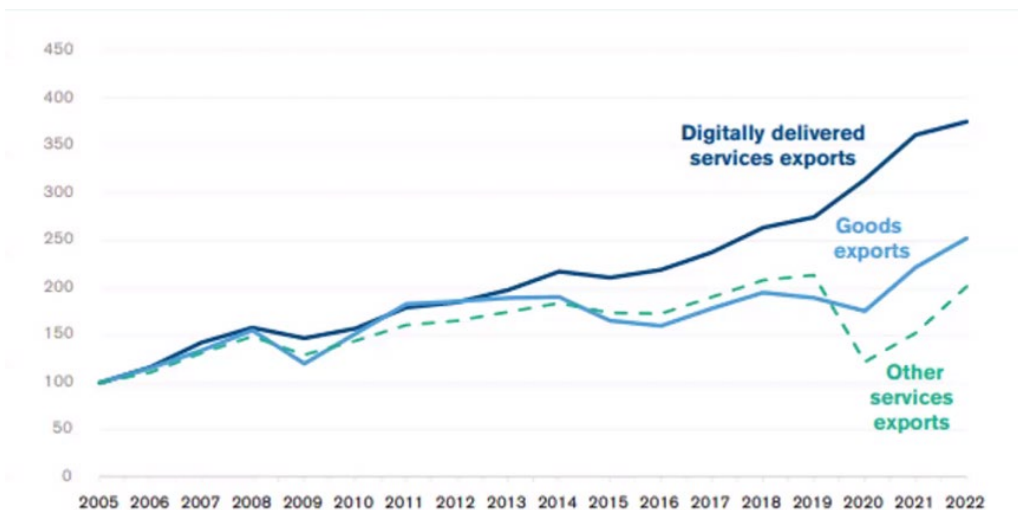
Figure 7.1. Global exports of digitally delivered services by broad EBOPS 2010 items

(Share in total exports of digitally delivered services through Mode 1, 2022)



Source: WTO ⁽¹³³⁾

Figure 7.2. Global exports of digitally delivered services (Index 2005 = 100)



Source: WTO *Global Trade Outlook and Statistics 2023*.

⁽¹³³⁾ Digitally delivered trade, Chapter 4: https://www.wto.org/english/res_e/booksp_e/digital_trade_2023_e.pdf

7.2. Estimating a split between Mode 1 and Mode 4

Several EBOPS items can be allocated both to Modes 1 and 4, as presented in the standard Eurostat-WTO model (see Chapter 6). In the absence of a data collection system to enable a more informed allocation of transactions to modes, the model provides recommended allocation shares to be used. The shares allocation is based on the simplified approach of the MSITS 2010, expert judgement and some evidence based on research and experience from several countries worldwide.

The following items, and their subitems, could be relevant for both modes 1 and 4:

- Telecommunications, computer, and information services (SI),
- Other business services (SJ),
- Personal, cultural, and recreational services (SK),
- Government goods and services n.i.e. credits (SL).

For example, the Eurostat-WTO model indicates that 75 % of computer services (SI2) is allocated to Mode 1, and 25 % to Mode 4, as typically computer services are increasingly provided remotely via Mode 1 (see Table 6.2). A share of 25 % is allocated to Mode 4 to account for the cases where the service provider must travel abroad to provide the service (e.g. in case of customised software provision).

Compilers may choose to further refine the standard allocation shares to better reflect the situation in the national economy. For example, compilers may use an enterprise survey to obtain the allocation shares between Modes 1 and 4. Section 7.3.2 summarises the US approach as an example of using a survey to refine the Mode 1 / Mode 4 allocation. Similar examples based on surveys are described in detail in Chapter 13.

Apart from using a survey, other practical methods can be employed to refine the allocation, such as expert judgement, or estimations of the digitally delivered services trade.

7.2.1. Digitally delivered trade and Mode 1

By definition, Mode 1 includes all ‘digitally delivered services’ (delivered via computer networks, i.e. the web/internet, mobile devices, extranet, electronic data interchange). However, Mode 1 also includes all other services delivered remotely such as transport services, which are not delivered digitally. The latter type of services would not be included in the definition of digitally delivered trade as they do not make use of computer networks.

The way services are ordered does not have any impact on how the mode used to supply them is determined. In other words (as the name implies), only the way the service is supplied is important to determine the mode. Therefore, whether a service was *digitally ordered* or not is of no consequence when deciding the mode of supply.

Thus, trade in digitally delivered services is closely related to Mode 1, although the two concepts are not exactly the same. The second edition of the IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade ⁽¹³⁴⁾ defines ‘digitally delivered trade’ as ‘*All international trade transactions that are delivered remotely over computer networks*’. The handbook also presents a list of digitally deliverable services, i.e. those services that can potentially be delivered digitally.

These concepts build upon the definition of *ICT-enabled services* developed by the UNCTAD-led Task Group on Measuring Trade in ICT Services and ICT-enabled Services ⁽¹³⁵⁾ (TGServ).

⁽¹³⁴⁾ https://www.wto.org/english/res_e/booksp_e/digital_trade_2023_e.pdf

⁽¹³⁵⁾ United Nations Conference on Trade and Development (UNCTAD), Technical Notes on ICT for Development N°3, available at: https://unctad.org/system/files/official-document/tn_unctad_ict4d03_en.pdf.

If a service can be delivered digitally, it does not automatically mean that the service itself is always and exclusively digitally deliverable. For example, computer services can be digitally delivered (over the internet, i.e. Mode 1), but certain types of projects (such as development of complex, tailor-made software solutions) may require the service provider's staff to be physically present at the customer's premises (i.e. Mode 4). For such cases the Eurostat-WTO model suggests a standard allocation between Mode 1 and Mode 4 (see Chapter 6).

Annex D of the Handbook on Measuring Digital Trade provides a table of allocation by mode of supply of services digitally deliverable, based on the Eurostat-WTO model.

This partial overlap between Mode 1 and digitally delivered services means that the data could be collected via a single survey that deals with both concepts at the same time. Potentially, it will be easier for respondents to answer a question on the share of services delivered remotely via the internet and/or other digital networks, rather than answering a question referring to Mode 1 (as the concept of 'mode of supply' may not be as widely known compared to the one of digital trade). In this way, asking for the digitally delivered part of specific EBOPS 2010 items will in practice be equivalent to asking for the Mode 1 share of the delivered services.

7.2.2. Adjusting the allocation shares according to the location of the partner country/area

In the Eurostat-WTO model, the allocation to modal shares is time invariant and does not depend on the partner country (the only exception is construction). However, services are traded differently with different partner countries. For example, services are more traded via Mode 4 with neighbour (or close) partner countries, and, particularly with countries where trade agreements exist, or which are part of economic unions. Therefore, EU countries may choose to allocate intra-EU and extra-EU services to Mode 4 in different ways. Compilers may test this assumption, for example, by interviewing selected major service exporters / importers. For EU countries, a general assumption can be that Mode 4 is smaller for extra-EU trade than for intra-EU trade.

7.2.3. Adjusting the model for the Covid-19 related restrictions

As noted in Chapter 6, the assumptions of the Eurostat-WTO model are based on the knowledge acquired in recent years. Those assumptions may not hold in light of the pandemic situation due to the restrictive measures taken such as sanitary and travel limitations. Travelling restrictions took place in most countries between 2020 and 2021. Therefore, as the movement of people has been significantly reduced, it is reasonable to assume a sharp decline in business travel (Mode 4) and tourism (i.e., Mode 2, reflected by the EBOPS travel item).

A practical method can be developed by looking at the reduction in the travel item (i.e., business travel in particular) between the pre-COVID years and year 2020 (and/or 2021). For example, the EU's travel exports (credits) from extra-EU countries ⁽¹³⁶⁾ went down by 66 %, going from EUR 156 billion on average to EUR 52 billion in 2020. This reduction (or part of it) should be reflected in the reduction of services supplied through Mode 4 in 2020 (as Mode 4 occurs through business travel). Consequently, shares allocated to Mode 4 may be corrected to a third of the original share. For example, the original 75-25 allocation of *computer services* to modes 1 and 4 respectively would become 91.75-8.25 (where the respective share is calculated as $8.25 = 25 / 3$). Therefore, in this example 91.75 % of *computer services* in 2020 would be allocated to Mode 1 and 8.25 % to Mode 4 to account for the reduction in travel due to the pandemic restrictions (see also the discussion in Section 6.3.2).

⁽¹³⁶⁾ Average EU travel exports for 2017, 2018 and 2019. Data can be accessed here: <https://ec.europa.eu/eurostat/databrowser/bookmark/f51876b1-6f2e-4a7c-bd46-f6527ec97a70?lang=en>

7.3. Country examples and experience

7.3.1. Austrian approach in estimating Modes 1 and 4

The starting point when compiling ⁽¹³⁷⁾ modes 1 and 4 is Chapter V MSITS Modes 1 and 4, 5.50. If detailed balance of payments services statistics are compiled (that is, according to EBOPS 2010), it may be easier to allocate some of the transactions in cases where Mode 1 is deemed to be the dominant mode, before subsequently concentrating on the remaining transactions.

The compilation of services exports by Mode 1 should follow the recommendation for ‘dominant mode of supply’ in the MSITS 2010. For those services where either Mode 1 or 4 (or 2) may be the dominant mode, and which differ from ICT-enabled services according to the UNCTAD definition, the volumes reported by single enterprises must be linked with register data to identify the industry by NACE code. Then the reported volumes can be displayed by NACE and EBOPS category. Reporting of the dominant mode is necessary only for industries other than knowledge-intensive industries or high or medium-technology. The detailed description of the approach and the exact codes list constituting the knowledge-intensive industries are presented in Chapter 13.

7.3.2. The US Experience with Estimating Modes 1 and 4 and Trade in Digitally Delivered Services

The US Bureau of Economic Analysis (BEA) began collecting information on mode of supply via its 2017 BE-120 Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons ⁽¹³⁸⁾. The survey asked respondents to report the percentage of services supplied through Mode 1 for 13 service categories in other business services and personal, cultural and recreational services. The residual of the percentage supplied through Mode 1 for the service categories covered by the modes of supply questions is attributed to Mode 4, with the exception of legal services, for which the residual is evenly split between modes 2 and 4. For service categories not covered by the modes of supply questions, an enhanced application of the simplified approach, as recommended in the MSITS 2010, is used to allocate sales and purchases across the modes.

BEA plans to use information from its questions on mode of supply to refine its estimates of trade in digitally delivered services. BEA currently publishes statistics on trade in potentially ICT-enabled services, which include services that *can* predominantly be delivered remotely over ICT networks (digitally delivered), without identifying the services that *are* delivered over ICT networks. Although they are not the same, the concepts of Mode 1 and digital delivery are quite similar. Information that BEA collects on the percentage of services supplied through Mode 1 would enable BEA to refine its estimates of digitally delivered services by serving as an upper-bound estimate of the value of cross-border trade in services that is actually digitally delivered.

7.4. Summary of guidance notes and recommendations

This section summarises the main recommendations helping to estimate transactions taking place through Mode 1 and Mode 4:

- The standard allocation shares for each EBOPS item, as described in the Eurostat-WTO model in Chapter 6, can be used if no evidence-based national data are available to allocate shares between Mode 1 and Mode 4.

⁽¹³⁷⁾ This approach was developed by the Austrian Central Bank OeNB and Statistics Austria; Version 29.10. 2020.

⁽¹³⁸⁾ For more information on BEA's efforts to estimate trade in services by mode of supply, see Michael Mann, 'Measuring Trade in Services by Mode of Supply' BEA Working Paper, Washington, D.C., August 2019.

- Compilers may further refine the standard allocation shares to better reflect the situation in the national economy.
- The mode of supply is determined by the way the services are delivered and not how they are ordered, e.g. only 'digitally delivered services trade' is within the scope and could be used as an approximation for Mode 1.
- The list of digitally deliverable services can serve as an indication for the underlying mode of supply⁽¹³⁹⁾.
- The importance of services supplied through Mode 4 may be dependent on which territories the parties to the transaction are located (i.e., distance or existence of a trade agreement).
- For years where considerable variations in the EBOPS 2010 business travel item are observed, an impact could be expected on the share distribution between Mode 1 and Mode 4 (most likely the same proportion will be mirrored).

⁽¹³⁹⁾ https://www.wto.org/english/res_e/booksp_e/digital_trade_2023_e.pdf

8

Part B: Recommended methodology and estimation models

Estimating Mode 2

This chapter focuses on Mode 2 recommended estimation methods. It provides detailed information on how to identify data sources, and suggestions on how to collect relevant data via existing data collections and frameworks.

8.1. Introduction

This chapter focuses on Mode 2 (Consumption abroad), providing recommendations on estimation methods and highlighting the use of tourism statistics as an auxiliary data source. It also looks at estimating and singling out the share of goods in the EBOPS items constituting Mode 2 transactions.

Mode 2 takes place when the service is supplied 'in the territory of one Member ⁽¹⁴⁰⁾ to the service consumer of any other Member' (see Chapter 2 for full definition and practical examples). This most notably occurs in the travel services item and its subitems (local transport services, accommodation services, food-serving services, health and education services); manufacturing services on physical inputs owned by others, and maintenance and repair services n.i.e. Typical examples for Mode 2 are tourist activities such as visits to museums and theatres or travel abroad to receive medical treatment or follow language courses.

Other types of services that may (partly or entirely) belong to Mode 2 are:

- maintenance and repair services – for example, goods belonging to the resident of a country can be relocated to another country to facilitate the supply of services, as is the case with machine maintenance abroad (e.g. ship repair abroad);
- manufacturing services on physical inputs owned by others;
- some specific transactions of transport services (see Chapter 2);
- part of waste treatment and depollution;
- part of audio-visual and related services;
- services purchased on a commercial or competitive basis in host economies by government units based in diplomatic and similar enclaves. Members of these categories continue to be residents in their home economies even if they live outside the enclaves. The expenditure of diplomats, etc., in their host economies is included in government goods and services n.i.e. (MSITS 2010, para. 3.14).

⁽¹⁴⁰⁾ 'Member' here refers to a WTO member country.

8.2. Sources for estimating Mode 2

The following sections set out the suggested data sources for calculating Mode 2. The recommendation is to consider including some additional questions in the questionnaires used for collecting the respective data for the BOP travel services item and tourism data, enabling the services delivered via Mode 2 to be identified (see Chapter 5).

8.2.1. Balance of payments Travel item

The BOP system registers all economic transactions taking place between resident and non-resident units/agents in cross-border travel (within a maximum of one year), irrespective of the reason and frequency. Therefore, and despite the difficulties in achieving exhaustiveness, the BOP travel item is the primary source for estimating Mode 2 involving movement of natural persons.

The credits (exports) of the EBOPS travel item correspond to the consumption expenditure of travellers staying less than a year⁽¹⁴¹⁾ in the economy of reference and are allocated as Mode 2 exports in the international supply of services. On the debit side, the travel item value is allocated as Mode 2 imports.

The travel item in the BOP records the consumption of non-residents during their visits to the territory of another economy and comprises the bulk of the transactions that correspond to Mode 2. Unlike the majority of the other services categories, 'travel' does not correspond to a specific product. It is transactors-based (based on the economic operators involved): when non-residents consume services in an economy that they are visiting, their consumption is recorded in this category. Thus, travel encompasses a range of goods⁽¹⁴²⁾ and services consumed (for own use or to be given away) by non-residents in the economy that they visit. It covers stays of any length, provided that there is no change in residence.

It is important to note that the goods value contained in the BOP travel item is not relevant for the modes of supply compilation (see MSITS 2010, para. 5.44). These goods fall outside that scope; only the services part of travel must be considered.

Box 8.1. Travel and goods for resale in BOP Goods and Services account

10.19 Goods for resale acquired by travellers while on visits (sometimes called shuttle trade) are included in general merchandise. Because the intent of this travel is not to acquire goods for personal use – recorded under travel – but to engage in business and make a profit, the goods acquired and sold are recorded under general merchandise.

10.89 Goods or services acquired by persons undertaking study or receiving medical care while outside their territory of residence are included in travel. Acquisitions of goods and services by border, seasonal and other short-term cross-border workers in their economy of employment are also included in travel. Acquisitions of goods and services by diplomats, consular staff, military personnel and so forth and by their dependants (but not locally hired staff and their dependants) in the territory in which they are posted are included under government goods and services n.i.e.

10.90 Travel excludes goods for resale, which are included in general merchandise. Also included in general merchandise is the acquisition of valuables (such as jewellery), consumer durable goods (such as cars and electric goods), and other consumer purchases for own use or to give away that are included in customs data in excess of customs thresholds.

Source: Sixth edition of the IMF Balance of payments manual (BPM6)

⁽¹⁴¹⁾ It should however be noted that students and patients do not change residence, no matter how long they stay abroad.

⁽¹⁴²⁾ As noted above, although the BoP travel item includes goods and services, in GATS and Mode 2 only the services part is considered.

In addition to the aggregate measure of travel exports (credits) and imports (debits), BPM6 and EBOPS 2010 recommend the compilation of further breakdowns of travel. These breakdowns can be used not only to assess the scope of travel activities and gauge their possible impact in terms of economic activity, but also to disaggregate the single item of travel expenditure into parts that can be used in related statistics (such as the tourism statistics, tourism satellite account or supply and use table) more accurately.

8.2.2. Tourism statistics as an auxiliary data source

The concept of travel, as defined in MSITS 2010, is closely related to the concept of tourism. It is therefore advisable that MoS compilers understand the conceptual framework of tourism statistics, including the Tourism Satellite Account (TSA). The Tourism Satellite Account is a standard statistical framework and the main tool for the economic measurement of tourism. It was developed by the UN World Tourism Organisation (UNWTO), the OECD, Eurostat and the UNSD. Detailed descriptions are available in the following publications: International Recommendations for Tourism Statistics 2008 (IRTS 2008) ⁽¹⁴³⁾, Tourism Satellite Account: Recommended Methodological Framework (TSA: RMF 2008) ⁽¹⁴⁴⁾ and in the Compilation Guide for Tourism Statistics ⁽¹⁴⁵⁾. The TSA: RMF 2008 provides the updated common conceptual framework for constructing a TSA.

As regards the compilation of Mode 2, tourism data sources can be a useful auxiliary source. For example, they can be used to estimate the amount of goods in the travel item (see 13.2.2 for more details). However, they should be used with caution as they typically have a qualitative nature, describing the visitor's profile, origin and destination, the kind of product consumed, etc.

The TSA integrates in a single format data about the supply and use of tourism-related goods and services and provides a summary measure of the contribution tourism makes to production and employment. It allows tourism to be compared with other industries, since the concepts and methods used are based on the System of National Accounts. The TSA output is composed of 10 tables ⁽¹⁴⁶⁾ that set out details of the kind of visitor according to residence, destination (own country or abroad) and time spent at the destination (tourist or same-day visitors) and in terms of the purpose of the trip (personal or business); also the kinds of products and activities involved in tourism demand and supply.

Concerning the compilation of TSA inbound expenditure, despite the availability of the BOP travel data, national accounts are the preferential data source because tourism is part of the reference country's economy. Then the compilers should use the same source and method used in national accounts: for example, one of the best methods for estimating inbound hotel consumption in national accounts is to multiply the prices per night by the number of nights spent in hotels ⁽¹⁴⁷⁾.

Transactions covered by the TSA include not only inbound and outbound expenditure covered by the BOP travel item, but also expenditure covered by the BOP items related to the international transport of passengers. TSA could be empowered to exclude the trade in passenger transport from Mode 2 and instead be allocated in Mode 1.

8.2.3. Other sources

Sources for Mode 2 movements of persons are likely to be the same as those used for the collection of travel information, such as household ⁽¹⁴⁸⁾, border and labour surveys. For incoming Mode 2 persons, specific surveys targeting students, medical personnel and tourists could be used as well as border surveys. Often the data will need to be combined with other sources, such as administrative data on border counts or entry and departure cards, to obtain relevant data on the number of Mode 2 movements/persons (see MSITS 2010

⁽¹⁴³⁾ See: https://unstats.un.org/unsd/publication/Seriesm/SeriesM_83rev1e.pdf.

⁽¹⁴⁴⁾ See: https://ec.europa.eu/eurostat/documents/747990/748067/SeriesF_80rev1e.pdf/332f8c58-a10d-4bdc-93c7-2a10e1901bdf.

⁽¹⁴⁵⁾ See: <https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-01/E-IRTS-Comp-Guide%202008%20For%20Web.pdf>.

⁽¹⁴⁶⁾ The TSA tables are presented in detail in Chapter 4 of the [Tourism Satellite Account: Recommended Methodological Framework 2008](#).

⁽¹⁴⁷⁾ The method is more complex because prices and number of nights are split by type of accommodation.

⁽¹⁴⁸⁾ Values calculated from household surveys need to have sufficient metadata accompanying them, as there are likely to be large sample errors associated with them.

Compiler's Guide for useful sources used in the same country).

The MSITS 2010 Compiler's Guide suggests using administrative records in the compilation of statistics on the international supply of services; however, one must consider the advantages and limitations. Advantages include reduction of costs, reduction in reporting burden by companies, filling of data gaps, and improvement in statistical business registers. Typical limitations are restrictions on access to information due to confidentiality, methodological differences with the statistical standards, consistency issues, timeliness, and other quality concerns (MSITS 2010 Compiler's Guide, Chapter 9).

Referring to administrative data, the tax refund system may be one useful source for investigating expenditure on goods of extra-EU travellers. Through the tax refund, the extra-EU tourists who are staying in Europe and making purchases can request a VAT refund, following the local procedure for reimbursement at the end of their travels.

Another alternative source is payment card data. Payment card records can be a valuable source for the compilation of travel statistics. Using the information reported by payment card institutions, it is possible to obtain the number and value of purchases and withdrawals made at resident ATMs and points of sale using cards issued abroad (by foreign entities), and likewise, purchases and withdrawals made abroad with cards issued by resident bodies. In addition, payment card data can contain information on certain characteristics associated with the cards, such as whether it is a personal or business card, the payment method and the amounts spent with non-resident cards on resident POS and vice versa.

Such data can provide, on a monthly basis, a significant measure of travel expenditure in terms of both credits and debits.

Box 8.2. Card-based payment transactions

(7) In order to monitor cross-border trade and improve the overall quality of the information required to compile balance-of-payments statistics, in particular on the item on travel and transport and the item on online trade in goods and services (e-commerce), further details of card-based payment transactions are required. The collection of statistical information on the merchant's sector of activity by means of the merchant category code (MCC) and the collection of card-based payment transactions on a worldwide basis allow for in-depth analysis of international payment transactions and an accurate allocation of payments across the various categories of goods and services.

For the same reason, reporting agents should be required to report these statistics quarterly and within shorter deadlines to enhance their relevance and utility and contribute to the compilation of quarterly balance of payments.

Source: Regulation (EU) 2020/2011 of the European Central Bank amending Regulation (EU) No 1409/2013 on payments statistics (ECB/2013/43) (ECB/2020/59) ⁽¹⁴⁹⁾.

8.2.4. Big data sources - mobile phone data

Recently, mobile phone data (MPD) have been recognised as one of the most promising big data sources ⁽¹⁵⁰⁾ for the study of different social and economic phenomena, as they offer improved timeliness of data, data granularity and accuracy in time and space compared to the conventional and existing data collections. MPD could be used as a complementary source to estimate the 'travel and international transport of passengers' item of the BOP.

In 2018, the Bank of Italy started a collaboration with one of the major European Mobile Network Operators

⁽¹⁴⁹⁾ See: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R2011>.

⁽¹⁵⁰⁾ See also the *Handbook on the Use of Mobile Phone Data for Official Statistics* developed by the UN Global Working Group on Big Data for Official Statistics, available at: <https://unstats.un.org/bigdata/task-teams/mobile-phone/MPD%20Handbook%2020191004.pdf>.

to explore the use of MPD for a more accurate estimate of the number of travellers visiting/leaving Italy each month (inbound and outbound flows), while still using the border survey to capture other relevant information not provided by MPD, such as expenditure, the main reason of the visit and so on.

In 2021 MDP has become an integral part of the travel estimation process, and the nationality of the phone operator that issued the SIM is used as a proxy of the traveller's residence.

The counting procedure using MPD is based on connections/disconnections of SIM cards from mobile phone cell towers located near the borders: the arrival of a foreign traveller at the Italian border is signalled by the connection of a mobile phone with a foreign SIM card to the cells controlled by an Italian operator. Likewise, the disappearance of the signal of a customer with an Italian SIM card near the border indicates that the traveller has left Italy. To avoid the typical noise near the borders due to the handover effect between two phone cells located across the border, the SIM should be recorded abroad for a minimum period of 30 consecutive minutes. The mobile network operator has defined some 'transit corridors' for each border crossing point. A 'transit corridor' is given by a sequence of two or more phone cells along the road/rail crossing: a mobile phone must be connected to all of them in order for the person concerned to be classified as an international traveller. The transit corridors also enable identification of the means of transport used when the road and railway are close by (and they run through the same phone cell nearest the border).

8.3. Focus on excluding goods from the travel item

The BOP travel item includes both goods and services acquired by non-residents in the economy they visit. Only the services value is relevant for Mode 2.

Although services make up an important part of visitor consumption in the travel item, visitors also purchase goods for and during their trip. In certain cases, the purchase of goods might be the purpose of the trip itself, as in the case of a shopping trip to factory outlets or to special duty-free zones. The value of goods such as gifts, souvenirs and other articles that are purchased by visitors for their own use or to give away while on trips and that may be taken out of the economies visited are included in tourist statistics and in the BOP travel item. However, MSITS 2010 recommends that the value of goods should not be taken into account when computing modes of supply values, as only the services part is relevant for MoS purposes.

Therefore, the recommendation is that the value of the goods in the travel item should be estimated and removed when compiling the Mode 2 exports and imports. This paragraph describes several methods that can be used to do this.

Travel consumption is valued using the full purchasers' price of goods that includes the full price paid by the visitor or others for their benefit, potentially net of any value added tax (VAT) or sales tax refunded to non-resident visitors as they leave the country.

Although the acquisition of goods is part of travel consumption for their whole value at purchasers' prices, it is only the retail trade activity associated with the goods acquired by visitors that will be considered as serving the visitors ⁽¹⁵¹⁾.

It should be noted that the value of goods purchased by travellers also contains an amount of distribution services (see Chapter 10 on distribution services) that represents services activity deriving from shopping (this situation is similar to the distribution margins topic (distribution services) into Mode 1 – see Chapter 10). However, since MSITS 2010 is silent on this issue and calculating the retail trade margin for goods acquired by non-resident travellers is not straightforward, the recommendation for compilers is to simply exclude the goods value from the travel item and allocate the remaining amount to Mode 2.

⁽¹⁵¹⁾ When establishing tourism shares, which are values required for the calculation of tourism direct gross value added, the value of the retail trade margin is used to estimate the value of the output of the service provider who makes the good available to the visitor. The remaining value of goods purchased by visitors is deemed not to generate tourism shares and not to generate tourism direct gross value added but only indirect effects (TSA: RMF 2008).

8.3.1. Exclusion of the goods value from the travel item

With regard to the methods to be used for the exclusion of goods from the travel item, the compilers have different alternative solutions depending on data availability in the respective countries. Generally, three situations are distinguished:

- a) The BOP travel item already provides a separate supplementary breakdown of travel into types of goods and service. If the travel supplementary breakdown is available, then the share of goods in the total value of travel exports/imports is calculated directly and subsequently subtracted from business and personal travel (and their subitems).
- b) The travel supplementary items (travel: goods and travel: services) are not available; in this case estimation methods such as those used in Eurostat – WTO model can be applied (see Section 6.3.1.1) ⁽¹⁵²⁾.
- c) The BOP travel item has a separate supplementary breakdown of travel into types of goods and service and the country produces TSA. In this case, the share of goods in the total value of travel exports/imports is calculated directly.

8.3.2. Some national estimations of the goods in the travel item

This section gives several real-world examples of methods used by countries to calculate the share of the goods in the travel item. Compilers are encouraged to use the method(s) most suited to their specific national set-ups.

The amount of the goods expenditure in the travel item varies considerably among the EU countries who have managed to estimate these values and depends considerably on the specific characteristics of each economy. Table 8.1 presents some country estimations of the goods part.

Austria, Germany, Spain and Poland have estimated the relative shares of services in travel. Most of these countries could provide information on both exports and imports ⁽¹⁵³⁾, distinguishing partner extra-EU, intra-EU and the rest of the world (Austria and Poland), world (Germany) and any country of the world (Spain). The main sources for these estimations consisted of:

- household survey for travel expenses (DE)
- tourism statistics (ES)
- guest survey, credit card data, demand survey (AT)
- household survey, border survey (PL).

The Bank of Italy disseminates the travel EBOPS breakdown in a regular and timely manner through microdata and pivot excel files (unfortunately, not all these files are available in English).

While Poland and Austria could provide a breakdown by (1) Local transport services, (2) Accommodation services, (3) Food-serving services and (4) Other goods and services, Germany and Italy could only provide the first three.

The tourism statistics in Spain provide a breakdown of expenditure between goods and services, and for services a breakdown between local transport services, accommodation services, food-serving services, and other services. Spain cannot single out the percentage of education services and health services within other services (see Section 13.2.5).

⁽¹⁵²⁾ See also: https://www.wto.org/english/res_e/statis_e/daily_update_e/Tismos_methodology.pdf.

⁽¹⁵³⁾ Germany could provide information only for Imports with partner World.

Table 8.1: National estimates of goods expenditures in the total travel item (%)

	2018		2019		Average estimates	
	Exports	Imports	Exports	Imports	Exports	Imports
EU-28 ⁽⁷⁾	27.0	32.0				
Denmark ^{(1), (2)}					32.6	32.0
Germany ⁽⁶⁾						39.0
Italy ^{(7), (9)}	17.6	14.0	17.1 ⁽¹⁰⁾	12.7 ⁽¹¹⁾		
Hungary ^{(1), (3)}					36.0	
Lithuania ^{(1), (4)}			38.7	17.7		
Portugal ^{(1), (5)}	25.7	35.5				
Poland ⁽⁶⁾					72.4	34.3
Poland ⁽⁷⁾	28.0	34.0				
Spain ^{(1), (8)}	16.7	13.7	16.7	13.9		

Notes:

(1) Source: as reported to the Eurostat Task Force on MoS (April 2021).

(2) The debit (imports) percentage comes from payment card statistics (with some assumptions) and the credit side (exports) percentage is from the national centre for promoting tourism in Denmark, so the numbers are not 100 % valid.

(3) Goods and services are not clearly separable in all cases of travel. Therefore only those items were excluded which can be clearly considered as goods, such as purchases of 'food and drink', 'fuels', 'other purchase (gifts, souvenirs e.g.)'. The value of those items on average in 2015 and 2016 (monitored years) was about 36 % of exports.

(4) The contribution from non-EU shoppers from neighbouring countries is taken into account. Statistics Lithuania and Bank of Lithuania do not compile the share of goods part in the travel item for their own needs, so the estimation is preliminary and might be reviewed if this information is needed for statistical production.

(5) Share of goods in total tourism imports/exports.

(6) Source: MoS Methodological Questionnaire presented at the MoS TF meeting of February 2018.

(7) Partner World.

(8) Partner Intra/Extra-EU; estimations based on tourism statistics.

(9) Calculations based on BOP data.

(10) 20.0 % in 2020.

(11) 16.0 % in 2020.

Further details on country approaches for estimation of the goods value in the travel item are given in Section 13.2.

8.4. Mode 2 covering movement of property

Mode 2 also covers services provided when a consumer's property is located outside the territory of residence to facilitate the supply of services. Examples include ship repair, machine maintenance abroad and certain transport services.

Within transport, supporting and auxiliary services that are provided to resident carriers in non-resident ports or to non-resident carriers in resident ports should be allocated to Mode 2, if they can be identified separately.

Mode 2 also covers maintenance and repair services n.i.e. and manufacturing services on physical inputs owned by others if the property of the consumer is moved so the service can be supplied. Note that the word 'property' is used here in the sense of a fixed asset. For example, if a consumer sends a physical copy of their accounting records to the country of the supplier for that supplier to provide accounting services, the supply of the accounting services would not be considered Mode 2 (MSITS para. 5.46). See also Section 2.1 for further discussion.

Mode 2 transactions in *other business services* can include transactions in waste treatment and de-pollution, agricultural and mining services. Specifically, shipment of radioactive and other waste for treatment, waste treatment and de-pollution services and services incidental to agriculture, forestry and fishing, mining, oil and gas extraction are judged to include significant elements of Mode 2.

Sources for estimating Mode 2 transactions covering movement of property are likely to be the same as those used to measure the BOP items for which Mode 2 transactions occur. However, given that these types of transactions may also be supplied by other modes, particularly Mode 4, supplementary information on how

the service was supplied would be needed. For example, ITSS used to estimate maintenance and repair services may be used to collect information on the share of transactions that are supplied via Mode 2 if combined with information on the mode from trade in services survey questions.

8.5. Mode 2 in government goods and services

Services purchased in host economies by diplomats, consular staff, and military personnel working in government enclaves and their dependants by government units that are based in diplomatic and similar enclaves are also considered to be provided via Mode 2, if they are provided on a commercial or competitive basis ⁽¹⁵⁴⁾. These transactions are included in government goods and services n.i.e. in the BOP accounts. However, unless they are deemed relevant for the compiling economy, MSITS 2010 does not recommend separate identification of these transactions, as their share of total government goods and services n.i.e. is believed to be relatively small.

In the Eurostat-WTO model the allocation share of government services to Mode 2 is set to 10 % of the imports (debit side of the item government goods and services).

8.6. Summary of guidance notes and recommendations

The compilation of Mode 2 is mainly based on the travel item under the BOP framework. The primary sources for these calculations vary among countries – however, the following are mostly used: tourist expenditure surveys (for travel exports); residents travel survey (for travel imports); payment cards data related to external transactions settled with bank cards issued against accounts in the country; and information from the households surveys (travel imports).

The general recommendation is to include some extra questions in the existing enterprise / persons / border / household questionnaires used for the compilation of the primary data, enabling the people travelling to foreign economies and using services there to be identified, and residents to be separated from non-residents falling under the Mode 2 supply of services.

The main recommendations for estimating Mode 2 are summarised below.

- It would be helpful to produce further breakdowns of the *travel* item (for example, using administrative sources, or payment card data by merchant category code level).
- Estimate and remove the values of the goods from Mode 2, for the EBOPS items:
 - Travel
 - Maintenance and repair services, and Government goods and services n.i.e. (if possible)

A possible way forward for separating the goods part from services in the travel item may be weighting up the travel receipts and expenditures by ratios calculated from the annual data of Tourism Satellite Accounts.

⁽¹⁵⁴⁾ Extraterritorial government enclaves are residents of their home territory rather than of the host territory in which they are physically located. Therefore, the commercial services consumed are supplied cross-border or through the presence of natural persons.

9

Part B: Recommended methodology and estimation models

Estimating Mode 3

This chapter focuses on Mode 3 recommended estimation methods. It gives detailed information on how to identify the data sources and compile Mode 3.

9.1. Introduction

As defined in the MSITS 2010 for both goods and services and explained in Chapters 2 and 6, services may be supplied internationally not only through transactions between residents and non-residents that are recorded in balance of payments (BOP) accounts (broadly covering modes 1, 2 and 4), but also through the establishment of a commercial presence abroad (Mode 3). For services, the method of serving foreign markets via establishment of a commercial presence is particularly important because often it is the only method that permits close and continuing contacts between service providers and their customers.

Mode 3 transactions are generally not covered in the BOP system of accounts, as, strictly speaking, they are resident-to-resident transactions supplied by an affiliate of a multinational enterprise. The statistics describing the overall operations of foreign-controlled affiliates are called foreign affiliates statistics (FATS). In the EU, FATS data requirements are stipulated in the [European Business Statistics regulation](#). The FATS are recognised in the international statistical community as a useful starting point for measuring Mode 3. Some adjustments and refinements are needed to derive Mode 3 estimates from FATS statistics and those refinements (although already mentioned in Chapter 6) are described in more detail in this chapter.

Recent studies ⁽¹⁵⁵⁾ show that, in the European Union, Mode 3 is predominant; in 2020 59 % of the EU total international supply of services (covering all four modes of supply, i.e. including ITSS and FATS services) are supplied to non-EU countries through EU-controlled affiliates established in non-EU countries (i.e. via Mode 3).

Principles for recording FATS are in line with international statistical standards, especially those governing the measurement of foreign direct investment (FDI) within BPM6 (see MSITS 2010, Box IV. 1 and the OECD Benchmark Definition of Foreign Direct Investment, 4th edition (BD4) ⁽¹⁵⁶⁾). A precondition for the establishment of a foreign affiliate is generally the development of investment flows leading to an FDI relationship.

⁽¹⁵⁵⁾ See: https://ec.europa.eu/eurostat/statistics-explained/index.php/Services_trade_statistics_by_modes_of_supply.

⁽¹⁵⁶⁾ <https://www.oecd.org/daf/inv/investmentstatisticsandanalysis/40193734.pdf>

9.2. Definition and collection of inward and outward FATS

FATS cover both foreign-controlled affiliates resident in the compiling economy (inward FATS) and foreign affiliates abroad controlled by the compiling economy (outward FATS). Under the GATS, countries make commitments with respect to the services that are supplied in their own economies by suppliers of other economies (rather than services they supply abroad). Therefore, from a GATS perspective, the data most directly related to commercial presence are those on the activities of foreign affiliates in the domestic economy (inward FATS). Outward FATS data may be used for approximation of the inward flows and bring insights into the country's commercial presence abroad.

In the EU and EFTA countries, as well as in several non-EU countries, both inwards and outwards FATS are well-established statistical collections ⁽¹⁵⁷⁾.

Box 9.1. Collecting inward and outward FATS

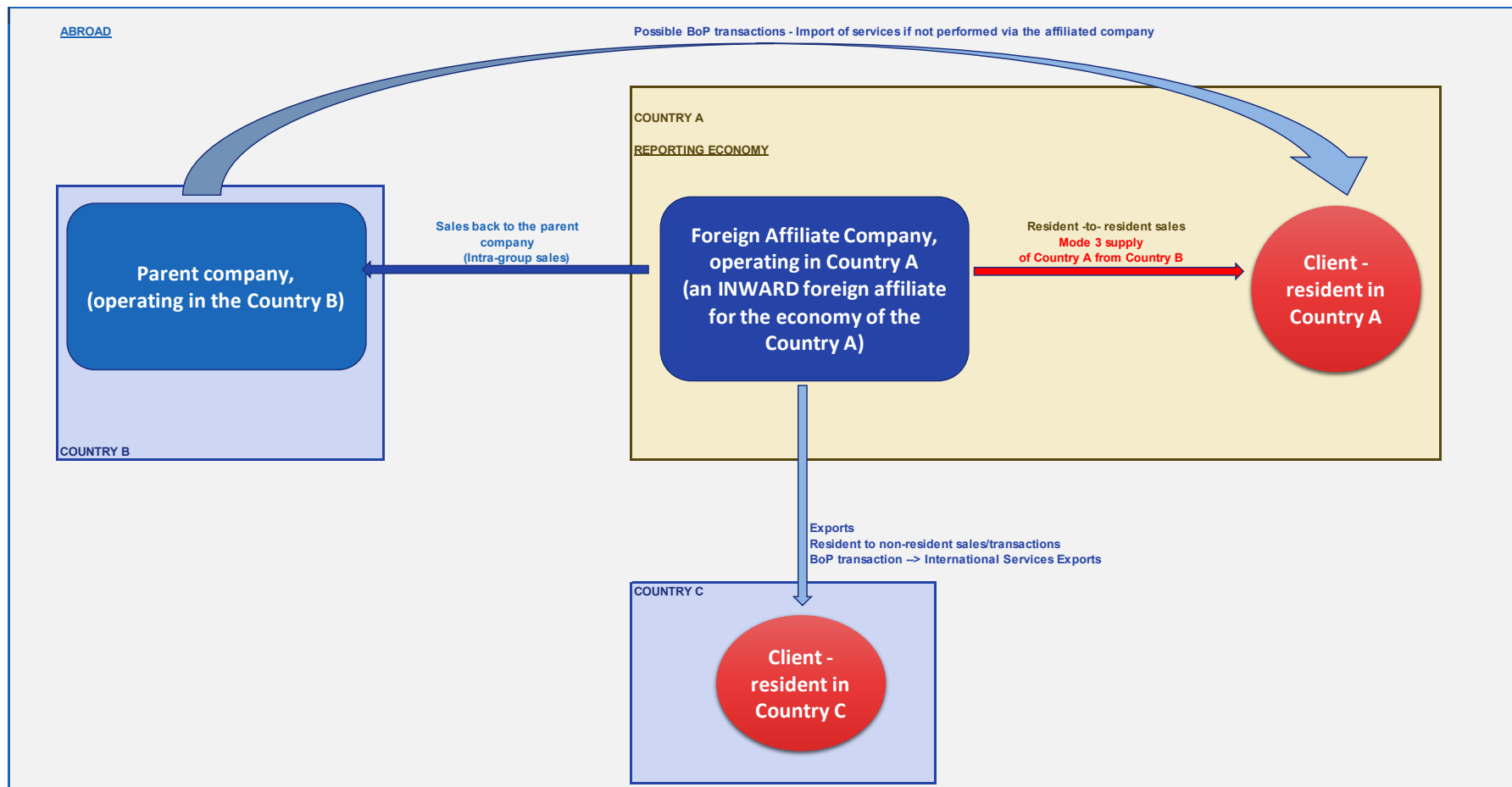
4.18. Inward FATS are often easier to collect than outward FATS. The entities covered are located in the compiling country, and data for those entities would ordinarily already be included in the country's domestic enterprise statistics. Obtaining a basic data set may involve only identifying the foreign-controlled subset of domestically located enterprises and tabulating existing data for them. For outward FATS, in contrast, the entities covered are located outside the compiling economy and generally would not be covered by existing data. In this case, specific surveys of resident direct investors rather than surveys from the foreign affiliates themselves would be necessary.

4.19. Because one country's inward FATS provide information on the outward FATS of partner countries, exchanges of information among partner countries have the potential to provide countries that do not collect data on outward FATS with information on the overseas activities of their own multinational companies.

Source: MSITS 2010

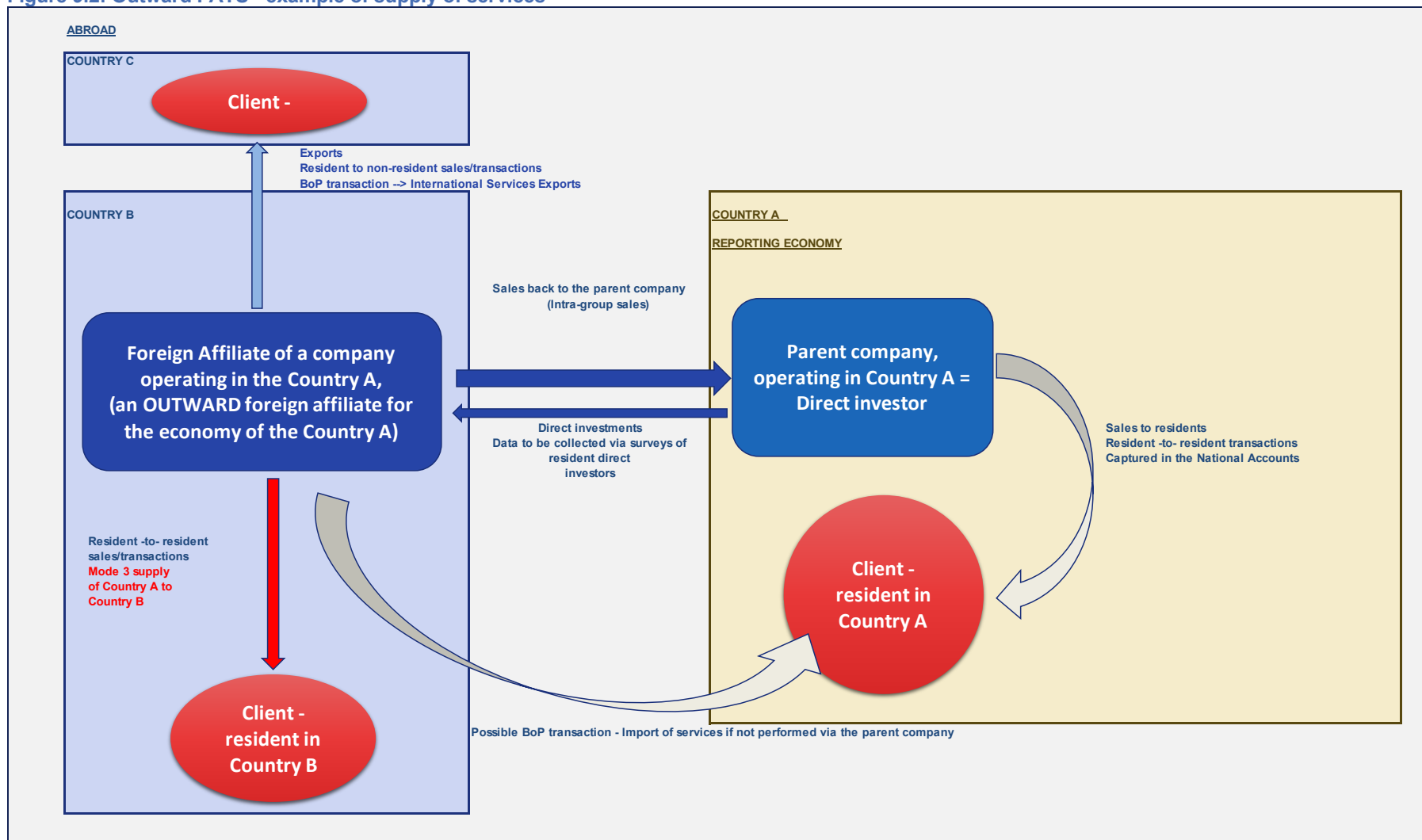
⁽¹⁵⁷⁾ <https://ec.europa.eu/eurostat/web/globalisation-businesses/overview>

Figure 9.1: Inward FATS – example of supply of services



Source: Eurostat

Figure 9.2: Outward FATS - example of supply of services



Source: Eurostat

9.3. From FATS to Mode 3 refinements and complementary sources

As mentioned FATS data are the main source for Mode 3 estimation. However, several other sources can be used to refine the estimates.

These additional data necessary for the compilation of Mode 3 are in many cases already available on a national level in datasets from different domains or can be obtained through administrative sources and registers. Some examples for such data sources are:

- Mirror data, from the partner countries (turnover split by goods and services, and residency of clients). Mirror data can be used for cross validation or when the country's FATS data are not available.
- SBS data used to estimate turnover in the reporting economy (see 9.5.2).
- TEC and STEC data can help to split the FATS turnover ⁽¹⁵⁸⁾ into turnover for goods and services and for calculating the part of FATS turnover sold in the reporting economy (see 9.5.2).
- Foreign direct investment (FDI) data can be used as a proxy for FATS when FATS data are not available, e.g. for specific partners. As set out in BPM6 and BD4, FDI reflects the objective of a resident enterprise in one economy (direct investor) of establishing a lasting interest in an enterprise (direct investment enterprise) that is resident in an economy other than that of the direct investor. The direct or indirect ownership of 10 per cent or more of the voting power of an enterprise resident in one economy by an investor resident in another economy is evidence of such a relationship. Direct investment comprises not only the initial transaction between the investor and the enterprise but also all subsequent transactions between them and among affiliated enterprises.
- Business registers, and the EuroGroup Register (EGR)⁽¹⁵⁹⁾ – to define the scope of the companies examined, by identifying the ultimate controlling institution for the foreign-controlled enterprises and the daughter enterprises of foreign-owned enterprise group.

Microdata Linking (MDL) techniques can also be used to obtain further information by combining microdata from the available datasets.

Further details and examples of methods used nationally are described in Chapter 13.

9.4. Correspondence between economic activity and EBOPS items

FATS data are typically collected according to the main economic activity of the enterprise. The main economic activity usually follows the ISIC classification (or the NACE classification on an EU level, and NAICS in North America). Since trade in services data follow EBOPS 2010, there is an inherent problem of mapping the ISIC/NACE economic activities to a corresponding EBOPS code, so that all four modes can be expressed in the same services classification.

Eurostat-WTO model uses a correspondence table from NACE Rev.2 to EBOPS 2010 categories – see Chapter 6. This table can be used for mapping the foreign affiliates' statistics (available according to the NACE categories) to EBOPS main categories to express Mode 3 in terms of EBOPS items. The main variable used is the turnover; however, for specific economic activities the value of output should be used, as it is a clearly better estimate for output. These issues are discussed further in the next paragraph (9.5).

This mapping is based on MSITS, the ICFA-EBOPS correspondence table, expert judgement, and some

⁽¹⁵⁸⁾ For most sectors turnover is a good approximation for output. See also 9.5.1.

⁽¹⁵⁹⁾ The EGR – the central statistical business register of Eurostat and the EU and EFTA countries' statistical authorities – covers multinational enterprise groups operating in Europe

evidence from European business statistics. The mapping has several limitations, for instance a proportional allocation of some NACE divisions/sections in two or more EBOPS items.

The updated and further disaggregated Table remedies some of the issues of the initial aggregated table. Nevertheless, the correspondence table could be further improved, both on an international and on a national level. The possible way forward is described below:

- Use STEC data on exports to estimate 'weights' of the correspondence table applicable on a national level: in STEC statistics trade in services data (expressed in EBOPS) is linked to the main activity of the enterprise doing the exporting. This table can be used to compute relative weights that map each EBOPS code to one or more NACE codes. Doing so, one makes the implicit assumption that exporting enterprises also sell locally services of the same types, in the same proportion as implied by their exports. The matrices implied by STEC data may also be used to produce more refined EBOPS-NACE cross-referencing. As regards imports, the assumption of an equivalent allocation should be made.
- Explore the usage of supply-use tables. Supply-use tables contain industry by product matrices. These matrices along with the EBOPS-NACE cross-referencing derived from the STEC can be used to produce a more refined NACE to EBOPS mapping table.
- Many countries collect additional information (alongside data directly requested by regulations) that is subsequently used in national accounts data production (for example, information on the secondary activities of large enterprises can be used to identify those enterprises' trade in services). Such information often includes data that can be used to improve the allocation between EBOPS and NACE activities (since this is a problem that must be overcome anyway by the national statistical institutes, when producing supply-use tables). The same information can also be used to improve the allocation for MoS purposes.

9.5. Adjustments to FATS data

9.5.1. Output versus turnover for estimating Mode 3

MSITS 2010 generally considers the output as a superior measure of the service supply (MSITS 2010, par. 5.65). In FATS the variable value of output (or 'production value') can be used as a better estimate of output. However, for most service sectors turnover (sales) is equivalent to output and more easily available.

Box 9.2. Some discussions on output and sales

5.65. Although output is considered a superior and more refined measure of activity for most purposes, in many instances only sales data are compiled, as they are easier to collect and may present more options for disaggregation ⁽¹⁶⁰⁾. For practical reasons, FATS are primarily compiled by activity, which may cause particular problems for certain services industries, such as wholesale and retail trade and financial intermediation. For wholesale and retail trade, most of the value of the sales will be accounted for by the value of the goods that are sold ⁽¹⁶¹⁾. Output for these particular activities is therefore a more appropriate estimation of the wholesale/retail service provided to the consumer, as it refers to the trade margins realised on goods purchased for resale and therefore excludes the value of the goods that are sold (see para. 4.47). Providing estimates for wholesale and retail services would give a clearer picture of distribution services provided. Similarly, establishing output as a preferred measure for financial intermediaries and insurance is a means of excluding the amounts that pass through the enterprise without being considered a part of its intermediate consumption (see para. 4.47).

Source: MSITS 2010

Thus, the recommendation is to use turnover value (sales) for calculating Mode 3. However, there are some specific economic activities for which using turnover would result in a major overestimation of Mode 3.

For Wholesale and retail trade, turnover includes the value of the goods purchased for resale. So, for this activity the value of output is a better estimation of the service value. For similar reasons, output is the preferred measure for financial intermediaries and insurance, as it excludes amounts that pass through the enterprise (MSITS 2010 5.65).

⁽¹⁶⁰⁾ In general, measured output will be identical to sales for most service activities (see MSITS 2010 paras. 4.46-4.52).

⁽¹⁶¹⁾ Sales for wholesale and retail trade activities should not be used to measure the international supply of services through commercial presence, as this would result in an important overestimation of Mode 3 trade.

Box 9.3. Sales (turnover) and/or output

4.46. *Sales* and *turnover* here have the same meaning and are used interchangeably. Following the 2008 SNA (which may be consulted for additional details and examples), *output* differs from sales because it includes changes in stocks of finished goods and work-in-progress and because of differences in measurement applicable to activities involving wholesale and retail trade or financial intermediation. Output is a superior and more refined measure of activity for most purposes and is recommended as the preferred variable for compilation. However, sales data are easier to collect and may present more options for disaggregation. Thus, there may be a continuing role in FATS and AMNE statistics for both measures.

4.47. For certain service activities, special conventions are used for measuring output. Services activities do not involve stocks of finished goods, and changes in work-in-progress will usually be impossible to measure. In practice, therefore, measured output will be identical to sales for most service activities, except for the three activities identified below:

- (a) For wholesale and retail distribution, although the sales are of goods, the output is defined as a service, equal not to the total value of sales but to the trade margins realised on goods purchased for resale.
- (b) For financial intermediaries, output includes not only services that are charged for by explicit fees, but also margins on buying and selling transactions, asset management costs deducted from property income receivable in the case of asset-holding entities, and margins between interest payable (or receivable) and the reference rate on loans (called financial intermediation services indirectly measured (FISIM)) (see box III.8). The main factors affecting the measurement of the output of financial services – and how they can be differentiated from sales – are discussed in the 2008 SNA (paras. 6.157-6.174).
- (c) For insurance, output is measured not by total premiums earned, but by a service charge that takes into account the income earned on technical reserves and also the fact that a portion of premiums must be devoted not to the provision of services but to the payment of claims and the accumulation of capital sums guaranteed under life insurance policies, annuity plans and pension entitlement schemes.

In all these cases, output will generally be considerably lower than sales because, unlike sales, it excludes the amounts – which may constitute a large portion of total operating revenues – that pass through the enterprise without being considered a part of its intermediate consumption.

4.48. Sales measures gross operating revenues, less rebates, discounts and returns. Sales should be measured exclusive of consumption and sales taxes on consumers and value added taxes. Although lacking the duplication-free quality of value added, the sales variable generally presents fewer collection-related difficulties and is thus likely to be more widely available than value added. Also unlike value added, the “sales” variable indicates the extent to which foreign affiliates are used to deliver outputs to customers, irrespective of the extent to which the output originated in the affiliates themselves or in other enterprises. Further, sales are more comparable than value added with regard to such variables as exports and imports, which themselves mainly arise from sales.

Source: MSITS 2010

Furthermore, for Sections F (Construction), D (Electricity, gas, steam and air conditioning supply) and E (Water supply), the recommendation is to include them in Mode 3 as they include a service component. Then the question is whether the turnover or value of output should be used to estimate Mode 3 services output. Table 9.1. presents the EU value of output and turnover for selected sections for reference year 2021, based

on Eurostat SBS data ⁽¹⁶²⁾.

Table 9.1. Comparison of output and turnover, EU, year 2021, (million euro)

NACE Section	D - Electricity, gas, steam and air conditioning supply		E - Water supply; sewerage, waste management and remediation activities		F - Construction		G - Wholesale and retail trade; repair of motor vehicles and motorcycles	
	Value of output	Net turnover	Value of output	Net turnover	Value of output	Net turnover	Value of output	Net turnover
million EUR	1 518 350	1 930 091	282 342	290 522	1 873 591	1 903 057	2 883 843	9 855 924
Output as a share of turnover	0.79		0.97		0.98		0.29	

Source: Eurostat [sbs_owv_act]

As shown in Table 9.1, for Section D, the ratio of value of output to turnover for Section D is about 80%. This share can be used to estimate the value of output for OFATS at about 80 % of the corresponding turnover.

Section G is included in the table for comparative purposes. As expected, there is a significant difference between the turnover and value of output for Section G (as goods for resale are excluded in the value of output). For Sections E and F, the turnover measure is practically equivalent to the value of output (this trend is similar for all years in the period 2014-2020 and for most individual Member States). Therefore, for the case of Sections E and F, turnover can be used as it is a good measure for Mode 3 purposes. For Section D, value of output is lower than turnover (value of output is between 80 % to 84 % of the turnover value for the period 2018- 2020). It should also be noted that there is significant variation by country for Section D (for some countries the value of output is about 50 % of the recorded turnover). This variation could be due to the exclusion of goods purchased for resale (as electricity is treated as goods).

Note that in Table 6.3, the specific divisions / classes of Section D are used. This allows for the value of output to be recommended for use only for D3514 (Trade of electricity).

To summarise, the recommendation is that to estimate Mode 3 supply of services the FATS turnover value can be used for all NACE sections, except:

- Section D, Electricity, gas, steam and air conditioning supply; (or D3514 when the disaggregated Table 6.3 is used);
- Section G, Wholesale and retail trade; repair of motor vehicles and motorcycles;
- Section K, Financial and insurance activities.

For the above three sections the value of output should be used. The following paragraph discusses estimating the value of output in more detail.

Estimate value of output for OFATS using the proportion from IFATS

In the European Business Statistics Regulation, 'turnover' and 'value of output' are collected for IFATS data, but only 'turnover' is collected for OFATS. Nevertheless, some countries are already collecting value of output also for OFATS (see Table 5.2). When countries do not collect the value of output for their OFATS enterprises, this can be estimated.

One way of doing so is by computing the ratio 'value of output to turnover' from the same Section in SBS and applying this weight to the OFATS turnover.

For enterprises resident in the EU, the SBS value of output of Section G is about 26-29 % of the turnover, consistently for each reference year for the period 2016 - 2021 (see Table 9.2).

⁽¹⁶²⁾ Data were downloaded from the Eurostat SBS database:

https://ec.europa.eu/eurostat/databrowser/view/sbs_na_sca_r2__custom_8369796/default/table?lang=en.

Table 9.2. Value of output and turnover, Section G, EU, years 2016 – 2021, (million euro)

TIME	2016	2017	2018	2019	2020	2021
Value of output (Production value)	2 236 739	2 291 725	2 392 620	2 519 745	2 473 088	2 883 843
Turnover	8 428 294	8 694 294	8 746 671	9 028 880	8 745 003	9 855 924

Output as a share of turnover (%) 26.5% 26.4% 27.4% 27.9% 28.3% 29.3%

AVERAGE 28%

Source: Eurostat [\[sbs\]](#)

Therefore, for EU countries it can be assumed that for OFATS also, the value of output of Section G is on average about 28 % of the recorded turnover (although OFATS also includes operations in non-EU countries). A more accurate estimation (especially when the partner country is outside the EU) can be achieved by calculating the ratio value of output to turnover based on the SBS data of the partner country or area to which the OFATS data at hand refer. For example, if a compiler wants to obtain the OFATS value of output for foreign affiliates in a specific partner country, then the SBS data of that partner country can be used to calculate the ratio value of output to turnover.

As regards financial and insurance activities (NACE Section K), the SBS coverage significantly increased in the EBS regulation. For SBS and IFATS, the EBS Regulation requires a full coverage of Section K and the collection of both net turnover and value of output. The following table presents the 2021 SBS values for value of output and turnover for Section K and its main divisions.

Table 9.3. Value of output and turnover, Section K and its divisions, EU, 2021, (million euro)

NACE	K - Financial and insurance activities	K64 - Financial service activities, exc. Insurance	K65 - Insurance, reinsurance and pension funding	K66 - Activities auxiliary to financial services and insurance activities
Value of output - million euro	1 745 267.27	851 952.03	597 598.39	298 824.81
Net turnover - million euro	2 179 053.68	723 447.38	1 146 408.60	313 588.29

output as a share of turnover (%) 80.1% 117.8% 52.1% 95.3%

Source: Eurostat [\[sbs_oww_act\]](#)

Value of output for Section K will be reported for IFATS under the EBS Regulation.

For OFATS, only turnover will be available, also under the EBS Regulation.

The ratio output to turnover, as indicated in the SBS data, can be used (where needed) to convert turnover to output for Section K and its divisions. These data should already be available internally in the NSAs, as the first reference year for FATS in the EBS Regulation was 2021.

9.5.2. Separating the value of goods and services in the FATS turnover, and identifying turnover sold locally

FATS turnover is broken down by the main economic activity of the enterprise. However, some enterprises may also have secondary activities (e.g., a manufacturing enterprise producing machinery may also sell maintenance/repair/upgrade services to its clients). So, the turnover of some predominantly goods-related sections may also include some services values, and vice versa.

FATS turnover therefore includes turnover on both goods and services sold, and sometimes under the same section. Only the services value is relevant for the estimation of Mode 3. MSITS 2010 recommends for the estimation of Mode 3 that the value of goods be excluded from FATS turnover.

As noted in Chapter 6, only the part of the turnover corresponding to services and sold to *resident* clients is relevant for Mode 3 estimation. It should be noted, however, that when the partner is the EU as a whole then all sales to EU countries are relevant. In such cases, considering the entire amount of the turnover (or value of output) of the affiliate – without any adjustment – may result in a better estimate.

Furthermore, if a part of the FATS turnover is actually exported, this would feature in the ITSS statistics of the country of residence of the affiliate.

For example, a foreign affiliate may also be exporting its services to a third country (or to the country of residence of the parent company). The services export value:

- will then be included in the turnover of the affiliate in FATS, and
- would also be captured in the ITSS data of the host country as exported services.

In any case, only the part of the services turnover sold to resident clients is relevant (as this part only is 'exported' via Mode 3 to the country where the affiliate resides).

If the FATS exports variable by goods/services cannot be compiled, then to identify the turnover sold to clients in the reporting economy the following approach can be used:

To split the **IFATS** turnover into local sales / exports of goods/services, information from SBS, TEC, STEC as well as VAT information can be used:

- IFATS data provide the turnover value for the country's foreign affiliates for the economic activity at hand. Then,
 - a) subtract exports of goods (indicated by TEC data). If microdata for the specific enterprise are not available, VAT (VIES) data can be used. Alternatively, exports of goods can be estimated using TEC data for foreign affiliates in the same economic activity / size class.
 - b) subtract exports of services (indicate by STEC data). If microdata for the specific enterprise are not available, VAT (VIES) data can be used. Alternatively, exports of services can be estimated using STEC data for foreign affiliates in the same economic activity/size class.
 - c) Subtract turnover of goods to resident clients. The amount remaining after operation (a) and (b) corresponds to turnover sold locally. However, this amount may also contain some goods sold locally. If information on the goods amount sold locally is not available e.g. from secondary activities of SBS, or VAT (VIES) data, then a similar distribution for the goods/services ratio can be used as the one implied from TEC and STEC data, for the same economic activity.

For sections for which the value of output should enter the Mode 3 estimation, the above procedure may be performed on a turnover basis. The resulting corrected turnover will provide a weight (locally sold turnover divided by total turnover) that can then be applied to the value of output.

Splitting **OFATS** turnover into local sales/exports of goods/services may be more demanding. Some of the necessary information and breakdowns are already available in some countries from the OFATS survey. Countries that do not collect such information may consider one of the following approaches:

- Add the question in the OFATS survey (as a first step the question may ask for an informed estimate of the share of sales sold in the hosting economy) – see Chapter 5 for some possible ideas.
- Seek information in cooperation with the partner country. This can be done e.g. for important partners, for which bilateral trade is of a significant volume. Then the statistical authorities may exchange such information on a bilateral basis.
- Estimate using the IFATS shares of the compiling economy (the assumption being that the ratios indicated in IFATS are a good indicator also for OFATS).
- Data available in partner countries ⁽¹⁶³⁾ can be used to provide an estimate for the turnover

⁽¹⁶³⁾ For non-EU partner countries, a possible source is the OECD international trade in services statistics - <https://www.oecd.org/sdd/its/international-trade-in-services-statistics.htm>.

corresponding to Goods sold. Alternatively, an additional question can be added in the OFATS survey (see Chapter 13, Section 13.3 Estimating Mode 3).

- As regards estimating the services turnover of predominantly goods sectors (such as Section C – manufacturing for instance), further work is required (see Section 9.5.5 for more details).

Further examples based on countries' experience can be found in Chapter 13, Section 13.3 Estimating Mode 3.

Overlaps between ITSS and FATS data

As noted in the MSITS 2010 paragraph 5.8, overlaps in the international supply of services framework may occur between the ITSS and FATS data. For instance, an affiliate established in a country may first be importing services from its mother company (such services would then be recorded in ITSS as non-resident to resident transactions) and then supplying those services to a resident client.

Such cases can be identified by interviewing foreign affiliates in the country. If such cases are identified, the services recorded as imports in ITS should be recorded as Mode 1 (and/or possibly Mode 4) imports of services. If the corresponding services sold by the affiliate to the resident client are of a larger amount than the ITS services (imports of the affiliate from the parent), then the difference can be considered as Mode 3 services (this amount corresponds to services supplied by the affiliate to the resident client).

Box 9.4. Foreign affiliates and sales of services

5.8. Overlaps may exist between the two statistical frameworks presented in MSITS 2010. For instance, the supply of services may be accounted for twice in the case of the supply of services through foreign affiliates: the first transaction being between a parent enterprise and its affiliate (intra-enterprise trade, which is recorded under trade in services between residents and non-residents) and the second occurring when this affiliate sells services to consumers in its country of location (the foreign affiliate's sales of services).

Furthermore, sales of services of foreign affiliates can include exports by the affiliate to third economies or to the economy of the parent enterprise.

Source: MSITS 2010

Accommodation and food service activities, education, human health and social work activities

Enterprises in activities such as accommodation and food service activities, education, and health and social work may be selling a significant amount of their turnover to non-resident persons. Following the same principles as described above, such amounts should not be included in Mode 3 exports of the affiliate (as in fact the sales are to non-resident clients); they should normally be included in the *travel* item of ITSS, in BOP – as travel exports of the country hosting the affiliates.

For example, in countries with a significant tourism sector, a large part of the turnover of accommodation and food service enterprises would be sold to non-resident clients. In some other countries, 'health tourism' is significant. Some countries offer educational services to a significant number of foreign students.

As already noted above, compilers should separate out any exported turnover of the affiliates; only turnover sold to resident clients should be taken into account for Mode 3. However, for these activities, using STEC data may not help, as typically travel data cannot be readily linked to the enterprise that provided the service to the non-resident client. A different approach should therefore be used.

One way of splitting out travel exports of such sections is by using tourism statistics. If a country has information (e.g. from tourism statistics) that a share of turnover is sold to non-resident individuals (and is therefore already covered under the travel item) then they can exclude part of the turnover of those sections.

For countries with significant amounts of e.g. foreign students, information from the corresponding educational institutions may help to estimate a share of educational services exported.

As a last resort (if such information cannot be obtained from any source), a compiler may reduce the turnover of these NACE Sections by a set share. For example, as it was difficult to obtain more specific information, and to avoid overestimation of Mode 3, Eurostat had originally estimated that about half of the turnover of enterprises in the accommodation and food activities sector (NACE Section I) is sold to non-residents. Therefore, Eurostat takes into account only 50 % of the turnover of Section I in Mode 3 estimations. It is expected that national statistical authorities are in a position to arrive at a more informed estimate of the part of the turnover that should be excluded from Mode 3, by using information from tourism statistics and other commercial or administrative sources.

9.5.3. Estimating missing variables using data from other domains and microdata linking

The following paragraphs present some estimation examples sourced from the Eurostat Mode 3 stocktaking questionnaire ⁽¹⁶⁴⁾, run in 2020 among 30 countries.

Examples for IFATS:

In the Mode 3 stocktaking questionnaire, Austria, Poland and Spain indicated using **production value** (value of output) based on SBS data. Further estimations are also feasible by using SBS, such as **linking the information on the residence of UCI (top owner) at microdata level** with the data collected for the needs of SBS statistics.

It is also possible to obtain **domestic turnover** with estimated local turnover from SBS data, in particular merging inward FATS data with large companies' data from SBS based on the methodology of Italy which also shared the methodology on calculating local output.

IFATS data in Spain come directly from SBS where all IFATS affiliates are surveyed. For inward foreign affiliates all SBS characteristics are collected (among them all IFATS characteristics including turnover and output value). Fortunately, SBS asks respondents for turnover generated: by local sales, by EU sales and by rest of the world sales. The percentage of local sales is provided directly in the SBS/IFATS questionnaire.

The United States collects missing variables on their IFATS survey. BEA surveys the activities of foreign MNEs supplying for U.S. in which the direct investor directly or indirectly holds or controls a majority of the voting power.

Examples for OFATS:

OFATS data are either collected on a specific survey or estimated from other data sources.

In the practice of Poland, imputation of missing variables is applied on the basis of EGR register, consolidated reports and previous OFATS surveys.

The United States collects all of these variables in their OFATS survey. BEA surveys also the activities of U.S. MNEs in which the direct investor directly or indirectly holds or controls a majority of the voting power. Italy calculates distribution services in OFATS from ratio of production and turnover deriving from inward FATS. Spain provided more options for estimated domestic purchases; the method is described in country examples.

Further details are provided in Chapter 13, Section 13.3. Estimating Mode 3.

⁽¹⁶⁴⁾ 'International Supply of Services by Modes of Supply – data availability in the FATS (2020)'. A survey was conducted on 30 countries to identify data to serve in the estimation of the International supply of services provided via mode 3.

9.5.3.1. SPAIN – A PRACTICAL EXAMPLE

At the time of writing this handbook, Spain was not producing Mode 3 data from FATS. However, some possible approaches for producing Mode 3 data have been assessed with no final decision being made.

The data collection needed for estimating Mode 3 data in Spain mainly depends on the variables available in FATS which differ substantially from IFATS to OFATS. The estimation procedure will be based on two differentiated steps for both IFATS and OFATS: 1) estimation of domestic sales of services by main NACE code, as FATS are only compiled by economic activity, and 2) conversion of domestic sales of services by main NACE into EBOPS categories.

Inward FATS (IFATS) – foreign-owned affiliates in Spain

The compilation of IFATS data is carried out in two different ways depending on affiliates' main economic activity. On one side, those data on industry, trade and non-financial services are compiled by INE at microdata level. On the other side, those data on construction, insurance, and pensions and financial services, are compiled by the Ministry of Transport, Mobility and Urban Agenda, the Ministry of Economic Affairs and Digital Transformation, and Banco de España, respectively, and only information at macro data level is available for INE.

Outward FATS (OFATS) – Spain owned affiliates abroad:

OFATS is obtained from two administrative sources linked to outward-FDI. The main one is the Foreign Investments Register (FIR) maintained by the Ministry of Industry, Tourism and Trade for FDI purposes. The FIR receives administrative forms that supposedly all resident investors investing in foreign companies whose net worth is over EUR 1.5 m, must fill out. This FIR information is sent to INE at microdata level, following an interinstitutional agreement between INE and the ministry. This is used for compiling OFATS for all economic activities, except Section K (Financial services). For Section K (Financial services), information from Banco de España at macro data level is received.

The details of the developed approach are described in paragraph 13.3.3.

9.5.4. Distribution services in Mode 3

In Mode 3, distribution services are effectively derived as the value of output of the enterprises in the wholesale and retail activities (NACE Section G). As noted in Section 9.5.1, for enterprises in Section G, the value of output should be used rather than the turnover value. For OFATS the value of output is typically not available and must be estimated using the methods described in Section 9.5.1.

9.5.5. Services in manufacturing activities (NACE C10-32)

The current recommendation is to exclude FATS manufacturing (C10-32) activities, as the assumption is that these mainly concern manufacturing of goods, which do not fall within the scope of the GATS. Nevertheless, it is recommended that 'maintenance and repair services' (NACE C33) be included in Mode 3 calculations, if available.

However, as noted above, there can be numerous enterprises with a manufacturing main activity that also sell services as a secondary activity or even as a main activity – for example, contract manufacturing. Furthermore, in certain economic activities it is common that enterprises sell 'machine time'. That is, they sell production time on their machines, and/or they produce on behalf of the client following the exact specifications and design of the client. Depending on the details of such contracts, it may be more appropriate to treat such enterprises as service providers. In other words, it would be interesting to identify those FATS enterprises that are providing manufacturing services on inputs owned by others.

Foreign-controlled enterprises active in such activities are actually providing services, and their output should be included in Mode 3. Currently, there is no straightforward way to separate such activities.

A possible method for identifying resident enterprises who trade in manufacturing services is by enquiring foreign controlled enterprises that also report trade in SA – manufacturing services. Compilers may approach the largest / most representative of these enterprises and enquire if they also provide such services to domestic clients. As regards OFATS, compilers may approach domestic parents (controlling large manufacturing affiliates abroad) to enquire if the affiliates supply manufacturing services.

Another possible way forward is by exploiting information on secondary activities (from SBS), at least for the large enterprises of the economy. Another possible source should be STEC data. STEC data break down services trade by activity and type of ownership. Therefore, STEC tables can show the amount of services turnover traded by foreign-controlled enterprises in Section C (as well as other predominantly goods-related sections). Of course, STEC data show only the services exported (or imported) by resident enterprises, but not the services sold to resident clients. It can be hypothesised that enterprises in the same economic activity also sell an equivalent amount to resident clients. Such turnover should then be considered for Mode 3 estimations.

If a country has information on such values (e.g. as secondary activities of enterprises), they may choose to include them (as they are clearly services supplied in the host economy by foreign affiliates). Such cases should be duly noted in the metadata.

9.6. Summary of guidance notes and recommendations

The summary of the recommendations on Mode 3 estimation are as follows:

- The following NACE sections and divisions should be considered in Mode 3 estimation:
 - NACE Sections D to S (excluding O) and division C33.
- Use turnover value (sales) for calculating Mode 3 (except for the cases described below).
- Use the value of output (production value) for the following Sections:
 - Electricity, gas, steam and air conditioning supply (Section D);
 - Wholesale and retail trade; repair of motor vehicles and motorcycles (Section G);
 - Financial and insurance activities (Section K);

If value of output is not available for any of the above activities (Sections D, G, and K), then it should be estimated (see Section 9.5.1).
- Only the part of the turnover sold to resident clients is relevant for the calculation of Mode 3, as this is the part which is 'exported' (via the foreign affiliate) to the resident clients (this will also help avoid any double counting between FATS and ITSS). Section 9.5.2 presents some methods of estimating local turnover (FATS exports variable should be used as first best)
- Exclude the value of goods from FATS turnover – as described in Section 9.5.2.
- Include value of services (where possible) from secondary activities of enterprises, whose main activity code is in a primarily goods-oriented Section (such as manufacturing services) – see Section 9.5.5.

10

Part B: Recommended methodology and estimation models

Distribution services

This chapter focuses on recommended estimation methods and sources for distribution services.

This chapter deals only with Mode 1 distribution services, as Mode 3 distribution services are already covered in detail in Chapter 9 and correspond to the values recorded under Section G in FATS.

10.1. Distribution services explained

MSITS 2010 recommends that distribution services should be included in the statistics of services by modes of supply.

Distribution services are defined as the distributive services provided by wholesale and retail trade industries. In the 2008 SNA, wholesalers and retailers are defined as entities that purchase and resell goods with no, or only minimal, processing (for example, cleaning and packaging). They supply a service to producers and consumers of goods by storing, displaying, and delivering a selection of goods in convenient locations, thus making them easy to buy. However, in the BOP accounts these distribution services are included under the goods item without being identified separately. This chapter describes methods that can be used to estimate these values.

Box 10.1. Wholesale and retail distribution

6.146 Although wholesalers and retailers actually buy and sell goods, the goods purchased are not treated as part of their intermediate consumption when they are resold with only minimal processing such as grading, cleaning, packaging, etc. Wholesalers and retailers are treated as supplying services to their customers by storing and displaying a selection of goods in convenient locations and making them easily available for customers to buy. Their output is measured by the total value of the trade margins earned on the goods they purchase for resale. **A trade margin is defined as the difference between the actual or imputed price realised on a good purchased for resale and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of.** The margins realised on some goods may be negative if their prices have to be marked down. They must also be negative on goods that are never sold because they go to waste or are stolen.

Source: 2008 System of National Accounts (2008 SNA)

Therefore, distribution services refer to the selling or arranging for the sale of goods to intermediate and final users and may include handling, stocking, selling, and billing. Although most distribution services of wholesalers and retailers are excluded from the EBOPS used in the context of the current ITSS data compilation ⁽¹⁶⁵⁾, they are included in W/120, which is used in GATS negotiations (MSITS 2010, para. 3.53). In fact, EBOPS includes only this part of the total trade-related transactions that were explicitly charged in *trade-related services* (see MSITS 2010, para. 3.250).

$$\begin{aligned} & [\textit{total trade related transactions}] \\ & = [\textit{trade related services (EBOPS 2010, SJ34)}] + [\textit{distribution services}] \end{aligned}$$

However, as noted in MSITS 3.250, ‘If the trader owns the goods being sold, the trader’s margin is generally included indistinguishably in the value of the goods.’ Therefore, this part of distribution services is not included in EBOPS; it is supplied through Mode 1, as they are typically associated with cross-border transactions ⁽¹⁶⁶⁾. These services are not recorded as services in the balance of payment framework. Instead, they are included in merchandise trade data, since distribution services are included in the value of goods that are traded across borders (para. 20.62, MSITS Compiler’s Guide). Unfortunately, the international trade in goods statistics do not provide a further breakdown of exports and imports by the value of goods and their trade and/or transport margins.

In the 2008 SNA framework, distribution costs correspond to separately identified services and are recorded, while in the balance of payments framework those transactions are not separately identified – see Box 10.2.

Box 10.2. Purchaser’s price

3.52 In the 2008 SNA, the ‘purchaser’s price’ is defined as the amount payable by the purchaser, excluding any deductible value added or similar deductible tax in order to take delivery of a unit of a good or service at the time and place required by the purchaser.

It includes any transport charges that are paid separately by the purchaser *to take delivery* at the required time and place (irrespective of who provides these services). For services, the concept of market price in BPM6 is equivalent to the concept of purchaser’s price in the 2008 SNA, because no wholesale, retail or transport distribution costs are involved.

However, for goods, like BPM6, MSITS 2010 identifies the pricing level as free on board (f.o.b.) at the border of the exporting country. In general, the f.o.b. price will not necessarily be the same as the purchaser’s price because the f.o.b. price may include separately invoiced distribution costs (wholesale and/or retail margins as well as costs of transport to the border of the exporting economy). Further, the purchaser’s price will cover costs incurred in taking the goods to the purchaser’s choice of location, which may be beyond the customs frontier. Therefore, those distribution costs, which correspond to separately identified services in the 2008 SNA framework, are not separately identified in the balance of payments framework.

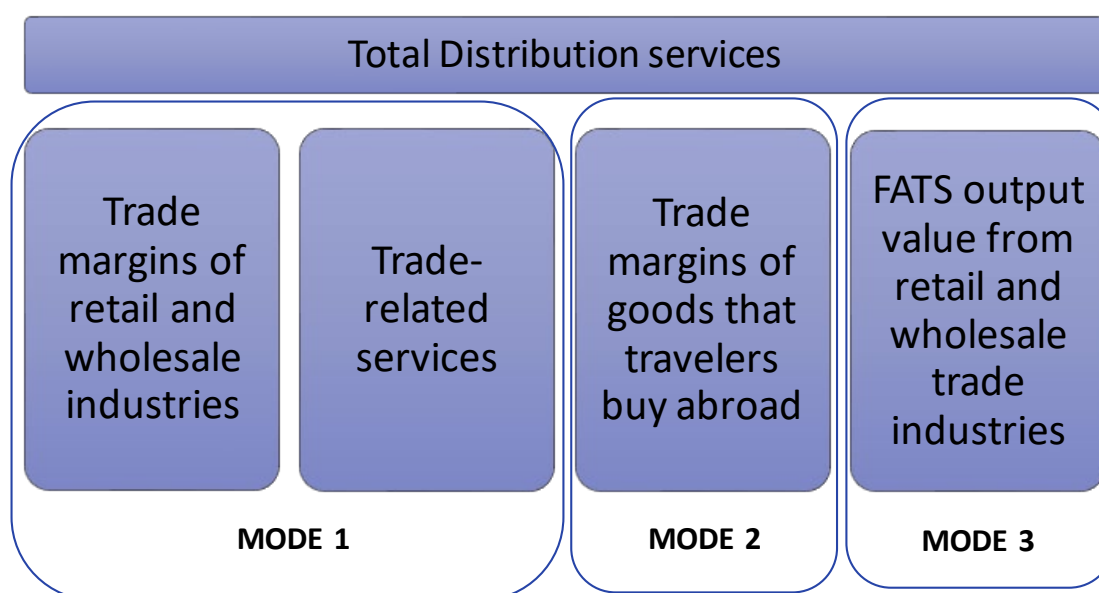
Source: MSITS 2010

Distribution services supplied via foreign affiliates are included in FATS statistics (value of output of the wholesalers and retailers, NACE Section G) and are incorporated into Mode 3, together with the rest of the Mode 3 services.

⁽¹⁶⁵⁾ BPM6 and Regulation 184/2005 for the EU Member States.

⁽¹⁶⁶⁾ Michael Mann, Exploratory Estimates of U.S. International Services by Mode of Supply, 2017.

Figure 10.1. Overview of Total distribution services and their allocation across modes of supply



Source: Eurostat

As already mentioned, not all services are supplied directly from the producer to the customer/purchaser and in many cases different distributors or kind of 'retailing' units for services are used. Some examples are companies offering tickets for various events (sports, concerts, festivals, etc.) or financial intermediates selling financial instruments (with a spread between the buying and selling price). The differences between the buying and selling price of a service represent a margin service supplied to the customer. In the case of services, though, the margin is treated as one of the products of the relevant service industries. For instance, in the case of goods, these are a separate type of activity, e.g. Wholesale and retail services, and cover the margins on all goods. Box 10.3 gives a summary overview of the calculation of basic producers' and purchasers' prices.

10.2. Distribution services under Mode 1

Distribution services associated with cross-border trade in goods transactions are not part of the international services transactions because the margins that represent those distribution services are either included in the f.o.b. ⁽¹⁶⁷⁾ values of the goods to which they relate or are provided by the importer (MSITS para. 3.53). The inclusion of distribution services in the value of merchandise trade follows the treatment recommended in BPM6 and reflects the fact that data on cross-border trade are collected by product. In this case, the product is an exported or imported good, and its value includes the distribution services used to arrange for its export or import. Therefore, statistics on cross-border trade in services do not include estimates of distribution services provided by exporters because those services are included in the value of trade in goods. Nevertheless, services provided by wholesalers and retailers could be important as highlighted by the manual (MSITS 2010, para. 5.41, Box V.4, presenting the example by the U.S.).

As previously mentioned, a small part of distribution services is included in EBOPS 2010 in the subitems 'trade-related services' and 'postal services'. Trade-related services cover commissions on goods and services transactions payable to merchants, commodity brokers, dealers, auctioneers, and commission agents. These services include, for example, the auctioneer's fee or agent's commission on sales of ships, aircraft, and other goods (MSITS para. 3.250).

EBOPS 2010 proposes a complementary grouping for total trade-related transactions that would include all

⁽¹⁶⁷⁾ Free on board.

transactions relating to the distribution of goods and services, i.e. both the trade-related services (already included in BOP services account) and the estimated distribution services included in the value of products sold (MSITS para. 3.251), which are currently included in BOP goods account. Some overlapping of the reporting of the service may still occur if the transaction has been reported already under the services' account in ITSS (for example, the wholesaler reports transport services).

The trade margins of the wholesalers and retailers can be estimated by one of the following methods:

- by using supply-use-tables (trade and transport margins);
- by using Structural Business Statistics and TEC (Trade in goods by Enterprise Characteristics) statistics (exports of wholesalers and retailers of enterprises active in NACE code G), applying the implied percentages and indirectly estimating the trade margins value;
- the trade margins and the distribution services could be estimated by using product balances, as defined in the SNA 2008 (see Box 10.3).

Box 10.3. Calculation of the trade margins

<p>Output at basic prices + imports + trade margins + transport margins + taxes on products - subsidies on products</p>	=	<p>Intermediate consumption (expressed at purchasers' prices) + final consumption (expressed at purchasers' prices) + capital formation (expressed at purchasers' prices) + exports.</p>
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Trade margins =

- + Intermediate consumption (expressed at purchasers' prices)
- + final consumption (expressed at purchasers' prices)
- + capital formation (expressed at purchasers' prices)
- + exports
- Output at basic prices
- imports
- transport margins
- taxes on products
- + subsidies on products

Source: SNA 2008

10.2.1. Estimating distribution services in Mode 1: approach using supply-use tables

The distribution services could be estimated by using supply-use tables from the input-output framework which describe how goods and services are supplied to a country's economy and how those goods and services are used in domestic production, by industry and products. In particular, the margins can be estimated using 'trade and transport margins' data of the wholesale and retail trade industries.

This approach has some limitations:

- (1) The trade margin is calculated together with the transport margin (although the share of the transport margin is relatively small, according to JRC estimates).
- (2) The data are currently available only every 5 years (2010, 2015, etc.). Corrections can be applied for the period between data availability.

(3) Partner country breakdown is not available for all countries; thus extra- and intra-EU breakdowns should be estimated (STEC and TEC statistics could be a possible source).

Box 10.4. Estimating the distribution services

The Joint Research Centre (JRC) has worked on estimating distribution services in the context of the Full international and global accounts for research in input-output analysis (FIGARO) project. The process comprised three steps: (i) calculate how much transport and trade margins (TTM) are included in each element/product of the national use table at purchasers' prices, (ii) apply those ratios to the fully-fledged inter-country (statistical) use table and (iii) estimate total TTM (products) to be allocated to domestic trade, transport and insurance services sectors. The results for trade margins are within the margin of 3 % discrepancies from national account values and are available by country and CPA codes.

10.2.2. Estimating distribution services in Mode 1 using structural business statistics combined with TEC statistics

The second approach for estimating the trade margins in Mode 1 uses the SBS and TEC datasets extracted for the businesses in wholesale and retail trade activities (NACE activity G). In practice, this approach is the most readily feasible for countries.

From the SBS dataset, the following output variables are used: 'net turnover' and 'gross margins on goods for resale'. The share of gross margin on good for resale divided by the turnover can be used to estimate the trade margins of the wholesalers and retailers in merchandise trade:

$$[\text{trade margin}] = \frac{[\text{gross margin on goods for resale}]}{[\text{net turnover}]}$$

Where available, the gross margin and turnover of enterprises in Section G should be used.

Section G also includes division 45.2 (Maintenance and repair of motor vehicles); enterprises in this division do not supply wholesale/retail activities but other services activities. Therefore, if values are known for these enterprises, they can be excluded from the calculations (although values in this division are often quite low compared to the entire Section G).

As regards exports, the value of exports of enterprises in Section G is known from TEC data. Therefore, the exports of distribution services can be calculated as:

$$[\text{export value of enterprises in G}] * \frac{[\text{gross margin on goods for resale of enterprises in G}]}{[\text{net turnover of enterprises in G}]}$$

TEC (like ITGS) also includes the value of goods for processing (i.e., goods sent abroad without a change of ownership).

Enterprises with a main activity in Section G will predominantly be wholesale and retail traders. For such enterprises it can be considered that their export amounts would almost exclusively comprise actual sales (involving a change of ownership). In any case, if possible, compilers may use the NoT (Nature of Transaction) code to exclude any transactions that do not involve change of ownership.

As regards imports, TEC data cannot be used to distinguish imports from foreign wholesalers/retailers. In this case, an approach like the one used in TiSMOS can be used:

$$\begin{aligned}
 & [\textit{imports of distribution services}] \\
 &= \frac{[\textit{exports by enterprises in G}]}{[\textit{Total exports}]} * [\textit{BOP Goods imports of reporting country}] \\
 & * \frac{[\textit{gross margin on goods for resale for enterprises in G}]}{[\textit{net turnover of enterprises in G}]}
 \end{aligned}$$

The share of exports by enterprises in G divided by the total exports for the partner country/area of interest gives the overall share of exports of wholesalers and retailers for the specific partner country/area. If data for a specific partner area are not available (e.g., if the partner country does not compile TEC data) then the ratio implied by the EU countries TEC data (or the TEC data of the reporting country) can be used.

Ideally, the statistics should be linked on a micro level to ensure better quality of the results. This would mean linking SBS and TEC variables at enterprise level and using the trade margin of that enterprise to compute the actual distribution service per enterprise. In practice, it may be worth compiling distribution services at micro level only for the largest wholesalers/retailers in the economy (for smaller enterprises the overall implied trade margin will be a good approximation to use).

Mode 1 distribution services are requested according to the EBS Regulation at [T+10 months] for reference year T. At that point, final SBS data for reference year T will not be available internally at the NSAs. Final TEC data may also not be available (at EU level, the deadline for reporting SBS is [T+18 months] and for TEC [T+12 months]). Compilers can then use SBS data for the most recent year available. At [T+22 months], when Mode 3 data and total modes should be reported for the same reference year, compilers may revise the distribution services estimate in Mode 1, if needed, using the final SBS data.

11

Part C Focus on the users

Dissemination of statistics by mode of supply

This chapter presents a recommended format for disseminating modes of supply statistics in a clear and understandable manner for users; it also discusses how MoS relates to other statistics (such as ITSS and BOP, FATS, ITGS).

11.1. Introduction

This chapter presents suggested tables for disseminating modes of supply statistics. In EU and EFTA countries, the official modes of supply data collection starts in 2024-2025 (for reference year 2023) as specified in the European Business Statistics Regulation (Regulation (EU) 2019/2152 and Commission Implementing Regulation (EU) 2020/1197).

To help countries implement the Regulation's requirements, Eurostat developed a comprehensive MoS technical document (see Annex II). This technical document follows a structure and approach similar to the one of the BoP vademecum⁽¹⁶⁸⁾ and provides details on all necessary technical specifications for transmitting MoS data according to the EBS Regulation. It also includes the list of validation rules and cross-validations between the annual ITSS data and MoS data. The rest of this chapter provides some recommendations and advice to consider when compiling and disseminating MoS data.

11.2. Dissemination strategy

The EBS Regulation sets out the data requirements for EU and EFTA countries. For the sake of international comparison, it is recommended that other countries compiling MoS data following a similar approach insofar as possible.

Table 11.1 presents a suggested table for MoS statistics; for each partner country/area, two tables should be completed (one for exports and one for imports).

At a minimum, it is recommended that countries compile and disseminate MoS data for the following partners:

- rest of the world (i.e., world excluding the reporting country);
- the EU;

Compilers are also encouraged to compile MoS statistics for further partner countries, focusing on the most

⁽¹⁶⁸⁾ <https://ec.europa.eu/eurostat/web/balance-of-payments/publications>

important trade partners of their economies.

As regards EU and EFTA countries, the EBS Regulation stipulates a breakdown by Geo level 5 as defined in Regulation (EU) 2020/1470⁽¹⁶⁹⁾ and presented in Annex V.

The EBOPS 2010 classification is used to break down transactions by type of service. The category 'Distribution services' is added to the usual EBOPS categories. 'Distribution services' group together Mode 1 distribution services (estimated from trade in goods statistics), Mode 2 distribution services (associated with goods purchased by travellers) and Mode 3 distribution services (coming from FATS Section G). The total international supply of services comprises all four modes of supply, excludes goods values and includes distribution services.

Table 11.1: Suggested publication table for modes of supply statistics, for other countries

FLOW: Imports / Exports					Ref. year:	
PARTNER: [World / EU-27 / Extra-EU / Other]					million national currency	
Tier	Service item	Item description	Mode 1	Mode 2	Mode 3	Mode 4
1	ISS	Total international supply of services				
2	SA	Manufacturing services on physical inputs owned by others				
2	SB	Maintenance and repair services n.i.e.*				
2	SC	Transport				
3	SC1	Sea transport				
3	SC2	Air transport				
3	SC3	Other modes of transport				
3	SC4	Postal and courier services				
2	SD	Travel (services*)				
2	SE	Construction (services*)				
2	SF	Insurance and pension services				
2	SG	Financial services				
2	SH	Charges for the use of intellectual property n.i.e.				
2	SI	Telecommunications, computer, and information services				
3	SI1	Telecommunication services				
3	SI2	Computer services				
3	SI3	Information services				
2	SJ	Other business services				
3	SJ1	Research and development services				
3	SJ2	Professional and management consulting services				
4	SJ21	Legal, accounting, management consulting, and public relations services				
4	SJ22	Advertising, market research, and public opinion polling services				
3	SJ3	Technical, trade-related, and other business services				
4	SJ31	Architectural, engineering, scientific, and other technical services				
4	SJ32	Waste treatment and de-pollution, agricultural and mining services				
4	SJ33	Operating leasing services				
4	SJ34	Trade-related services				
4	SJ35	Other business services n.i.e.				
2	SK	Personal, cultural, and recreational services				
3	SK1	Audiovisual and related services				
3	SK2	Other personal, cultural, and recreational services				
2	SL	Government services n.i.e.*				
2	S_DS	Distribution services				
2	SN	Services not allocated				

* According to GATS, when reporting the international supply of services, only services values should be included in these items.
Source: Eurostat

⁽¹⁶⁹⁾ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R1470>

As noted, allocating Mode 3 (FATS turnover/output) to a specific EBOPS item is not always straightforward. Table 6.3 presents a revised mapping of NACE Rev. 2 to EBOPS 2010 codes, at a disaggregated level; in an international setup, countries may use a similar approach to map their FATS data (collected on the basis of ISIC, ICFA, or another economic activities classification) to EBOPS. Another alternative would be to use the 'hybrid' EBOPS items developed by the WTO for the TiSMOS project (see Table 1 of Annex I).

The goods values contained in some items (such as in Travel, construction, etc.) must be collected or estimated, so that they can be excluded from the reported MoS data. As the MoS data on the international supply of services do not contain goods values, the values of the goods (normally included in these same items in ITSS) should not be disseminated in the MoS data.

11.3. Validation

The technical document (Annex II) provides a full list of validation rules, including a reconciliation between ITSS data and MoS data.

For each EBOPS item, the sum of Mode 1, 2 and 4 must correspond to the EBOPS items in ITSS/BOP. Obviously, a correction for goods values must be made for those items that contain goods values in the BOP framework, like *travel* and *construction*. Note that for Construction a share of the EBOPS item Construction may also be allocated to Mode 3.

The sum of the four modes of supply corresponds to the international supply of services.

11.4. Communication strategy

When disseminating MoS data (especially for the first times), some further explanations to the user must be provided. Some users may not be familiar with GATS and MoS (especially users of 'standard' ITSS and BOP data).

The Statistical authorities must thus explain the coverage and usage of MoS data:

- MoS data are closely related to ITSS and FATS data. However, they aim at providing different coverage so as to satisfy international trade in services negotiation and monitoring needs (GATS, regional and bilateral trade agreements);
- MoS data cannot be used (directly) for BOP purposes (BOP / ITSS data must be used).
 - The total for modes 1, 2 and 4 is generally not equal to total services under BOP (due to exclusion of goods and inclusion of distribution services)
- MoS data (Mode 3) contains part of the FATS output (the part relevant to the provision / acquisition of services; production of goods by foreign affiliates is not relevant);
- MoS data contain *only provision / acquisitions of services*, therefore:
 - where goods values are included in EBOPS items, they are excluded from MoS data – such as goods values in the travel and construction items;
 - *distribution services* of wholesalers and retailers are added for Mode 1 and 2 (these services are included indistinguishably under goods in the BOP framework). Distribution services are estimated using Goods values, from TEC statistics.

12

Part D Possible directions for future research

Future work and challenges

The focus of this chapter is on methodological issues that need further work, such as domestic versus foreign turnover in FATS data, double counting problems (for example, the export of IFATS in the estimation of Mode 3), or the identification of 'manufacturing services'.

12.1. Introduction

This chapter summarises all the methodological issues identified that need further work, such as identification of domestic versus foreign turnover in FATS data, double counting problems, and improvement on the allocation shares of the model. Most of these issues are already mentioned in Chapters 6-10.

12.2. Improving the Eurostat-WTO model and refining adjustments for ITSS data

Below is a list of some of the directions identified for future work related to the Eurostat-WTO model and ITSS data adjustments. For some of these items we note the updated advice in the second edition of the guide.

- Improving the distribution of the modes of supply shares among EBOPS categories, to take into account changes in business models resulting from technological progress and digitalisation, and in trade policy, and recent health-related travel restrictions. The second edition of the guide contains some further clarifications on the distribution of modes per item. Further work from compilers and/or new technological developments may lead to a future revision of the distribution.
- Reviewing the allocation of specific EBOPS items to two or more modes in the Eurostat-WTO model. The second edition clarifies these issues. After carrying out this allocation for some years, Eurostat will reflect on whether any updates are needed.
- Developing a method for modifying the shares allocated to the modes in the standard model over time. Guidelines on how this can be achieved are provided.
- Developing recommendations on how the allocation of shares must take into account the partner country / area in question.

- Developing recommendations on how to treat multimodal supply of services.
- Improving estimations of the value of goods purchased by non-residents during stays abroad, or acquired from the economy where a construction project takes place (this concerns EBOPS items *travel* and *construction* respectively). Some further clarifications are provided; after carrying out these estimations for some years of implementation Eurostat will reflect on further needs.
- Developing recommendations for singling out the value of goods for the EBOPS item *maintenance and repair*. The share of goods in this item may be relatively small; further evidence, including from the industry can help.
- Separately identifying services in transactor-based items (in particular *travel*) (see also the discussion in the context of the revision of BPM6). Methods for splitting goods from services in the travel item already exist; they are not universally applied, possibly because this split is not mandatory for annual ITSS.
- Further developing the recommendations for the *construction* item. Some further clarifications are provided in this second edition of the guide.

12.3. Improving Mode 3 and distribution services

Below is a list of some of the identified areas for future work related to Mode 3, FATS, and distribution services estimation:

- Improving the mapping of FATS data (which are reported by NACE/ISIC classification) to EBOPS; Eurostat developed an improved disaggregated table (Table 6.3).
- Distinguishing sales from the secondary activities of an enterprise in data sourcing from the FATS domain to split goods from services sales.
- Improving the recommendations on how to identify the part of the FATS turnover sold locally.
- Developing a methodology to identify services provided by enterprises in Section C (Manufacturing), so that they can be considered in Mode 3 estimation. Some possible approaches are provided in Section 9.5.5.
- Improve the recommendations on how to estimate missing data in Section K (Financial sector). The full coverage of the section in the EBS Regulation should remedy this issue.
- Resolving cases of overlap between FATS and ITSS data. A recommendation is provided in Section 9.5.2.
- Better defining and estimating distribution services. Such services are part of MoS according to GATS, but not part of EBOPS; they are estimated from Trade in Goods data. Future work on distribution services will go in two directions:
 - investigating the possibility of estimating distribution services used by Tourism Satellite Account (TSA) travellers;
 - focusing more on the import of distribution services and merchanting (import and export).

Future work may also involve carrying out pilot surveys for analytical purposes and assessing the quality and accuracy of the data collected, comparing the data-derived allocation shares to the shares proposed in the Eurostat-WTO model, and adjusting the shares to the particularity of the respective economies.

Finally, it would be interesting to further discuss the digital trade in general, and its relation to and impact on international trade, in particular services by modes of supply.

13

Part E National experience and country cases

Country experiences and cases

This chapter presents country-specific approaches and estimations and practical country experience in estimating MoS, using both the simplified model (including fine-tuning its weights) and surveys.

The intention is to provide a set of practical methods that may help compilers develop their own approaches. Some methods may not be feasible for a specific country due to the specific set-up of the national statistical system (for example, a country may be using intermediate statistical products / breakdowns that may not be available / collected in another country). For this reason, several examples are described, to increase relevance for the reader.

The chapter is organised as follows:

- Section 13.1, on estimating modes 1 and 4, contains country examples of how to split services amounts between modes 1 and 4.
- Section 13.2 presents approaches to estimating Mode 2 and gives examples of estimating goods in the 'travel' item.
- Section 13.3 discusses methods for estimating Mode 3.
- Section 13.4 presents some national practices for comprehensive MoS data compilation.
- Finally, Section 13.5 presents the Norwegian experience in developing a survey for MoS data collection.

13.1. Estimating modes 1 and 4

13.1.1. Hungarian experience in estimating modes 1, 2 and 4 using surveys

This section presents the main points of the work done on developing a survey approach to collect information and estimate the allocation shares of modes 1, 2 and 4 in Hungary.

The planning of the process started in November 2018. The basic, user-friendly questionnaires developed were sent to respondents by email, with explanation of how to fill them in. This was a first effort for a pilot survey to collect data on trade in services by MoS in Hungary, and was supported by a European Commission grant. In the future, the Hungarian Central Statistical Office plans to do regular surveys. Discussions are still underway about adding the survey questions to the ITSS questionnaire or presenting them separately to the

data providers.

The approach used comprised the following steps.

1. Survey sample: The sample was selected based on ITSS data providers that reported the highest value for each EBOPS item in the reference period for both exports and imports (15 data providers per EBOPS item per import and export).
2. Survey questionnaire: The respondents were asked to make a percentage distribution of their reported ITSS values (both imports and exports) for each EBOPS item between modes 1, 2, 4. Detailed information on the modes in the form of a guide was provided to the respondents (Table 13.1. shows an extract from the survey questionnaire). The respondents were not told about Eurostat's model ⁽¹⁷⁰⁾ or distribution of percentages. Filling out the form was voluntary; the answering ratio varied greatly by EBOPS code. The survey ran for 2 months from January 2019.
3. Validation of the survey results: An internal working group from the Hungarian Central Statistical Office validated the answers and estimated their relevance, reliability and usability. Some respondents were recontacted for them to clarify certain aspects of the submitted information.

The problems detected during the validation process were:

- sometimes the question was not understood or was misunderstood;
- categories ambiguously described, or
- lower response rate for some EBOPS codes.

The respondents were contacted a second time by phone in these problematic cases.

4. Evaluation of the results:
 - Export and import sides were analysed separately. The percentage of replies within the different classes were calculated in order to get a clear view of the answering ratio.
 - After the answering ratio was determined, the replies for each service category were compared with Eurostat's simplified model.
 - The shares recommended by the model were modified if the number of responses was adequate and the results differed significantly, or if required due to the nature of the national economy.

Validation and evaluation of the process took place between March and June 2019.

Table 13.1: Example of MoS data collection, Hungarian Central Statistical Office

DATA COLLECTION: MODES of SUPPLY
Company's VAT nr.

Company's name									
EBOPS code	Service type	IMPORT				EXPORT			
		Mode1	Mode2	Mode3	Mode4	Mode1	Mode2	Mode3	Mode4
001	Maintenance and repair services								
221	Rail transport, freight								
232	Other supporting and auxiliary transport								
263	Computer services								
.....									

Source: Hungarian Central Statistical Office

Examples of modifying import shares in the model include:

- a) Maintenance and repair services n.i.e.: The survey results were very close to the model's standard shares (M2: 100 %). In Hungary companies are also using this kind of service with the presence of

⁽¹⁷⁰⁾ At that time, this guide was not yet available. Countries were using the 'Eurostat simplified model' as a reference. However, the differences between that model and the Eurostat/WTO model presented in this guide are minimal.

natural persons at 5 %. The 5 % share was categorised in Mode 4, while the main part, 95 % stayed in Mode 2.

- b) Research and development services were found to be 90 % Mode 1 and 10 % Mode 4 (in the standard model the allocation ratio between modes 1 and 4 is 75/25).

In the following cases, the shares were not modified:

- a) Answers typically showed the same percentage or one very close to the percentage in the model, in the case of information, engineering, telecommunications or other business services, to mention a few categories.
- b) There was only a relatively small group of codes for which the low response rate did not make it possible to accept the differing answers, such as electricity transmission, computer or construction services.

The proportions resulting from the answers were applied to the whole ITSS dataset. Some examples of adjusted shares are presented in Table 13.2. Note that the model shares given below correspond to the old Eurostat model, used at the time of the Hungarian survey; the Eurostat-WTO model has adjusted the allocation shares for SJ1 to 90-10 between modes 1 and 4 respectively.

Table 13.2: Examples of adjusted shares in the Hungarian MoS model

BOP subitem	BOP item name	SHARES BASED ON HUNGARIAN SURVEY				
		Mode type	Mode 1 (%)	Mode 2 (%)	Mode 3 (ITSS)	Mode 4 (%)
IMPORT						
SB	Maintenance and repair services n.i.e.	2;4		95		5
SH	Charges for the use of intellectual property n.i.e.	1;2;4	77	10		13
SJ1	Research and development services	1;4	90			10
SJ313	Scientific and other technical services	1;4	80			20

BOP subitem	Bop item name	EUROSTAT MODEL				
		Mode type	Mode 1 (%)	Mode 2 (%)	Mode 3 (ITSS)	Mode 4 (%)
EXPORT						
SC23	Air transport; Other than passenger and freight	1	100			
SC32	Other modes of transport; Freight	1	100			
SC33	Other modes of transport	2		100		
SC3G	Other supporting and auxiliary transport services	2		100		
SC4	Postal and courier services	1	100			
IMPORT						
SB	Maintenance and repair services n.i.e.	2		100		
SC3G	Other supporting and auxiliary transport services	2		100		
SH	Charges for the use of intellectual property n.i.e.	1	100			
SJ1	Research and development services	1; 4	75			25
SJ313	Scientific and other technical services	1; 4	75			25

Source: Hungarian Central Statistical Office

13.1.2. Austrian approach to estimating Modes 1 and 4

The starting point for compiling ⁽¹⁷¹⁾ modes 1 and 4 in Austria is Chapter V MSITS *Modes 1 and 4*, 5.50. If detailed balance of payments services statistics are compiled (that is, in accordance with EBOPS 2010), it

⁽¹⁷¹⁾ This approach was developed by the Austrian Central Bank OeNB and Statistics Austria; Version 29.10. 2020.

may be easier to allocate some of the transactions in cases where Mode 1 is considered the dominant mode, before going on to focus on the remaining transactions.

Following this line of thought, Austria has implemented an approach in which Mode 1 is attributed to services where, on the basis of EBOPS 2010, it is the dominant mode (see Table 13.3), while focusing analytically on services with no clear attribution to a single mode, by making use of survey data (especially the industry in NACE terms) and additional information from enterprises.

Table 13.3: Mode 1 distribution - Austria

EBOPS 2010	Item code
Sea transport, passenger	SC11
Sea transport, freight	SC12
Air transport, passenger	SC21
Air transport, freight	SC22
Postal and courier services	SC4
Space transport	SC3A
Rail transport, passenger	SC3B1
Rail transport, freight	SC3B2
Road transport, passenger	SC3C1
Road transport, freight	SC3C2
Inland waterway transport, passenger	SC3D1
Inland waterway transport, freight	SC3D2
Pipeline transport	SC3E
Electricity transmission	SC3F
Life insurance	SF11
Gross life insurance premiums receivable (credits) and payable (debits)	SF11y
Gross life insurance claims receivable (credits) and payable (debits)	SF11z
Freight insurance	SF12
Gross freight insurance premiums receivable (credits) and payable (debits)	SF12y
Gross freight insurance claims receivable (credits) and payable (debits)	SF12z
Other direct insurance	SF13
Gross other direct insurance premiums receivable (credits) and payable (debits)	SF13y
Gross other direct insurance claims receivable (credits) and payable (debits)	SF13z
Reinsurance	SF2
Auxiliary insurance services	SF3
Pension services	SF41
Standardised guarantee services	SF42
Explicitly charged and other financial services	SG1
Financial intermediate services indirectly measured	SG2
Franchise and trademarks licensing fees	SH1
Licences for the use of outcomes of research and development	SH2
Licences to reproduce and/or distribute computer software	SH3
Licences to reproduce and/or distribute audiovisual products	SH41
Licences to reproduce and/or distribute other products	SH42
Telecommunication services	SI1
Computer software	SI21
Other computer services	SI22
News agency services	SI31
Other information services	SI32
Provision of customised and non-customised research and development services	SJ111
Sale of proprietary rights arising from research and development	SJ112
Other research and development services	SJ12
Legal services	SJ211
Accounting, auditing, bookkeeping and tax consulting services	SJ212
Advertising, market research and public opinion polling services	SJ22
Operating leasing services	SJ33
Trade-related services	SJ34
Audiovisual and related services	SK1

Source: Austrian Central Bank

Special attention should therefore be paid to those services that, on the basis of EBOPS 2010, are not

included in Table 13.3 and where Mode 1, on the basis of MSITS, cannot be regarded as the dominant mode of supply:

- Business and management consulting and public relations services, SJ213
- Architectural services, SJ311
- Engineering services, SJ312
- Scientific and other technical services, SJ313
- Other business services n.i.e, SJ35
- Health services, SK21
- Education services, SK22
- Heritage and recreational services, SK23

The Austrian approach is to use the information from the services survey to determine which services the reporting enterprises are trading (on the basis of EBOPS 2010) and which industry (in NACE terms) they are operating in. Services cannot only be delivered by service providers, but also by the manufacturing industry. For example, electronic prototypes might be exchanged before an actual good is delivered to the client (e.g. in machinery). The approach for distinguishing Mode 1 from possible delivery by Mode 4 (or even 2) therefore focuses on the types of industries where digitalisation is predominant, i.e., services and manufacturing industries reporting for ITSS, defined as 'high technology' and 'ICT-enabled'. This is a mixed approach that takes into account the type of services (mainly ICT-enabled ⁽¹⁷²⁾) and the type of industry.

High-tech knowledge-intensive services (abbreviation taken from NACE Rev.2 codes – 2-digit level) are defined as (see Annex II to Regulation 2020/1197):

- Motion picture, video and television programme production, sound recording and music publishing activities (59);
- Programming and broadcasting activities (60);
- Telecommunications (61);
- Computer programming, consultancy and related activities (62);
- Information service activities (63);
- Scientific research and development (72).

Other knowledge-intensive sectors relating to ICT-enabled services are:

- knowledge-intensive market services (excluding financial intermediation and high-tech services):
 - architectural and engineering activities; technical testing and analysis (71);
 - other professional, scientific and technical activities (74);
- knowledge-intensive financial services:
 - financial service activities, except insurance and pension funding (64);
 - insurance, reinsurance and pension funding, except compulsory social security (65);
 - activities auxiliary to financial services and insurance activities (66);
- other knowledge-intensive services:
 - gambling and betting activities (92).

Another useful classification is the ISIC Rev.4 technology intensity definition, which puts manufacturing industries into categories based on R&D intensities. Industries related to ICT-enabled services are ⁽¹⁷³⁾:

- high-technology industries
- pharmaceuticals
- office, accounting and computing machinery

⁽¹⁷²⁾ ICT-enabled services according to UNCTAD are: Insurance and pension services, SF; Financial services, SG; Charges for the use of intellectual property n.i.e. SH; Telecommunications, computer, and information services, SI; Research and development services, SJ1; Professional and management consulting services, SJ2; Architectural, engineering, scientific and other technical services, SJ31; Other business services n.i.e. SJ35; Audio-visual and related services, SK1; Health services, SK21; Education services, SK22; Heritage and recreational services, SK23.

⁽¹⁷³⁾ This listing uses OECD definitions.

- radio, TV and communication equipment
- medical, precision and optical instruments
- medium-high-technology industries
- electrical machinery and apparatus, n.e.c. ⁽¹⁷⁴⁾
- motor vehicles, trailers and semi-trailers
- chemicals excluding pharmaceuticals
- railroad and transport equipment, n.e.c.
- machinery and equipment, n.e.c.

Following this logic, if a service export or import belonging to the list of services for further investigation is reported by an enterprise operating in one of the industries classified as ‘knowledge-intensive’, ‘high- or medium-technology’, the export or import is attributed to Mode 1. For all other reporting industries, the Austrian Central Bank and Statistics Austria tend to contact the reporting enterprises for further information so they can attribute the exports or imports to Mode 1 or Mode 4 (or even Mode 2).

13.2. Estimating Mode 2 – examples of estimating goods in the travel item

13.2.1. Czechia

The Czech National Bank is responsible for compiling travel items for BOP purposes and for compiling Czechia’s annual ITS statistics. Total travel receipts and expenditures are derived from the volume of exchanges of Czech currency with foreign currencies and *vice versa* through banking and non-banking foreign exchange offices, and from the volume of cross-border transactions with payment and credit cards. The data are completed using receipts and expenditures from the acquisition of goods and services by Czech and foreign seasonal, border and other short-term workers and students. Those items are monitored and compiled by the Czech Statistical Office (CZSO).

As far as travel broken down by product including goods is concerned, total travel receipts and expenditures are weighted using the ratios calculated on the basis of annual Tourism Satellite Accounts (TSA) data compiled and published by the CZSO. TSA ⁽¹⁷⁵⁾ data provide data on inbound tourism consumption in Czechia by product including goods (TSA Table 1) by non-resident visitors entering Czechia, and outbound tourism consumption by product by Czech residents (TSA Table 3). The TSA data published on the CZSO website are for the period 2003-2018.

13.2.2. Italy

The Italian approach to removing the goods part from ‘travel’ is based on the data received from the Bank of Italy. In Italy, international shopping expenditure data are identified using a frontier survey run by the Bank of Italy. The survey collects, through face-to-face interviews, the breakdown of expenditure abroad, including the distinction between goods and services ⁽¹⁷⁶⁾.

The value of goods on inbound expenditure is derived directly from the Italian BOP travel item ‘shopping in Italy’ without any estimate (see the extract from the *Survey on international tourism in Italy – 2023 edition* in Annex VIII).

The sum of inbound and domestic expenditure on goods provides the total value at purchasers’ prices of goods acquired by visitors on Italian territory. It is part of tourism consumption that appears in the Tourism

⁽¹⁷⁴⁾ ‘n.e.c.’ stands for ‘not elsewhere classified’.

⁽¹⁷⁵⁾ The TSA tables are presented in detail in Chapter 4 of the [Tourism Satellite Account: Recommended Methodological Framework 2008](#).

⁽¹⁷⁶⁾ The Bank of Italy international tourism survey questionnaire can be found in Annex 8.III.

Satellite Account (TSA) ⁽¹⁷⁷⁾ Table 4 and Table 6 in the internal tourism consumption column.

TSA Table 6 can be considered as the core of the TSA framework. In this table, domestic supply and internal tourism consumption are juxtaposed in order to compile the tourism share of each product. Tourism share corresponds to the part of production that is allocated to internal tourism consumption. The compilation of Table 6 makes it possible to estimate tourism value added (TVA).

That said, when establishing tourism shares, which are values required for the calculation of tourism value added, it is the value of the retail trade margin that will be used as the calculation basis, because it represents the value of the output of the service provider who makes the good available to the visitor.

In practice, in order to estimate the distribution margins in Mode 2, the Italian approach uses the tourism share of value present in Table 6 in the intersection between the column for the industry of the 'retail trade of country-specific tourism characteristic goods' and the row for the product 'country-specific tourism characteristic goods' (shopping). The ratio between the tourism share of value and internal tourism consumption in shopping determines the incidence of distribution margins on goods purchased by tourists. Applying the percentage thus obtained to the value of expenditure on goods in the travel item of Italy's BOP gives the value of distribution services for Mode 2.

Finally, the value of expenditure on goods of the travel item can be removed completely and the value of the estimated distribution margins allocated to Mode 2.

In Italy distribution services were 30 % of the export goods part of travel in 2015. The same share is applied to the import goods part of travel.

13.2.3. The Netherlands

The Table 13.4 presents estimations of the Statistics Netherlands ⁽¹⁷⁸⁾ (CBS) for splitting the travel item into its constituent subitems. Since the estimations are rough and general (for instance, there is no split between partner countries, etc.), the figures should be seen as indicative.

Table 13.4. Dutch estimation of goods in travel (in %)

		Import	Export
SDA1	Business travel: border, seasonal worker expenditures	95,00	52,38
SDA2	Business travel: other expenditures	1,25	1,25
SDB1	Personal travel : health-related expenditure	1,00	1,00
SDB2	Personal travel : education-related expenditure	22,00	22,00
SDB3	Personal travel : travel-related and recreation expenditure	18,85	12,77

Source: CBS

Some further details for each subitem are given below.

SDA1, Import:

Consists of the expenditures of border workers. It is assumed that the majority of their expenditures is on goods (fuel, supermarket, sandwiches etc.).

SDA1, Export:

Consists of seasonal and border workers. The same assumption as for the import side applies to border workers. For seasonal workers, there is an estimation of total expenditures within the Netherlands of their

⁽¹⁷⁷⁾ The TSA tables are presented in detail in Chapter 4 of the [Tourism Satellite Account: Recommended Methodological Framework 2008](#).

⁽¹⁷⁸⁾ Author: Loek Maassen (CBS Statistical Analyst Travel Statistics); Topic: Rough estimation of percentage of goods of total expenditures; Date 14-04-2021.

total income (48 %). It has been assumed that for this part of their earnings, they have a similar expenditure pattern to Dutch citizens (50 %).

SDA2, Import and Exports:

There are sources for the total expenditures of business travellers. However, there is no split between expenditure categories. The variable used is the one from SDB3 Export, with a distinction between goods and services. Although not a perfect representation of a business traveller, this seems to be the best value available. A better estimation would require further research or a survey adjustment.

SDB1, Import and Exports:

There are no sources for the split between goods and services in health-related travel: 1 % was therefore chosen because some goods may be bought during, for example, a stay in a hospital. But this percentage is not based on any research.

SDB2, Import:

This is Dutch students' percentage of expenditures on goods. From some categories – such as health and hygiene & other – only 50 % of the value was taken. It is assumed that Dutch students have a similar expenditure pattern abroad as they do in the Netherlands. It would be logical to assume that some countries have lower living or study costs (particularly Belgium). This would require an extensive study per country and is therefore beyond the scope of this estimation.

SDB2, Export:

This is Dutch students' percentage of expenditures on goods. From some categories – such as health and hygiene & other – only 50 % of the value was taken. It is assumed that foreign students have a similar expenditure pattern. Factors that may influence their spending pattern include nationality, type of student and income/financial resources. This would require additional research.

SDB3, Import:

This draws on several sources. The main source is a survey on the holidays and expenditures of Dutch tourists abroad. Since the survey asks about the different types of expenditures, it gives a pretty good indication, but the value is very low (only 1.25 %).

Another source is a survey on daytrips by Dutch citizens. As in the holiday survey, there is also a good split in expenditures. The value (35 %) is higher than holiday expenditures on goods during holiday.

Yet another source is the estimated value of goods/services bought by Dutch citizens across the border. It is assumed that a very high percentage of this value is goods (95 %). Germany and Belgium are known for to have low fuel prices. Germany also has lower supermarket prices than the Netherlands. An exact value, requiring further research, is therefore beyond the scope of this estimation.

SDB3, Export:

This draws on several sources. The main source is a survey on overnight stays that measures the number of overnight stays by tourist travellers. The resulting expenditures are an amount based on information from a past study that is changed slightly each year. Because there is no split between the types of expenditures, the same percentage (1.25 %) is used as for SDB3 imports.

Estimated are the expenditures of tourists who stay in the Netherlands not included in the overnight stays survey, for example tourists who stay in a holiday home or on a boat or who rent an AirBNB. For this value the same percentage is used as for other overnight stays (1.25 %).

Daytrips are the final part of this service, for which is used the value from an earlier study rarely adjusted (2020 being the biggest exception). The same percentage (35 %) is used as for SDB3 imports.

13.2.4. Poland

The Central Bank of Poland compiles ITSS travel data, using data collected by one of the regional statistical offices as its main source. The necessary breakdowns within travel item (e.g. the purpose of travel, the

expenditure types, the type of travelling person etc.) are collected via a dedicated survey. The methodology of the survey is in line with MSITS 2010 and BPM6 recommendations.

Travel data for 2010-2018 was recently revised. This involved transferring transactions related to the purchase of commodities of high value from services trade to goods trade. The revision concerned commodities purchased for personal needs during travel and used not only during travel but also afterwards – for example, cars, boats, jewellery, computers, etc. The correction was estimated on the basis of information collected from the survey on Polish residents' expenditures during travels abroad and foreign tourists' expenditures in Poland.

13.2.5. Spain

The Central Bank of Spain (NCB) is responsible for the final estimation of the BOP travel item. This item covers the goods and services purchased by residents in one economy during a stay of less than 1 year in another economy for business or personal reasons (including health and education) ⁽¹⁷⁹⁾. For this purpose, the NCB uses the following sources.

Travel credits

Data on the tourism expenditure of non-residents are obtained from the **Tourist Expenditure Survey** ⁽¹⁸⁰⁾ (EGATUR in Spanish). Travel credits are directly estimated using the figures (levels) from EGATUR.

Travel debits

The estimates for payments are based essentially on the information available through the NCB's payment systems regarding external transactions settled with bank cards issued for accounts in Spain. Travel debits are estimated using variation rates for bank card transactions. This information, broken down by type of transaction (using ATMs, point-of-sale terminals or e-commerce), is complemented with data published by the Telecommunications Market Commission on the breakdown of e-commerce by activity sector, which makes it possible to identify and exclude digital trade not related to tourism. In addition, the results of the **Residents' Travel Survey** (ETR in Spanish) done by the Spanish National Statistics Institute (INE) ⁽¹⁸¹⁾ are used to estimate the geographical breakdown and the 'mirror' data (travel credits published by the main counterpart countries) in order to correct the biggest differences.

Treatment of basic tourism data to comply with BPM6 travel item

EGATUR's purpose is twofold. On the one hand, it provides figures on the expenditure of non-resident tourist in line with the IRTS 2008 and [TSA-RMF 2008](#) standards. On the other, it provides basic data for the estimation of travel credits in line with BPM6 and MSITS 2010. For this second purpose, the INE applies due treatment of EGATUR gross data in order to comply with BPM6, before delivering the data to the NCB for BOP purposes. This treatment involves the adjustments described below.

EGATUR data are adjusted by deducting the international transport costs of passengers.

Of the total value of tourist packages, 40 % is removed: 30 % is attributed to international passenger transport services and 10 % to the margins/commissions of non-resident travel agencies and tour operators.

Similar adjustments are made to ETR data to define the BOP variable for estimating travel debits by

⁽¹⁷⁹⁾ This does not apply to students or patients receiving medical treatment who remain residents of the economy of origin (and, consequently, tourists of the economy visited) even if they stay for more than one year. By contrast, staff posted to a military base or government agency (including embassies), or their accompanying dependents are never considered tourists.

⁽¹⁸⁰⁾ This survey, the basic source for the estimation of travel credits, is carried out by the Spanish National Statistics Institute (INE). INE compiles data, on an ongoing basis, at the main border crossing points (roads, airports, trains and seaports). The survey takes the form of personal interviews on departures from Spain of non-residents. The grossing-up framework used for the EGATUR survey is the one provided by the **INE's Inbound Tourism Survey** (FRONTUR in Spanish). The period to which the data refer is the calendar month.

⁽¹⁸¹⁾ The ETR is a continuous survey mainly designed to provide monthly, quarterly and annual estimates of travel by the population of residents in Spain and its main features (destination, duration, reason, accommodation, means of transport, expenditure, sociodemographic characteristics of travellers, etc.).

geographical breakdown.

In accordance with international methodological guidelines, estimated rental expenses imputed to the owners of real estate located in a country other than their country of residence are recorded both as travel receipts (credits) and payments (debits) when said owners are on temporary stays in their real estate.

Estimation of goods using basic tourism data

Both EGATUR (credits) and ETR (debits) collect information by singling out goods and services expenditure items. In the case of EGATUR, data on the split between goods and services information are collected for both kinds of non-resident visitors: tourists (more than a one-day trip) and excursionists (same-day trip). In the case of ETR, only data on tourists are broken down by goods and services.

Table 13.5: Shares ⁽¹⁸²⁾ of goods and services from EGATUR and ETR (alternative presentation) (%)

%TOTAL TRAVEL	2019		2018		2017	
	Credits	Debits	Credits	Debits	Credits	Debits
%GOODS	16.69	13.86	16.68	13.73	17.14	15.19
%SERVICES	83.31	86.14	83.32	86.27	82.86	84.81
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
%TOTAL TRAVEL SERVICES	2019		2018		2017	
	Credits	Debits	Credits	Debits	Credits	Debits
%LOCAL TRANSPORT SERVICES	11.77	11.89	12.34	10.90	12.96	11.63
%ACCOMMODATION SERVICES	24.30	34.29	23.44	33.81	23.16	31.62
%FOOD SERVING SERVICES	17.85	27.94	17.90	27.69	18.01	28.67
%OTHER SERVICES THAN ABOVE	46.09	25.88	46.32	27.60	45.87	28.08
- of which health services	n.a	n.a	n.a	n.a	n.a	n.a
- of which education services	n.a	n.a	n.a	n.a	n.a	n.a
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

Note:

The data presented in the above table are calculated using tourism statistics, not the BOP travel item. This table has been developed only for this compilers guide; the data are not official as they have not been published under tourism or BOP statistical domains.

Source: EGATUR and ETR (INE)

At this stage, INE, as the body responsible for MoS estimation, has not yet included the travel item in current Mode 2 estimates. It will do so when international supply of services becomes mandatory pursuant to the EBS Regulation.

13.2.6. Sweden

Sweden uses credit card data as a source for calculating the goods component of 'travel'. The data received from the reporting companies are detailed on an MCC (Merchant Category Code) level. The name of the MCC code determines whether the transactions reported under a specific MCC code come mainly from goods, services, accommodation, restaurants etc.

Table 13.6: MCC levels

MCC	Class	MCC code
Sports/riding apparel shops	Goods	5655
Shoe shops	Goods	5661

⁽¹⁸²⁾ This table has been developed using adjusted EGATUR and ETR data sent to the NCB for travel purposes, excluding the estimated rental expenses imputed to the owners of real estate located in a country other than their country of residence. The inclusion of these estimated rental expenses would not change the percentage structure significantly.

MCC	Class	MCC code
Furriers and fur shops	Goods	5681
Men's/women's clothing shops	Goods	5691
Tailor/seamstress/alterations	Services	5697
Restaurants	Restaurants	5812
Bars/taverns/lounges/discos	Restaurants	5813

Source: Statistics Sweden

The complete set of MCC codes are classified and then combined with the reported dataset. The sum of all transactions reported using MCC codes classified as goods are calculated and then divided by the total sum of travel-related transactions from the same dataset (including goods). The resulting quota is then applied to the total estimate of travel, including all sources (credit card data, money exchange data and ITSS survey). As 80-90 % of the total value of travel for Sweden derives from credit card data, the basis for the estimates is quite solid. One drawback of the current method is the binary approach used in the classification of the MCC codes, with the result that businesses that sell both goods and services will have all their transactions classified exclusively as goods or services.

13.3. Estimating Mode 3

13.3.1. Italy

The Italian approach to calculating Mode 3 is based on Eurostat's simplified model, improved using national data sources, such as structural business statistics (SBS) and supply-use tables.

To estimate Mode 3, the variable is the turnover/sales of foreign affiliates, but only local sales represent the delivery of output within host economies (domestic turnover).

In Italian outward FATS, information on domestic turnover is collected using a questionnaire on turnover by entities (foreign affiliates). The split between domestic turnover, turnover that returns to the mother company and third-country turnover is available.

In Italian inward FATS, all SBS variables are available, but turnover/production is not broken down by the customer's country of residence. To estimate Mode 3, domestic turnover for inward FATS is calculated using SBS data, by merging inward FATS data and SBS large companies' data.

The Italian method is based on microdata linking (MDL) techniques: in Section 6 of the SBS questionnaire for large companies, the export value of the services item is available. The total value of services exports is removed from turnover to derive the turnover part sold in Italy (domestic turnover). In order to calculate the domestic part of turnover for inward FATS, the domestic SBS turnover share is applied to inward FATS companies are using a 2-digit NACE classification necessary for transcoding it in EBOPS.

SBS data are used for 'manufacturing services on physical inputs owned by others' (turnover imputed to a specific activity). The turnover share of manufacturing services in total manufacturing turnover is calculated by specific SBS item and applied to the total FATS manufacturing sector (Section C) to obtain the FATS manufacturing services part. The same turnover share of manufacturing services is used for inward and outward FATS data.

In order to estimate the 'maintenance and repair services n.i.e.' part done by other manufacturing activities, supply-use tables from the Italian National Accounts are used. Using the production information per product (per row) from the supply table, the production value of 'maintenance and repair services n.i.e.' supplied by other manufacturing industries is obtained. The share of maintenance and repair services of other manufacturing activities is applied to FATS manufacturing sector (Section C), excluding 'maintenance and repair services n.i.e. activities' already included in Mode 3. The same share is used for inward and outward FATS data.

In order to isolate the construction services part of Mode 3, 'development of real estate projects' turnover is considered. SBS contain the value of the turnover attributed to this specific services activity of the construction sector, using which the share of the 'development of real estate projects' turnover in total construction turnover is calculated. This quota is applied to inward and outward FATS construction data to obtain a first estimate of the construction services part.

Turnover is split into: local market; market of origin of the affiliate (excluded, since it is included in ITSS); other third markets (should also be excluded from Mode 3 calculations).

For OFATS, information on domestic turnover is collected using a questionnaire on turnover by entities (foreign affiliates). The split between domestic turnover, turnover that returns to the mother company and third-country turnover is available.

For IFATS, SBS data are the source for all variables. Domestic turnover is estimated by linking IFATS data with SBS on large companies (production and turnover using 2-digit level NACE codes). In Italy, for large companies a breakdown of the turnover by goods and services, as well as the domestic part of the turnover, are available.

FATS include distribution services (wholesalers and retailers' production value, for NACE Section G) and are incorporated into Mode 3 MoS estimation (calculated as a production to turnover ratio).

For the estimation of manufacturing services, SBS data are used (turnover imputed to a specific activity). For maintenance and repair services the 2015 supply-use tables were used. For construction services, we used the turnover of the development of real estate projects, as part of the total construction turnover.

In Italy, the supply of services by Mode 3 is estimated at about 55-65 % of total services supplied internationally.

13.3.2. Poland

In Poland FATS-related data are collected using various surveys. **OFATS** data are available from the survey on enterprises with foreign entities, collected since 2008 by means of a census survey covering about 2 000 units. For each OFAT, the variables surveyed contain the following information: name and type of entity, residence country, total revenue, revenues from sales of products ⁽¹⁸³⁾, commodities and material, other operational revenues, total costs, stocks, exports/imports as a total and within the enterprise group; etc.

National IFATS data are collected for about 26 000 reporting units (all companies with foreign capital, not only foreign affiliates). The data include all items relating to profit/loss accounts, import/export of services; fixed assets; goods and imports/exports within the enterprise group. Data on export and import type are provided only by the legal units with foreign capital.

The procedure for compiling the value of services provided by Mode 3 is based on a Eurostat methodology. SBS, FATS and ITSS are the main data sources. Some technical modifications of data collection have been made to improve the availability of data. 2018 was the first year for which data on the activity of foreign affiliates located in Poland (IFATS) were collected together with data for SBS in the Annual Business Survey (SP). Data on the activity of Polish entities abroad (OFATS) were collected separately in the questionnaire on enterprises with foreign entities (KZZ).

First of all, it was assumed that in Mode 3 the value of services provided by foreign affiliated enterprises to resident's host country should be included.

In the case of IFATS, the value of service provided to Polish residents by IFATS was regarded as a value of service output provided to the e-host economy by IFATS (regarding the primary activity of IFATS).

⁽¹⁸³⁾ Revenues from sales of products comprise both goods and services. Some assumptions about the kind of business activity were therefore made in order to estimate the value of services. The Eurostat CPA-EBOPS correspondence table was also applied.

- In line with the national accounts' concept of output it consists of revenues from the sale of products (goods and services) on the domestic market, the value of domestic market trade margins, the change in stocks of products, and the costs of products produced for personal needs.
- The total value of revenues from the sale of products (goods and services) ⁽¹⁸⁴⁾ on the domestic market was classified as the import of a given service related to the main activity of a foreign affiliated company in accordance with the EBOPS-CPA correspondence table.
- The value of the trade margin was calculated as the difference between revenues from the sale of materials and commodities and the value of sold materials and commodities and classified as the import of distributive services.
- The country of import was established on the basis of the place of residence of the foreign affiliated company's parent company ⁽¹⁸⁵⁾.

All the data needed for the procedure outlined above came from one questionnaire common to both SBS and IFATS.

In the case of OFATS, the value of service provided to host country residents by Polish entities abroad was regarded as the total value of revenues from the sale of products ⁽¹⁸⁶⁾, materials and commodities in the host country.

- The value of revenues from the sale of products (goods and services), materials and commodities in the host country was calculated as the difference between the value of revenues from the sale of products (goods and services), materials and commodities as a total and as an export.
- The value of revenues from the sale of products (goods and services), materials and commodities in the host country was classified as the export of a given service related to the main activity of a foreign affiliated company in accordance with the EBOPS-CPA correspondence table.
- However, in the case of trade activities (NACE Section G), the value trade margin was applied. Due to the lack of direct data, the value of the trade margin was estimated using the average trade margin percentage for trade activities.
- The country of export was considered the host country where the Polish entity in question was resident.

All the data needed for the procedure outlined above came from the questionnaire on enterprises with foreign entities (KZZ). However, in order to calculate the trade margin indicator, data from the Annual Business Survey (SP) was used.

13.3.3. Spain

At the time of writing this handbook, Spain was not producing Mode 3 data from FATS. However, some possible approaches for producing Mode 3 data have been assessed with no final decision being made.

The data collection needed for estimating Mode 3 data in Spain mainly depends on the variables available in FATS which differ substantially from IFATS to OFATS. The estimation procedure will be based on two differentiated steps for both IFATS and OFATS: 1) estimation of domestic sales of services by main NACE code, as FATS are only compiled by economic activity, and 2) conversion of domestic sales of services by

⁽¹⁸⁴⁾ Revenues from the sale of services as a total could be calculated. However, there is no information on the value of exported services. The value of revenues from the sale of services on the domestic market can therefore only be estimated by applying the share of services in total revenues to the sale of products (domestic and export).

⁽¹⁸⁵⁾ The concept of the ultimate controlling institution unit (UCI) – see Chapter 4.

⁽¹⁸⁶⁾ This should in principle only be services, but for OFATS there is no possibility of estimating the value of services. Only an assumption regarding the main activity of a foreign affiliated company in accordance with the EBOPS-CPA correspondence table can be applied.

main NACE into EBOPS categories.

I. Inward FATS (IFATS) – foreign-owned affiliates in Spain

The compilation of IFATS data is carried out in two different ways depending on affiliates' main economic activity. On one side, those data on industry, trade and non-financial services are compiled by INE at microdata level. On the other side, those data on construction, insurance, and pensions and financial services, are compiled by the Ministry of Transport, Mobility and Urban Agenda, the Ministry of Economic Affairs and Digital Transformation, and Banco de España, respectively, and only information at macro data level is available for INE.

I.1 IFATS on industry, trade and non-financial services

IFATS data on these sectors are directly obtained from SBS by INE. SBS/IFATS data come from SBS questionnaires on industry, trade and non-financial services. The whole IFATS population, i.e. foreign-owned affiliates in Spain on these sectors, is exhaustively included in an SBS sample, so all the IFATS population is surveyed every year. However, not all the information that would be needed to properly estimate Mode 3 is directly available in SBS questionnaires, so some estimation work is needed. For example, domestic or local sales of services is not directly covered in SBS questionnaires.

The most useful variables in SBS/IFATS questionnaires for Mode 3 purposes are:

SBS/IFATS variables for Mode 3	Observations
TURNOVER:	
Total net turnover (TUR)	
Net turnover from goods sales (TUR_G)	These two breakdowns are not always available for all units. This depends on the type of SBS questionnaire they receive. On the other hand, TUR_S is not always aligned with the % turnover for services NACE codes to total net turnover included in the questionnaire (see below)
Net turnover from services sales (TUR_S)	
TURNOVER BY GEO DESTINY OF SALES:	
% Total net turnover generated in Spain (% TUR_ES)	This breakdown by geo destiny of sales provides us with the share of domestic/local sales to total net turnover. Unfortunately, this breakdown is not available in a differentiated way for sales of goods and sales of services.
% Total net turnover generated in Rest of EU (% TUR_EU)	
% Total net turnover generated in Rest of World (% TUR_RW)	
TURNOVER BY ECONOMIC ACTIVITY:	
% Total net turnover generated by main economic activity (% TUR_M)	Apart from the main economic activity of the foreign affiliate, information on the NACE codes (at 4-digit level) and their share of total net turnover is collected for 12 potential secondary/auxiliary activities of foreign affiliates. This helps estimate the share of sales of services for those foreign affiliates whose main economic activity is not in the service sector.
% Total net turnover generated by first secondary activity (% TUR_S1)	
% Total net turnover generated by second secondary activity (% TUR_S2)	
.....	

SBS/IFATS variables for Mode 3	Observations
% Total net turnover generated by twelfth secondary activity (% TUR_S12)	
PRODUCTION VALUE:	
Production value (PV)	<p>PV is not a variable directly observable in SBS/IFATS questionnaires. It is a derived variable based on sales, including changes in stock and the resale of goods and services.</p> <p>In IFATS, PV is used replacing TUR in K64.</p>

With this information, the percentage of sales of services to total net turnover by main NACE code is estimated by taking into account not only '% TUR_M' but also all secondary and auxiliary activities (% TUR_S1,..., % TUR_S12) in the service sector. For estimating the domestic sales of services by main NACE code:

$$\text{Domestic sales of services} = (\% \text{ sales of services}) * (\% \text{TUR_ES}) * \text{TUR}$$

Assumption:(% TUR_ES) is also applicable to sales of services.

To convert domestic sales of services by main NACE code into EBOPS categories, several possibilities can be taken into account.

1. Use Eurostat's NACE-EBOPS bridge table for IFATS based on intuitive logic and some countries' experience.

2. Use the STEC table which links NACE to EBOPS. Although the table refers to exports of services (and not to domestic sales of services), its percentage structure can be useful for distributing NACE codes among different EBOPS items by assuming that services are sold domestically by EBOPS item in the same proportion as they are exported. A clear advantage of using this approach is that the table structure changes over time (yearly). A possible alteration to this bridge table would be to incorporate the ownership dimension of STEC, and modify the STEC bridge table NACE-EBOPS, which is restricted to foreign-owned enterprises, so it becomes closer to the IFATS framework. Another alteration as regards this approach could be to use MDL techniques to link IFATS units to ITSS units:

- a. for those matching units, taking EBOPS data directly from ITSS to distribute domestic sales of services by EBOPS item according to EBOPS structure in ITSS, at microdata level;
- b. for non-matching units, use the above-mentioned generic STEC bridge table NACE-EBOPS.

I.2 IFATS on construction, insurance and pensions and financial services:

For these sectors, IFATS information is compiled by the above-mentioned institutions and sent to INE following the final data structure for IFATS files required by EU FATS Regulation (macro data). INE, as national coordinator for FATS, is in charge of adding these data to those compiled for industry, trade and non-financial services, and so getting final data for total economy.

For this IFATS information that comes from other institutions, we only have total net turnover aggregated data by main NACE code, without any information either on sales destiny or secondary activities or goods/services.

Due to this lack of information, the best solution would be to assume that all this aggregated net turnover at

different levels of Section F (construction) and Section K (Financial, insurance and pension activities) of NACE rev.2 is only generated by domestic sales, and use, either the Eurostat's NACE-EBOPS bridge table for IFATS, or the STEC bridge table NACE-EBOPS, to distribute these NACE codes among different EBOPS items.

II.Outward FATS (OFATS) – Spain owned affiliates abroad:

OFATS is obtained from two administrative sources linked to outward-FDI. The main one is the Foreign Investments Register (FIR) maintained by the Ministry of Industry, Tourism and Trade for FDI purposes. The FIR receives administrative forms that supposedly all resident investors investing in foreign companies whose net worth is over EUR 1.5 m, must fill out. This FIR information is sent to INE at microdata level, following an interinstitutional agreement between INE and the ministry. This is used for compiling OFATS for all economic activities, except Section K (Financial services). For Section K (Financial services), information from Banco de España at macro data level is received.

II.1 OFATS on industry, construction, trade and non-financial services:

For all economic sectors except Section K, OFATS is obtained from the above-mentioned FIR. Up until 2020, for OFATS, only total net turnover data of Spanish-owned affiliates abroad by main NACE code have been available, which makes it much more difficult to properly estimate domestic sales of services by main NACE code for the OFATS population, than for that of IFATS. **However, the INE-Ministry agreement was renewed in 2020 to include two new variables as of 2021: net turnover from domestic sales (goods + services) and net turnover from domestic sales of services (only services). The latter variable corresponds to M3 target variable.**

The most useful variables in FIR (administrative form)/OFATS for Mode 3 purposes are:

FIR/OFATS variables for Mode 3	Observations
TURNOVER:	
Total net turnover (TUR)	
Total net turnover from domestic sales (including goods + services) (TUR_DO)	As of 2021, these new variables were added to the administrative form that feeds FIR at the INE's request for Mode 3 purposes. TUR_DO_SER corresponds to M3 target value.
Total net turnover from domestic sales of services (TUR_DO_SER)	

Domestic sales of services (for all economy sectors except Section K -Finance) = TUR_DO_SER

To convert domestic sales of services by main NACE code into EBOPS categories, the above-mentioned NACE-EBOPS bridge tables for IFATS would be applicable.

II.2 OFATS on Financial services

For Section K (financial services only), INE receives information from Banco de España following the final data structure for OFATS files required by EU FATS Regulation (macro data), as it happens also for IFATS. Here, the assumption is that both the total net turnover and the production value of the Spanish-owned affiliates (affiliates or branches of banks) are only generated via the sale of financial services to residents in the country where the affiliate is located, i.e. we assume that there are no exports of financial services to other countries.

Domestic sales of financial services (Section K -Finance) = TUR

III. Distribution services in Mode 3

To estimate the distribution services in Mode 3, the following is taken into account:

- for IFATS – distribution services in Mode 3 = IFATS production value (Section G) = IFATS gross margin trade achieved on goods purchased for resale
- for OFATS – starting from the only variable available in OFATS, total net turnover by NACE and host country, we multiply this variable for Section G by the ratio (production value (Section G) /net turnover (Section G)) estimated from IFATS.

$$\begin{aligned}
 & [\textit{distribution services Mode 3}] \\
 & = [\textit{OFATS gross margin trade achieved on goods purchased for resale}] \\
 & = [\textit{OFATS net turnover, Section G}] * \frac{[\textit{IFATS production value, Section G}]}{[\textit{IFATS net turnover, Section G}]}
 \end{aligned}$$

13.3.4. The United States of America

The US Bureau of Economic Analysis (BEA) uses a pioneering method to measure services supplied through affiliates across service types, mapping its comprehensive industry-based foreign affiliate statistics on to its trade statistics. The approach used is explained in the paper *Measuring Trade in Services by Mode of Supply* ⁽¹⁸⁷⁾.

As explained in the paper, the estimates for services supplied through Mode 3 by type of service rely on a bridge table ⁽¹⁸⁸⁾ between BEA FATS, classified by the type of industry corresponding to the reporter's largest share of sales, and BEA's services trade categories, used in its statistics covering modes 1, 2, and 4.

BEA's Mode 3 totals are based on its FATS. The bridge table approximates service types for FATS reported in BEA surveys on the activities of multinational enterprises (MNEs), to enable a comparison of how US firms supply different types of services across all four modes. These BEA-FATS data cover statistics on services supplied to the host country by US MNEs through their majority-owned foreign affiliates (MOFAs), as well as services supplied to US residents by foreign MNEs through their majority-owned US affiliates (MOUSAs) ⁽¹⁸⁹⁾. To best understand the behaviour of MNEs, these statistics are compiled for enterprises in which the direct investor directly or indirectly holds or controls a majority of the voting power.

For the US, the estimated shares of Mode 3 were 59 % for services supplied and 63 % for services received in 2016.

13.4. National practices – MoS data compilation

13.4.1. France

In 2018, France made a first attempt to estimate trade in services by MoS. The methodology and results are fully described in an article in the Banque de France Bulletin by Cezar, R. and Fegar, G. (2018), 'French international trade in services by mode of supply' ⁽¹⁹⁰⁾.

⁽¹⁸⁷⁾ https://www.bea.gov/system/files/papers/WP2019-7_2.pdf

⁽¹⁸⁸⁾ The bridging table developed is based partly on a broader project by BEA to map sales reported by industry in its FATS on to the appropriate service type. It is also based on work done by the WTO to develop a correspondence table between International Standard Industrial Classification (ISIC) codes and the Extended Balance of Payments System (EBOPS). See 'A *Global Trade in Services Dataset by Sector and by Mode of Supply*', 2019: https://www.wto.org/english/res_e/statis_e/daily_update_e/Tismos_methodology.pdf.

⁽¹⁸⁹⁾ BEA surveys of MNE activities collect information on sales by US MNEs (including US parent companies and their foreign affiliates as well as US affiliates owned by foreign MNEs) broken down into goods, services and investment income. For sales classified in wholesale and retail trade, insurance, and banking, adjustments are made to reported sales of services to better capture the value of services supplied. Specifically, these adjustments add: 1) wholesalers' and retailers' distributive services; 2) insurers' premium supplements; and 3) banks' services that are implicitly charged. They subtract a proxy measure of insurers' expected losses. An example of what the survey questions look like for outward estimates can be seen in the *BE-10 B survey* on page 11.

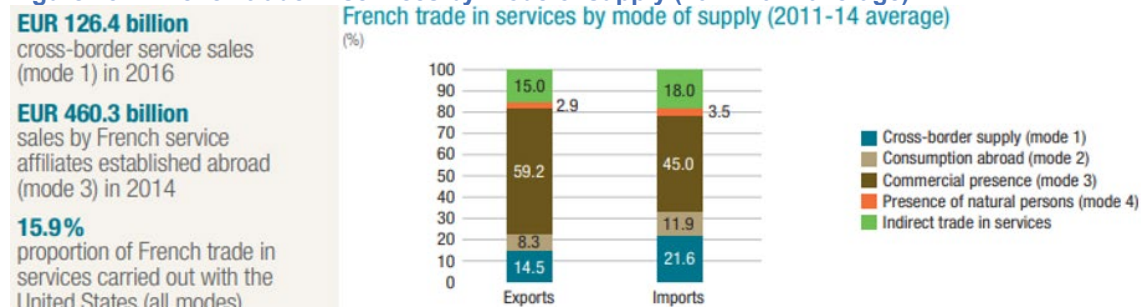
⁽¹⁹⁰⁾ https://publications.banque-france.fr/sites/default/files/medias/documents/818046_qsa49_web.pdf#page=25

In the study, the way to compile data for modes 1, 2 and 4 was based on the Eurostat-simplified model, which not only involved determining the dominant mode(s) of supply but also assigned allocation shares between modes for each service item.

Each share was re-examined in the light of qualitative information supplied by a selection of enterprises that took part in Banque de France's surveys on international trade in services. As a result, the shares can be tailored to the specific characteristics of France's international trade. They can be calculated at a more disaggregated level for 59 service categories to correct the sectoral composition effects specific to France. The method rests on the premise that the same allocation shares apply equally to exports and imports. This seems realistic given that most trade takes place between economies with comparable degrees of diversification and sophistication.

Measuring Mode 3 requires information on the activities of French group affiliates established abroad and the affiliates of foreign groups established in France. This information, particularly on turnover, can be obtained from FATS data. In France, FATS data are prepared by the National Institute of Statistics and Economic Studies (INSEE) and the Banque de France for non-financial and financial corporations, respectively.

Figure 13.1: French trade in services by mode of supply (2011-2014 average)
French trade in services by mode of supply (2011-14 average)



Sources: Banque de France, Insee and World Input-Output Database (WIOD); authors' calculations.

Note: Mode 1 – the service crosses a border; mode 2 – the consumer moves abroad to consume the service; mode 3 – the supplier sets up a permanent presence abroad to reach consumers; and mode 4 – the supplier moves abroad temporarily in order to supply the service. Indirect trade in services refers to services for use in the production of goods traded internationally.

Source: Banque de France ⁽¹⁹¹⁾

In 2023, France put further efforts into refining the Eurostat-simplified model. As part of a multimodal survey, a sample of 700 non-financial enterprises that exchange services with non-residents were asked to allocate their international trade for modes 1, 2 and 4.

About 30 of them took part in a live interview with their representative, also to acquire qualitative feedback. The participants were not surveyed on all the types of service expected for MoS. To lighten their task, they were questioned only about subset of service types identified by the experts.

The FATS data are also being analysed to measure international trade through Mode 3. The results are not yet complete and will be provided with the first results, which are expected to be delivered in October 2024.

13.4.2. Estonia

Before 2021, the Bank of Estonia was responsible for collecting, compiling, and disseminating international trade of services statistics (ITSS). There was no dedicated ITSS survey in Estonia. Services were a part of the comprehensive external sector survey, designed to cover all balance of payments (BoP) transactions and positions (excl. external trade in goods). Data were then transmitted to Statistics Estonia to compile ITSS data by STEC and MoS.

In 2021, Statistics Estonia took over data collection for trade of services from the Bank of Estonia. Data are collected directly from data providers using a specific questionnaire ⁽¹⁹²⁾. The survey is conducted on a

⁽¹⁹¹⁾ See: https://publications.banque-france.fr/sites/default/files/medias/documents/818046_qsa49_web.pdf#page=25.

⁽¹⁹²⁾ Foreign trade in services 2023. [Questionnaire for printing \(in PDF format\)](#).

quarterly basis and must be submitted to Statistics Estonia at the latest by the 18th calendar day following the reference quarter.

The following indicators are collected from data providers:

- transaction in service (sale/purchase);
- code of service and other transactions (according to the classification);
- code of non-resident's country;
- total cost of service (in euro);
- the main mode of supply (1, 2, or 4);
- share of the main mode of supply.

Statistics Estonia has developed a classification of foreign trade in services to collect data on services from data providers. The classification of foreign trade in services reflects services sold by residents (economic entities) to non-residents (economic entities and natural persons) and services purchased from them. The service transaction code is an eight-digit combination of letters and numbers. The classification of services is based on the statistical classification of products by activity (first and second digit of the code). In total there are 185 service category codes.

In the questionnaire, data providers must indicate the main mode of supply of their service. This data field was mandatory for the reference year 2021 and optional in the subsequent reference years. The questionnaire collects data on modes 1, 2, and 4 (data on Mode 3 are obtained from other statistical surveys). In addition, it is possible to choose the share of the main mode of service supply. A service is often provided according to a combined mode of supply (the provision of services has characteristics of several supply modes), or the same service is provided according to different modes of supply. The respondent should determine the percentage of the pre-selected main mode of supply. This data field is optional.

Statistics Estonia developed the Manual for Foreign Trade in Services for data providers as a guide to filling in the questionnaire ⁽¹⁹³⁾.

For the reference years 2015-2018, Statistics Estonia compiled ITSS data by MoS using the Eurostat model with minor modifications. Services data collected by the Bank of Estonia were used as source data. Data from the Statistical Business Register, Trade by Enterprise Characteristics, and Structural Business Statistics were used as additional source data.

For the reference year 2021, Statistics Estonia compiled ITSS data by MoS using data collected directly from enterprises. This data were also used to adjust the Eurostat model to the national circumstances. This national model was used to estimate MoS for enterprises outside the population of the services survey.

The data on the mode of supply is currently collected from data providers on the optional basis in the survey. Information obtained on the voluntary basis is considered sufficient to update the national model for MoS for future reference years. If necessary, data collection for MoS can be made mandatory again.

13.4.3. The Netherlands

Introduction

Statistics Netherlands estimated international trade in services by MoS for the first time in the context of being a beneficiary of a European Commission grant. The research, carried out by Statistics Netherlands, is summarised below. The results presented here became available in July 2019.

The Eurostat model (as available at that time) was the starting point for the study's calculations and its benchmark. Research was supplemented with Statistics Netherlands' own estimates, because the necessary data were not readily available in existing questionnaires. The study, based on 2017 figures, provided information for assessing the parameters of the Eurostat model and tailoring them to Dutch reality.

⁽¹⁹³⁾ [Manual for Foreign Trade in Services](#) (in PDF format). Statistics Estonia 2023.

The following sections explain how the Dutch study was put together⁽¹⁹⁴⁾, explore the elementary methodological aspects and describe the basics of the research approach used. Subsequently, a description of the estimation and measured coefficients for modes 1, 2, 3 and 4 are presented. The section concludes with a presentation and assessment of the aggregated outcomes and elaborates on some methodological issues.

Methodological background and description of the approach adopted

Initially, two avenues were explored, then the results combined at the final stage.

- ITSS-related part – covering modes 1, 2 and 4. To provide the necessary data for the estimates, the MoS-related questions were asked of the companies involved in the ITSS survey.
- Research based on other sources, not part of ITSS – covering Mode 3. Mode 3 estimations were derived from present or modelled information on foreign affiliate statistics (FATS) and other sources. FATS information covers international services provided through direct investment by affiliates of multinational enterprises.

Combining the data from these two parts provided a comprehensive enough, though still not complete, picture of service trade to be able to fulfil MoS requirements. Data confidentiality, often a drawback for the dissemination of figures that are integral to Dutch ITSS statistics, was not a big issue in MoS research, due to the highly aggregated results.

As a basis for MoS calculation, a methodological document drawn up by Statistics Netherlands was used. In this document, the ‘expected’ values for modes 1, 2 and 4 were broken down by import and export, and service items were developed. These expected values were then calculated using the simplified Eurostat model, available at that time. Finally, the estimations were extended using results from other countries and adjustments based on discussions Statistics Netherlands had internally.

Some issues were further examined, such as the attribution of the exact modes for SA and SB (in the cases when the mode is determined by some goods used in order to execute the service) versus operational lease (the place to which leased goods are delivered does not matter for determining the mode).

This methodological document served to identify the enterprises to be further scrutinised and determine how exactly to formulate the questions on the modes of supply.

To estimate the import and export of services supplied through Mode 3, the enterprise groups present in the Netherlands in 2017 were first identified. The enterprises, VAT IDs and chamber of commerce IDs that were part of these enterprise groups were then identified. Finally, the General Business Register (GBR)⁽¹⁹⁵⁾ was used to create an overall framework for these units. Mode 3 imports were taken from foreign-owned enterprises and exports from daughter enterprises of Dutch-owned enterprise groups.

The ultimate controlling institution (UCI) was then identified:

- for SBS from NACE B to N (excluding K), this information was taken from inward FATS;
- for other NACE codes, information provided by the Dutch Central Bank and the European Group Register was used.

The large enterprises identified were then further examined.

Estimating modes 1, 2 and 4 (ITSS-related)

Primary and secondary ITSS data sources

The Dutch ITSS data collection system distinguishes primary⁽¹⁹⁶⁾ (see Annex III) from secondary data sources. For this research, additional MoS information was collected only from primary data sources. For

⁽¹⁹⁴⁾ Some further developments (not covered in this report) were studied, e.g. distribution services in Mode 1 that are related to international trade in goods.

⁽¹⁹⁵⁾ The Dutch GBR contains information on NACE codes and employees for the enterprises and chamber of commerce ID and information on SPE activity's is available from the chamber of commerce ID. These variables were selected as part of the basic framework.

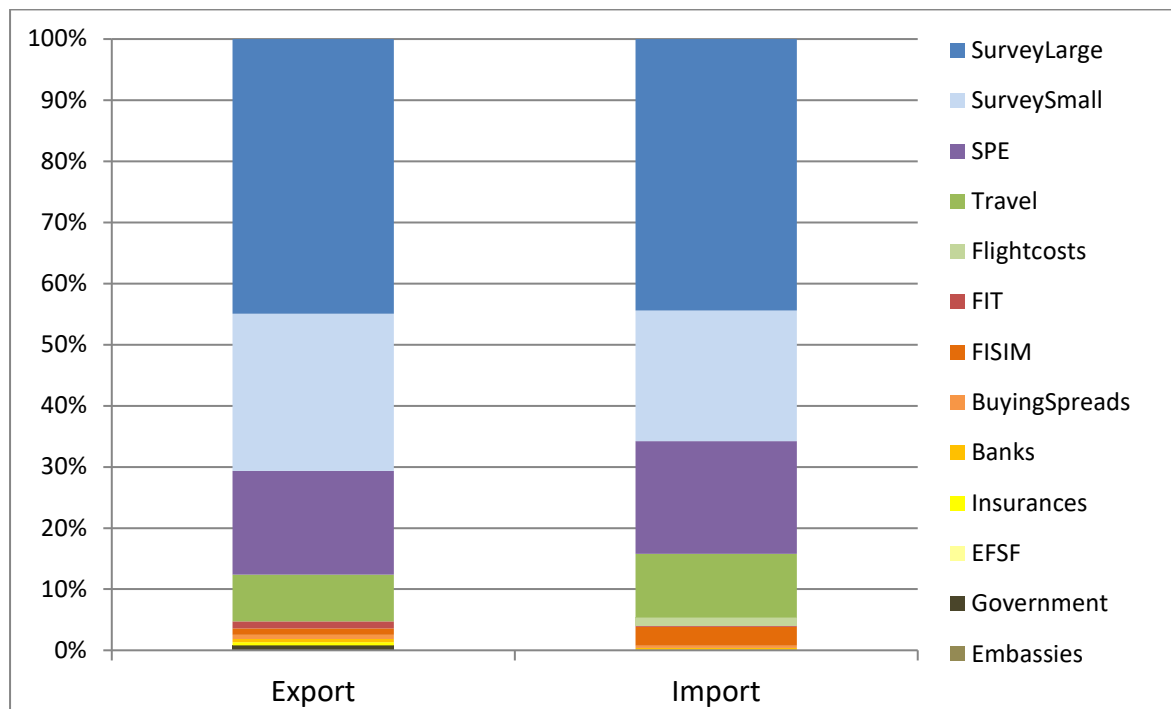
⁽¹⁹⁶⁾ These sources are considered primary because Statistics Netherlands directly collects the data for these enterprises.

secondary data sources, the mode of supply was presumed without further investigation.

The main **primary sources** are:

- large (ITSS trading) enterprises (LEs) that comprise 474 enterprise groups of 666 observational units;
- small and medium-sized (trading) enterprises (SMEs), with a total sample survey of 5 000 respondents.

Figure. 13.2: Dutch ITSS per source (2017)



Source: Statistics Netherlands

Besides LEs and SMEs, the Dutch ITSS data collection system has various secondary sources. The information from these sources comes from surveys conducted by parties other than Statistics Netherlands (such as the Dutch Central Bank) or is extrapolated from modelling data ⁽¹⁹⁷⁾.

The main **secondary sources** are the following.

- Travel: imports and exports are estimated using other statistical data (foreign visitors to hotels etc.) or collected by external parties who interview consumers (Dutch travellers abroad).
- Single purpose entities (SPEs): data collection is done by the Dutch Central Bank and covers all imports and exports of services. Although fully integrated into ITSS figures, SPE are an unusual component of MoS data, given the specific role and nature of their transactions.
- Monetary financial institutions: data collection covers imports and exports of services, in cooperation with the Dutch Central Bank.
- Accounting elements, obtained by modelled calculation:
 - FISIM and other 'implicit' parts of financial services (buying/selling spreads, fund fees);
 - CIF/FOB correction of freight transport, specifically developed and indicated as FIT (freight insurance and transport) adjustment by the Netherlands.

The phases of the study cover data from primary sources.

⁽¹⁹⁷⁾ Modelled data cannot be measured/collected directly at enterprise or other transactor level.

Identifying and selecting enterprises (primary sources) for MoS investigation.

A subset of ITSS LEs and SMEs was selected for phone interviews. The purpose of this was to get maximum coverage for types of services and trade flow (import/export). Only services items to which more than one mode of supply might apply were included in the survey.

Table 13.7: List of surveyed services items from primary sources

SA	Manufacturing services
SB	Maintenance services
SG	Financial services
SI	Telecommunications, computer and information services
SJ1	Research and development services
SJ2	Professional and management consulting services
SJ3	Other business services
SK	Personal, cultural and recreational services

Source: Statistics Netherlands

The selection of SMEs was based on their grossed up figures. For the sake of efficiency an enterprise had a bigger chance of being selected if it:

- imported *and* exported services
- provided more than one type of service
- had only one service type for a trade flow ⁽¹⁹⁸⁾.

In total about 200 LEs and SMEs were selected, resulting in coverage of 30 % of the value for every service category-trade flow combination (see Annex III).

Surveying SMEs and LEs (primary sources) for the MoS study

Phone interviews with the selected enterprises took place. The enterprises were asked to provide MoS-relevant information – only specific, standardised MoS questions were asked for the selected service items (Table 13.9). Getting information from SMEs (enterprises providing only one type of service per trade flow) proved easier than for the majority of LEs. LEs had difficulties providing information on MoS, especially in the case of decentralised operational units. In these cases, it was necessary to make further inquiries within the enterprise at a decentralised level. If that was not feasible within the time frame of the study, the enterprise was asked to provide an expert guess. In many cases this was not possible because of a lack of any centralised knowledge of the enterprise's decentralised processes. In a few cases information already available from Statistics Netherlands or information from annual reports or companies' websites was used. Enterprises that did not provide any satisfactory data were excluded from the MoS sample.

Editing the replies received from the surveyed SMEs and LEs (primary sources)

The replies received from the respondents after the interviews were compared with the expected results, as defined in the basic methodological document drawn up by Statistics Netherlands. Enterprises with unexpected figures were reviewed and if needed corrections made, as follows:

- further methodological discussions – as in the case of construction services;
- the differences in MoS coefficients between imports and exports were further analysed;
- replies from enterprises with low frequent combinations of modes at the most detailed service level were reviewed.

Grossing up the MoS responses of SMEs and LEs to bring them into line with MoS coefficients (primary sources)

⁽¹⁹⁸⁾ The assumption being that it would be easier for the enterprise to answer the questionnaire.

For LEs and SMEs, the target coverage was about 30 % for every observed service item, both for import and export. These replies for the selected flow, service item and EU or non-EU value were grossed up to the published totals and further aggregated if the required output level was less detailed. The SMEs were weighted upwards by the reported grossed up value and not their reported values (which would have led to a less significant contribution).

The grossed up MoS coefficients in total for the interviewed LEs and SMEs are shown in Tables 13.8 and 13.9. The MoS coefficients used in the compiling process were more detailed. The applied split was by service item, flow (import/export) and partner (intra-/extra-EU).

Table 13.8: Total grossed up MoS coefficients

Service	M1	M2	M4
SA	0 %	100 %	0 %
SB	0 %	66 %	34 %
SG	100 %	0 %	0 %
SI	98 %	1 %	1 %
SJ1	99 %	0 %	1 %
SJ2	100 %	0 %	0 %
SJ3	92 %	1 %	8 %
SK	97 %	0 %	3 %

Source: Statistics Netherlands

More variation in the coefficients, especially between intra- and extra-EU figures, was observed at the more detailed level.

The distribution of the MoS over services showed less variation than in the simplified Eurostat model. One of the reasons for this is that for a lot of services re-invoiced intercompany services were found in the MoS responses. In the Netherlands, with the introduction of BPM6, enterprises were urged to split up all general intercompany charges into the underlying real types of services such as R&D. Mode 1 was assigned to these intercompany re-invoices.

Table 13.9: Import and export grossed up MoS coefficients

Type of Service	Intra EU						Extra EU					
	Exports			Imports			Exports			Imports		
	M1	M2	M4	M1	M2	M4	M1	M2	M4	M1	M2	M4
SA	0 %	100 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %
SB	0 %	74 %	26 %	0 %	48 %	52 %	0 %	69 %	31 %	0 %	97 %	3 %
SG	100 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %	0 %
SI	99 %	1 %	1 %	97 %	1 %	1 %	98 %	1 %	1 %	100 %	0 %	0 %
SJ1	100 %	0 %	0 %	98 %	0 %	2 %	100 %	0 %	0 %	99 %	0 %	1 %
SJ2	99 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %	0 %	100 %	0 %	0 %
SJ3	85 %	2 %	13 %	98 %	2 %	1 %	88 %	0 %	12 %	100 %	0 %	0 %
SK	92 %	0 %	8 %	91 %	0 %	9 %	98 %	0 %	2 %	100 %	0 %	0 %

Source: Statistics Netherlands

Compilation of total MoS 1, 2 and 4 figures (primary and secondary sources).

The compiling of MoS figures for **primary** sources, LEs and SMEs, used:

- the coefficients (parameters) shown in Table 13.11 for the examined services items;
- the generally applied fixed coefficients of the simplified Eurostat model for the other services items.

Construction services are treated as Mode 4 and partly Mode 3, as in the simplified model (due to a lack of evidence on a national level). Operational leasing is treated as Mode 1, although there were some discussions about how to follow the goods (as in SA and SB). These coefficients were applied to the 2017 figures of LEs and SMEs.

For the **secondary** sources – SPEs – monetary financial institutions and accounting elements were assigned to Mode 1 for all services provided by the enterprises, due to the specific characteristics of these services and/or the specific nature of the institutions themselves.

For the secondary source travel (Mode 2), the coefficients of the simplified Eurostat model were used. However, the goods were not excluded from the ITSS travel figures, due to a lack of information. There was information on imports and exports of one-day border visits (from and to neighbouring countries Germany and Belgium). However, crucial information on other local consumption of goods during stays other than one-day visits was not available.

Summary table on modes 1, 2 and 4 from all sources.

Table 13.10 presents the modes relevant to Dutch ITSS. In the model all services are included: the selected MoS surveyed service items from primary sources and the other services with fixed MoS coefficients from primary and secondary sources. Mode 1 is the predominant mode. This is because a substantial part of the Mode 1 secondary sources, as well as a large share of intercompany invoices, have also been assigned to Mode 1.

Table 13.10: The Dutch ITSS model, total services

Flow	Partner area	Value Million €	M1 (%)	M2 (%)	M4 (%)
Export	World	193.194	88 %	8 %	4 %
Export	Intra EU	120.866	86 %	10 %	4 %
Export	Extra EU	72.328	90 %	5 %	4 %
Import	World	183.104	91 %	7 %	2 %
Import	Intra EU	94.354	86 %	11 %	3 %
Import	Extra EU	88.750	96 %	3 %	1 %

Source: Statistics Netherlands

Estimating Mode 3 – FATS and other sources

Imports

Two separate estimations were prepared for Mode 3 imports.

1) Imports subject to VAT

SBS and other NACE codes that are subject to VAT were estimated using microdata linking, as follows.

1. Select all foreign-owned enterprises – 13 796 enterprises in 2017.
2. Link the foreign-owned enterprises data with VAT data and other information available at the short-term business statistics (STS) domain (mainly from questionnaires on large enterprises). These contain an estimate of the turnover for each enterprise (although it was often zero, because many of them were not active). For 20 % of the enterprises for which STS data were available, there was also a breakdown between domestic and foreign turnover. In practice after completion of step 2, we obtain an estimate of the turnover for all enterprises (the assumption being that VAT data are a good proxy for small enterprises).
3. The SBS turnover is associated with data on the client's residence and type of products sold. At CBS, some SBS questionnaires contain questions on the foreign turnover sometimes also broken down by goods/services and/or transit and sometimes split by EU and non-EU partner areas. If such variables are available for the enterprise at hand, they are used to get an indication of the domestic and foreign turnover for the services sold. In such cases, it is possible to identify several turnover breakdowns, such as whether services or goods were sold and the type of service provided or exported.
4. For enterprises for which no breakdown information can be found in the SBS questionnaires, we use a different approach: the total amount of exported goods from ITGS and the total amount of exported

services and the difference of imported minus exported services per service category are combined. The rationale is the if for example, an enterprise imports some types of services and does not export them, it can indicate that they sell them in the domestic market. Therefore, the difference (imports - exports) can be an indicator of the locally provided services.

Domestic turnover was determined as follows.

1. No SBS or STS turnover leads to an estimate of no domestic turnover.
2. If one of the following holds then we estimate again that the domestic turnover is zero:
 - a. all turnover in SBS is exported
 - b. all turnover in STS is foreign (exported)
 - c. $STS - ITSS = 0$

Note that for several enterprises not all these variables are available, so this solution can be applied to a subset only.

3. In some questionnaires CBS asks for a breakdown of turnover: due to services, wholesale, industrial, etc. Using the microdata available for the enterprise, we checked the availability of such information and use it to estimate the domestic turnover due to sales of services. If no SBS information indicates a services activity and the NACE code of the enterprise is in a goods-related main activity, it was assumed that the enterprise has no domestic turnover due to sales of services.
4. If the information available from the SBS questionnaires indicate sales of services, then we compute the domestic turnover as the difference between the SBS turnover from sales of services minus services exports from ITSS (if available for the enterprise). If services exports are not available for the enterprise, then we estimate that part of the turnover is domestic sales of services (based on information from the total Dutch STS revenue).
5. If SBS were not available or no useful information was available from the SBS questionnaires, it was assumed that turnover in services main activities was due to sales of services.

The total domestic turnover (calculated by the method described above) corresponds to the imports via Mode 3. The country of residence of the UCI of the enterprise determines if the imports are from EU or non-EU countries.

The estimation of **the services supplied by each enterprise** was done as follows:

- Use the services information from SBS if available.
- Use the difference between imports and exports (for the specific enterprise, and per type of service) as an indicator for the services that the enterprise may be supplying to the local market. Using the difference ensures that these services were produced rather than re-invoiced.
- If no information is available for an enterprise, use the average services pattern for the NACE Section to which the enterprise belongs, created in accordance with the two preceding bullet points.

2) Imports not subject to VAT

These had to be estimated separately because there was no indication of turnover, as these enterprises are not covered in the SBS and are not subject to VAT. The estimations of these NACE codes were based on supply-use tables from National Accounts, as follows.

1. The value added from production in basic prices from the National Accounts was used. The value added from production was quite close to turnover for NACE codes dominated by trade in services.
2. A proxy for domestic turnover was calculated by subtracting the exports for these NACE codes in the national accounts.
3. It was estimated which part of this turnover belonged to enterprises with a UCI outside the Netherlands. This estimation was based on the SBR basic framework and done by calculating the

proportion of employees working for an enterprise with a foreign UCI in the NACE category in question. The basic framework was used to determine the proportion of employees working for an enterprise with a foreign UCI divided by the total number of employees in the NACE category. For the majority of the NACE codes that was a small part. Only for insurers and pension funds, other financial service providers and lottery and gambling enterprises were more than 10 % of employees working for foreign-owned enterprises.

4. Using this proportion of employees working in foreign-owned enterprises as a proxy for domestic turnover, it was concluded that for these NACE codes all domestic turnover was service turnover (this assumption may not be fully correct for agriculture, but those values are quite small).
5. The services were determined by looking at the main export of services for these NACE codes – Table 13.11.
6. The division between EU and non-EU imports of services subject to VAT was used for SJ3 and SK estimates. For SG and SF the countries from which imports came were used as a proxy for the parent company country.

Table 13.11: NACE codes estimated on the basis of national accounts, ownership and services

NACE	Part foreign-owned (%)	Assumed service
01 Agriculture	2	SJ3
02 Forestry	0	Na.
03 Fishing	7	SJ3
64 Banks	4	SG
65 Insurers and pension funds	11	SF
66 Other financial service providers	10	50 % SF 50 % SG
84 Public administration and government	0	Na.
85 Education	0	Na.
86 Healthcare	0	Na.
87-88 Care and wellbeing	1	SK
90 Art	1	SK
91 Library, museums and nature preservation	2	SK
92 Lottery and gambling	14	SK
93 Sport and recreation	3	SK
94 Idealism, interest, hobby associations	1	SK

Source: Statistics Netherlands

Both estimates subject to VAT and not subject to VAT are combined to create the output as seen in Table 13.13.

Exports: Mode 3 exports consist of two different estimations.

1) OFATS exports; extra-EU and subject to VAT

Mode 3 exports to non-EU countries for NACE codes not subject to VAT were estimated using outward FATS, as follows.

1. Starting from the basic framework, only enterprise groups that have a UCI in the Netherlands were selected – 1 547 070 enterprise groups.
2. This information was combined with outward FATS 2016, the most recent data available. In total, 2 706 enterprise groups with daughter enterprises outside the EU were identified. Outward FATS contains turnover as well as the NACE code and country for each foreign daughter company.

3. From the estimation of imports, we determine the average share of turnover due to domestic sales of services over total turnover for each NACE division.
4. The information from Table 13.12 was combined with the extended framework by NACE letter and the given share of domestic service turnover in the total turnover of the foreign-controlled enterprise. This resulted in a total domestic service turnover per foreign-controlled enterprise.

Table 13.12: Percentage of domestic services in total turnover by NACE code

NACE letter	Percentage of domestic sales of services in total turnover (%)
B - Mining and quarrying	12
C - Manufacturing	3
D - Electricity, gas, steam and air conditioning supply	0
E - Water supply	85
F - construction	67
G - Wholesale and retail trade	2
H - Transportation by air	34
H - Transportation by road and other	58
H - Transportation by water	22
I - Accommodation and food service activities	96
J - Information and communication	55
M - Professional, scientific and technical activities	33
N - Administrative and support service activities	59

Source: Statistics Netherlands

5. The average service pattern per NACE letter created for Mode 3 NACE code imports not subject to VAT was used to determine the type of service probably delivered to the local market. This resulted in an estimation of EUR 42 billion, of which one third was other business services and R&D, insurance and financial services, each making up to 10 % of the total.

2) Exports from the European Group Register (EGR)

EU Mode 3 exports, as well as EU and non-EU NACE code exports not subject to VAT, were estimated using the European Group Register (EGR), as follows.

1. The starting point was the basic framework, from which only enterprise groups with a UCI in the Netherlands were selected – 1 547 070 enterprise groups.
2. The EGR enterprise group level was combined with the enterprise level.
3. The Dutch enterprise groups who control foreign enterprises were selected. This resulted in 3 751 enterprise groups with 22 346 foreign enterprises under their control.
4. These estimations were combined with the commercial ID.

Out of 3 751 enterprise groups, 57 cannot be linked to the Dutch GBR for 2017. It was assumed that the EGR had not yet been fully updated, as Statistics Netherlands had not provided 2017 data for it at the time of the study.

5. The missing enterprises were estimated as follows.
 - Missing currency is filled in with the currency of the country, mainly a problem for non-EU affiliates. Analyses have shown that for all relevant values the currency of the country needs to be used.

- Turnover is given in EUR, using the exchange rate (as of December 2017) for each currency.
 - Missing NACE codes are estimated using the main NACE code of other affiliates or the dominant NACE code for the Dutch enterprises in the GBR. NACE 70, holdings, is used if possible.
 - Missing turnover is estimated by multiplying the number of employees by the median turnover in EUR per employee per NACE code from the entire EGR, if turnover and employee data were available. The median has been chosen because the average was not at all stable, and had a major, but not very plausible, impact on the final estimations.
6. To avoid duplicating the OFATS estimate coverage, all affiliates for NACE codes not subject to VAT, and only EU affiliates for NACE codes subject to VAT, were selected.
 7. The estimation of imports was used to determine the average percentage of domestic service turnover per NACE 2-digit code in total turnover. This resulted in the total domestic services turnover.
 8. Outliers were manually verified. The very large values from NACE 65 and 66 affiliates were assumed to be incorrect. Many non-EU values overstated the total global turnover of the enterprise group. These outliers were corrected manually to fit in with the total global turnover.
 9. The average service pattern per NACE letter created for NACE code Mode 3 imports subject to VAT were used to determine the type of service probably delivered to the local market. For NACE codes not subject to VAT, the balances from the ITSS to correct outlier values were used.
 10. This resulted in exports of EUR 50 billion from NACE codes subject to VAT, which applies to almost half of other business services and for 20 % of communication and similar services and close to 10 % of royalties and road and other transportation.

Both OFATS and EGR estimates are combined and presented in Table 13.13.

Table 13.13: Mode 3 estimates for the Netherlands, reference year 2017

Flow	GEO	Service	Mode 3	Flow	EU/nEU	Service	Mode 3
Import	Intra-EU	SA	1,646,949	Export	Intra-EU	SA	1,740,857
Import	Intra-EU	SB	965,143	Export	Intra-EU	SB	368,168
Import	Intra-EU	SC1	345,679	Export	Intra-EU	SC1	2,164,983
Import	Intra-EU	SC2	383,794	Export	Intra-EU	SC2	1,424,843
Import	Intra-EU	SC3	1,459,685	Export	Intra-EU	SC3	6,901,437
Import	Intra-EU	SD	0	Export	Intra-EU	SD	0
Import	Intra-EU	SE	4,928,579	Export	Intra-EU	SE	2,899,476
Import	Intra-EU	SF	1,850,000	Export	Intra-EU	SF	9,121,099
Import	Intra-EU	SG	1,766,998	Export	Intra-EU	SG	8,230,730
Import	Intra-EU	SH	3,753,972	Export	Intra-EU	SH	13,250,103
Import	Intra-EU	SI	12,419,236	Export	Intra-EU	SI	19,080,460
Import	Intra-EU	SJ1	599,709	Export	Intra-EU	SJ1	1,021,158
Import	Intra-EU	SJ2	2,467,862	Export	Intra-EU	SJ2	5,657,288
Import	Intra-EU	SJ3	29,896,371	Export	Intra-EU	SJ3	42,564,119
Import	Intra-EU	SK	2,725,423	Export	Intra-EU	SK	1,961,064
Import	Intra-EU	SL	0	Export	Intra-EU	SL	0
Import	Intra-EU	S	65,209,400	Export	Intra-EU	S	116,385,785
Import	Extra-EU	SA	745,372	Export	Extra-EU	SA	1,455,655
Import	Extra-EU	SB	825,828	Export	Extra-EU	SB	542,408
Import	Extra-EU	SC1	222,255	Export	Extra-EU	SC1	813,749
Import	Extra-EU	SC2	80,853	Export	Extra-EU	SC2	381,128
Import	Extra-EU	SC3	710,401	Export	Extra-EU	SC3	2,005,847
Import	Extra-EU	SD	0	Export	Extra-EU	SD	0
Import	Extra-EU	SE	2,883,910	Export	Extra-EU	SE	704,078
Import	Extra-EU	SF	550,000	Export	Extra-EU	SF	17,091,875
Import	Extra-EU	SG	3,842,589	Export	Extra-EU	SG	15,079,445
Import	Extra-EU	SH	1,779,334	Export	Extra-EU	SH	3,824,309
Import	Extra-EU	SI	4,018,174	Export	Extra-EU	SI	5,596,865
Import	Extra-EU	SJ1	247,753	Export	Extra-EU	SJ1	688,872
Import	Extra-EU	SJ2	1,627,987	Export	Extra-EU	SJ2	7,641,838
Import	Extra-EU	SJ3	27,125,528	Export	Extra-EU	SJ3	15,632,734
Import	Extra-EU	SK	610,849	Export	Extra-EU	SK	543,999
Import	Extra-EU	SL	0	Export	Extra-EU	SL	0
Import	Extra-EU	S	45,270,832	Export	Extra-EU	S	72,002,801

Source: Statistics Netherlands

Aggregated results for all modes

The four modes of supply are presented in Table 13.14.

Table 13.14: International supply of services by mode of supply, total services (%)

Flow	Partner	Mode 1	Mode 2	Mode 3	Mode 4
Export	Intra-EU	44	5	49	2
Export	Extra-EU	45	3	50	2
Export	World	44	4	49	2
Import	Intra-EU	51	6	41	2
Import	Extra-EU	64	2	34	1
Import	World	57	4	38	1

Source: Statistics Netherlands

Annex III presents a more detailed table, including types of services, where the differences between modes are visible between imports and exports and between intra-EU and extra-EU. Modes 1 and 3 predominate. Mode 3 has a larger share in exports (49 %) than in imports (38 %). This results in a stronger Dutch trade position as a net exporter of services (MoS concept). This is in line with recent WTO data. WTO figures showed an even higher share of Mode 3 for exports (70 %) and imports (48 %), boosting Dutch exporters' position very much. There are some differences from the delineation of GATS services – e.g. in this research, distribution services are excluded and no correction is made for the goods component in travel. Looking at the shares, the differences from WTO data for Mode 3 are considerable. A reason for this could be the applied Dutch methodology for the calculation of Mode 3, whereby most non-service and non-local transactions were removed from the figures.

Conclusion and the way forward

It is hard to assess the results with only one-time measurement. These data should be compared with data from previous years and for other countries. However, specific aspects might be country-related by reason of the incidental presence of a specific way of delivering services. It would be interesting to know more about asymmetries, but that requires overall country-specific data for imports and exports. In that respect the WTO may have gone further by creating ('virtual') correspondence between countries.

It is impossible to calculate MoS coefficients (parameters) to be able to compare the trade of one country with that of every other country. However, in the case of EU countries, special attention should be given to the division of intra-EU and extra-EU MoS parameters.

There is a gap – in the degree, but not the direction, of the Netherlands' strong GATS export position, between the WTO and Dutch results for Mode 3. ITSS results show little variation for modes 1, 2 and 4, whereas in the Dutch study Mode 1 predominates. A further ITSS investigation would be costly and time-consuming. Improving Mode 3 might be a better investment, requiring relatively less effort for better results, as an effective first step forward in MoS development.

Other discussion items

- Differences between countries, as in the case of MoS coefficients – not asked of data providers, but split on the basis of the trade figures of the MoS-sampled enterprises.
- Plausibility is not an easy matter. Methodological shortcomings emerge when interviewing and editing results/replies. Further work may shed light on some issues, such as ones related to the construction item.
- In some cases, we had the impression that the answers for modes 1, 2 and 4 also cover the activities of non-resident subsidiaries.
- Stability and robustness are not tested. On the one hand, a one-time observation of MoS coefficients might prove to be different the next time round. On the other hand, it could be the case that the

coefficients of modes 1, 2 and 4 are not themselves very volatile, but mainly reflect changes in the composition of trade, making a country's figures volatile.

- Large enterprises do not always have a good overview of MoS modes at central administrative level.
- Inquiries from a different angle, such as MoS, provides an insight into misclassification of services. When interviewing enterprises at SN these errors were recorded, but if no further contact is made with these enterprises, these failures will be overlooked. This could result in 'correct' MoS codes being assigned to the 'wrong' services.

13.4.4. Spain

1. Introduction

Spain compiles MoS data since 2013, when questions on MoS were included for the first time in the questionnaire of the quarterly ITS survey managed by the Spanish National Statistical Institute (INE). The survey collects up to 62 EBOPS items traded between Spain and any partner country of the world. The MoS data, though collected on a quarterly basis, are disseminated yearly at national level.

The current MoS data available are not complete, as they are exclusively based on a survey that only covers non-tourist services transactions between residents and non-residents. Thus, it covers Mode 1, Mode 4 and a very residual part of Mode 3 (mostly those construction services supplied when a construction enterprise signs a contract with a client abroad involving the establishment of a temporary site office neither considered an affiliate nor a branch). Therefore, it leaves out both the great contributions of *Travel* to Mode 2, and of *FATS* to Mode 3.

As of 2023, the questionnaire collects goods singled out from total services for EBOPS items: Maintenance and repair nie, Construction and Government goods and services nie.

MoS data will become complete when the statistics on international supply of services (ISS) will become mandatory under the EBS Regulation.

2. General approach to MoS: Allocation to dominant mode

2.1. Chosen approach and rationale

Spain's approach to MoS estimation is based on the following paragraphs of MSITS 2010:

*5.56. As discussed in para. 5.47, a given balance of payments service item generally includes transactions corresponding to several modes. With a view of facilitating the analysis and compilation of services transactions between residents and non-residents by MoS, **it is recommended that, if estimates cannot be provided for the subdivision of the transactions values by mode, the transaction be allocated to the most important mode in terms of the time and resources associated with it.***

*5.58. Given the complexity of services contracts (that is the several modes of supplying a service), **the allocation should be made on a dominance basis**.....*

*5.59. (Second bullet point): Define MoS in surveys and ask respondents to allocate transactions themselves. If the transaction involves various MoS, **the questionnaire should suggest allocating the transactions to the most important mode in terms of the time and resources associated with it**.....*

Source: MSITS 2010

In a few words, Spain has given respondents the chance to allocate by themselves the most important MoS (in terms of time/resources) to each service transaction declared in the ITS questionnaire. **Only one single mode can be allocated for every combination made up of the 62 EBOPS items included in the questionnaire and any partner country of the world**, following para. 5.56 of MSITS 2010.

The aim is going one step further than the automatic allocation model known as *Simplified allocation of FATS and BoP data by MoS (Table V.2. MSITS 2010)*.

The reasons for this general approach are,

- It follows the recommendations of MSITS 2010 (paragraphs 5.56, 5.58 and 5.59) as regards the practices to separately identify MoS information within BoP services transactions.
- It is a good trade-off between information gain on MoS and burden on respondents. Respondents have only to tick on the predominant mode without providing any breakdown of exports/imports figures or percentages by MoS (see 2.2 below).
- It is a good alternative to the *Simplified allocation of FATS and BoP data by MoS (Table V.2. MSITS 2010)*.
- The potential drawback to assign the total export/import value to a single mode (the predominant) when two (or more) modes could intervene in the provision of a service, might be overtaken somehow by the fact that:
 - o for some transactions, one specific mode will be predominant, and for others, the second mode will be the most important, taking place a natural overall balance among all intervening modes;
 - o MoS data are collected with high frequency (on a quarterly basis). It is not very probable that, for example, two supplementary modes like Mode 1 and Mode 4 intervene simultaneously to supply a service within the same quarter.

2.2. Collection of MoS in the ITS survey questionnaire

Figure 13.3 below presents the extract of the questionnaire where MoS information is required.

Figure 13.3: Extract of the ITS Survey questionnaire where MoS information is collected

Service description (verbatim)	EBOPS code	Mode of Supply	Partner country	Export / Import value in €
Descripción del servicio y/o de la operación internacional	Código servicio/ operación	Modo de suministro del servicio	País de contrapartida	Importe de la exportación y/o cobro en euros (sin decimales)
		1 2 3 4		
	□□	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
	□□	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
	□□	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

One single tick ✓ is allowed by row to allocate the predominant mode. Neither gross figures of exports/imports nor percentages by MoS are required to respondents. All transaction value is allocated to dominant mode irrespective of other modes have participated in the provision of the service.

Source: National Statistical Institute (INE), Spain

2.3. Instructions for respondents and compilers on MoS

The para. 5.57 of MSITS 2010 states,

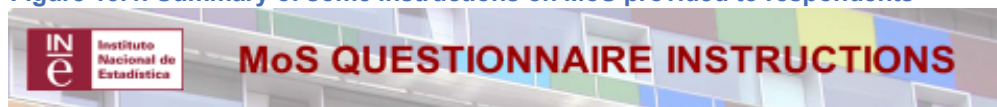
5.57. To allocate transactions to modes, a number of compiling guidelines need to be elaborated on the basis of rules of national legislation and/or accounting conventions....., a clear list of questions needs be developed to help survey respondents and/or compilers to identify whether the payment for a service contract refers to the supply of a service through Mode 1, 2,3 or 4.....

Source: MSITS 2010

In order to train respondents in the knowledge of MoS that will allow them to better allocate the dominant

mode to a certain service transaction, the questionnaire provides clear MoS definitions and comprehensive instructions on the most often combinations of mode and EBOPS item. Moreover, training courses for the fieldwork staff includes training on MoS in order solve the potential doubts raised by respondents when facing the questionnaire.

Figure 13.4: Summary of some instructions on MoS provided to respondents



MoS	Exports	Imports
1	Cross-border supply to abroad: - <u>Most common</u> -Merchandising sales	Cross-border supply to Spain: - <u>Most common</u> -Merchandising purchases
2	Consumption in Spain: -Manufacturing services (inward processing) -Maintenance & Repair (inward) -Supporting & Auxiliary transport services (Spanish ports, airports, etc.) -Shipment of radioactive or other waste -Government services (Spanish embassies abroad)	Consumption abroad: -Manufacturing services (outward processing) -Maintenance & Repair (outward) -Supporting & Auxiliary transport services (foreign ports, airports, etc.) -Shipment of radioactive or other waste -Government services (foreign embassies in Spain and IOs located in Spain and abroad)
3	Commercial presence abroad: - <u>Out of scope</u> , except: local office in construction abroad or sales desks	Commercial presence in Spain: - <u>Out of scope</u> , except: local office in construction in Spain or sales desks
4	Presence of natural persons abroad: -Contractual service suppliers (Spanish employee or self-employed < 1 year)	Presence of natural persons in Spain: -Contractual service suppliers (foreign employee or self-employed < 1 year)

Source: National Statistical Institute (INE), Spain

2.4. Editing rules

As regards **editing rules on MoS**, we can distinguish two types of errors in our editing procedure: Type I (strong errors) and Type II (weak errors). Type I errors prevent respondents to continue filling out the CAWI (online) questionnaire if they do not correct the error in real time. Type II errors pop up on the respondent screens as a warning but do not prevent respondents to continue if they check there is no error and make the pertinent justification in the Observation box.

Figure 13.5: Summary of errors related to MoS by type

IN e Editing rules for MoS

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Type of error	Comments
Type I (strong)	Non-services items collected as Current transfers (Miscellaneous), Capital account (non-produced non-financial assets; capital taxes and transfers) have no a MoS associated
Type I (strong)	Merchanting only admits Mode 1
Type I (strong)	All Transport items except Other supporting and auxiliary transport services (Mode 2) must be labelled as Mode 1
Type II (weak)	Mode 3 is only possible for Construction items (Construction abroad and Construction in Spain)
Type II (weak)	Mode 2 is only possible for: <ul style="list-style-type: none"> - Other supporting and auxiliary transport services - Manufacturing services of physical inputs owned by others - Maintenance and repair services nie - Waste treatment and de-pollution (shipment of radioactive or other waste) - Government goods and services nie

The ITS questionnaire jointly collects information on services transactions and other BoP accounts transactions, not related to the MoS framework.

The ITS questionnaire also collects Merchanting transactions

Source: National Statistical Institute (INE), Spain

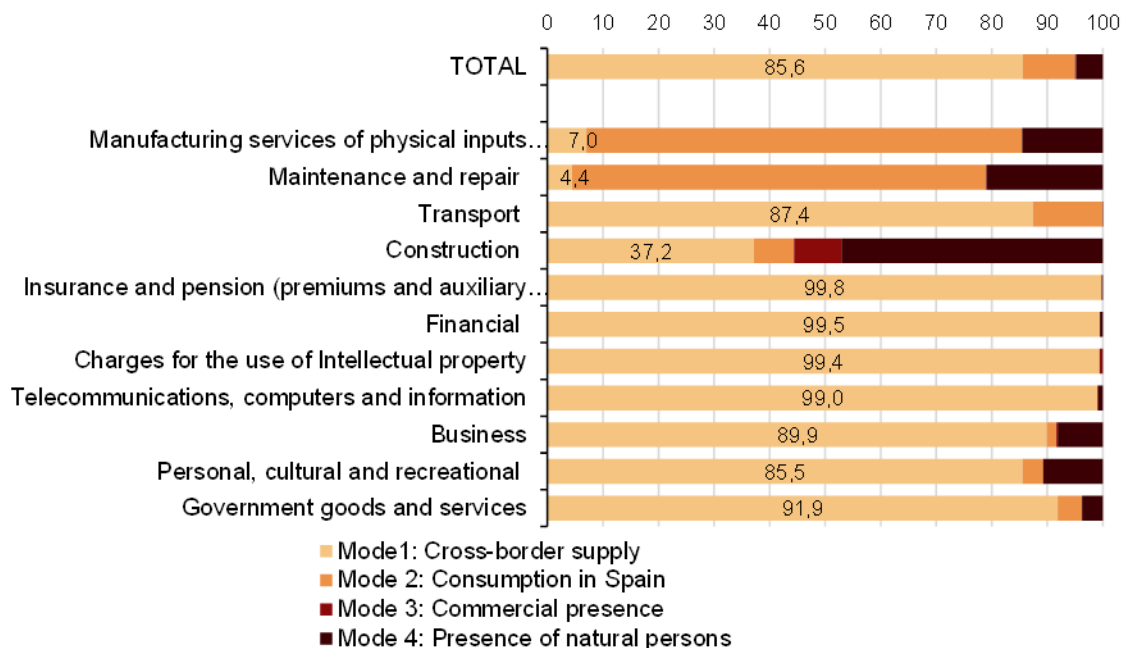
A new editing rule as **Type II (weak)** has been added:

Mode 1 is not possible for Manufacturing services of physical inputs owned by others and Maintenance and repair.

2.5. Results by MoS

The main results by MoS are presented in the following figures, for reference year 2022. The data are based on direct survey data and not on BoP_ITS data.

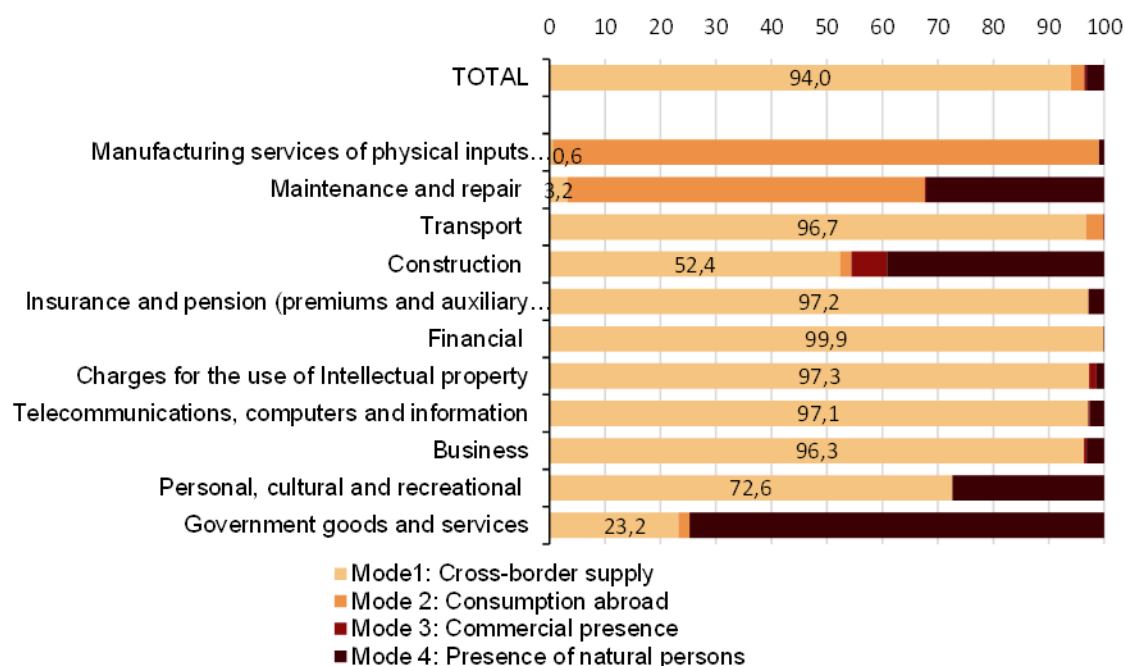
Figure 13.6: Exports of services by MoS and main EBOPS item (2022) (in %)



Note: Travel is not included in Mode 2. FATS is not included in Mode 3

Source: National Statistical Institute (INE), Spain

Figure 13.7: Imports of services by MoS and main EBOPS items (2022) (in %)



Note: Travel is not included in Mode 2. FATS is not included in Mode 3
 Source: National Statistical Institute (INE), Spain

13.4.5. The United States of America

In 2019, BEA published updated exploratory estimates of trade in services by mode of supply in a working paper ⁽¹⁹⁹⁾. These estimates are significantly more robust and detailed than BEA's earlier exploratory estimates because they utilise survey data to allocate trade in services statistics by mode of supply, incorporate a pioneering method to present its Mode 3 statistics by service type rather than industry, and reflect adjustments to more closely approximate the value of services as outlined by TiSMoS. The exploratory estimates feature U.S. services supplied and U.S. services received by mode for 24 service categories in 2016.

BEA's exploratory estimates of trade in services by mode of supply are based on (1) an allocation of BEA's trade in services statistics by mode of supply, (2) an estimate of distribution services, (3) an adjustment to trade in travel statistics to remove an estimate of goods sales and purchases, and (4) BEA's FATS covering services supplied to host countries through the channel of direct investment by affiliates of multinational enterprises (MNEs), recorded as Mode 3.

BEA's most detailed trade in services statistics, which are published annually as an extension of the U.S. Balance of Payments (BOP) accounts, are allocated by mode of supply based on survey data and assumptions established by international guidelines. BEA began collecting survey data on mode of supply on its 2017 BE-120 Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons. In its [2022 Benchmark Survey of Transactions in Selected Services and Intellectual Property with Foreign Persons](#), BEA reframed its 2017 questionnaire. The design of this survey is discussed in more detail in Chapter 5 (5.4.2) of this Guide. On that survey, BEA collected the percentage of services supplied through Mode 1 for 13 service categories in other business services and personal, cultural, and recreational services. BEA used this information to assign a share of trade in these service types to Mode 1.

Prior efforts by BEA to estimate trade in services by mode of supply were based on the simplified allocation method outlined in Chapter V of the MSITS and the associated MSITS 2010 Compilers Guide whereby

⁽¹⁹⁹⁾ Michael Mann, 'Measuring Trade in Services by Mode of Supply' BEA Working Paper, Washington, D.C., August 2019.

service categories are attributed to either one dominant mode or to the most significant mode of supply where there is no single dominant mode. BEA had enhanced this approach by allocating service types to multiple modes based on assumptions of how services are most likely supplied by exporters (or to importers) of the U.S. economy. The percentage attributed to Mode 1 from the survey data were reasonably close to that estimated by the simplified approach recommended in the MSITS 2010 for most service categories.

For most of the service types that were covered by the modes of supply survey questions, the residual percentage not attributed to Mode 1 was attributed to Mode 4, with the exception of legal services, for which the residual is equally split between modes 2 and 4 ⁽²⁰⁰⁾. For service categories not covered by the modes of supply questions, BEA used the enhanced simplified approach, as it had in earlier efforts, to allocate trade by mode of supply.

Distribution services are not separately measured in the BOP accounts; rather, the value of international distribution services is included indistinguishably in the value of the traded goods. BEA therefore separately estimates the value of distribution services per recommendations in the MSITS to provide 'a more complete analysis of the international supply of services. Distribution services exports are estimated by multiplying the value of goods exports, the per cent of sales by US wholesalers and retailers that were exports, and the margin earned by US wholesalers and retailers on their total sales. Distribution services imports are estimated similarly; because data are not available on either the share of imports arranged by foreign wholesalers and retailers or on the margins earned by them, it is assumed that foreign wholesalers accounted for the same share of US imports as US wholesalers did of US exports. Distribution services are classified under Mode 1 per international guidelines.

In order to properly measure trade in travel services for GATS purposes, BEA subtracts an estimate of goods purchases comingled in travel estimates, such as gifts and souvenirs. BEA estimates the value of goods comingled in travel using the percentage of average expenditure for travel that is spent on goods from the Survey of International Air Travelers (SIAT), administered by the US Department of Commerce, International Trade Administration, National Travel and Tourism Office (NTTO). For its trade in services by mode of supply estimates, BEA reduces the amount of exports of travel by that percentage. The SIAT does not collect detailed information on expenditures for imports; therefore, the same percentage is assumed and applied to travel imports to obtain a measure that does not include goods.

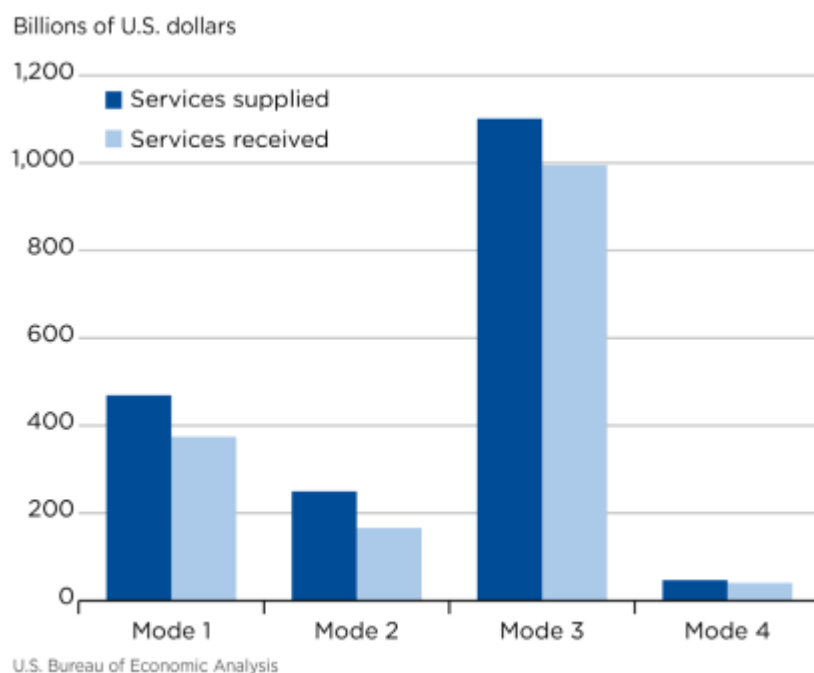
BEA's estimates of services supplied through Mode 3 are primarily based on its FATS covering US services supplied to host countries through the channel of direct investment by affiliates of MNEs. To compile estimates of trade in services by mode of supply by trade in services category, BEA developed a bridge between BEA FATS, which are classified by industry of the largest sales of the reporter, and BEA's trade in services categories presented in its BOP accounts. The bridge, which BEA expects to enhance over time, approximates service types for the FATS to enable a comparison of how US firms supply different types of services across all four modes. Estimates of Mode 3 also include a portion of trade in construction and mining services ⁽²⁰¹⁾ from BEA's BOP accounts.

BEA's trade in services by modes of supply estimates indicate that Mode 3 is the predominant mode of supply for both services provided, and services received, exceeding the value of the other three modes combined. Mode 1 is next largest for both services provided ⁽²⁰²⁾ and services received, followed by Mode 2, then Mode 4.

⁽²⁰⁰⁾ A relatively large percentage of legal services are presumed to be supplied by a client in one country traveling to the legal service supplier in another (mode 2), such as when the client travels to the offices of the supplier for consultation.

⁽²⁰¹⁾ Mining is treated similarly to construction in that it is presumed to be split between modes 3 and 4.

⁽²⁰²⁾ The results are included in Michael Mann's 2019 paper, available here: https://www.bea.gov/system/files/papers/WP2019-7_2.pdf.

Figure 13.8: U.S. Trade in Services by Mode

Source: Michael Mann, 'Measuring Trade in Services by Mode of Supply' BEA Working Paper, Washington, D.C., August 2019.

BEA does not yet publish statistics on international services supplied by mode of supply as part of its official statistics. It is considering a number of enhancements to its exploratory estimates, including collecting additional mode of supply information on its surveys of trade in services and incorporating supplemental data to better estimate certain transactions.

13.5. Norway - Developing a national survey for MoS compilation

1. Introduction

Statistic Norway is in a starting phase when it comes to exploring MoS statistics. The only attempt at compiling MoS statistics happened over a decade ago. An experimental table was set up for the year 2007, based on Eurostat's simplified approach. The conclusion of the work was less than satisfactory; the model was too uncertain and arbitrary to fully accommodate the need of trade negotiators. The current work (supported by a Eurostat grant) in the domain of MoS has given Statistics Norway a great opportunity to put MoS statistics higher on the work agenda.

The aim of the project has been to explore respondents understanding of concepts and their ability to provide reliable data. To do so, a draft web questionnaire was designed and tested on a subset of the ITSS sample. Eurostat's MoS model and other countries' experiences, together with relevant work presented in other international fora, have been reviewed and has served as a starting point for the project. Selected users which have expressed interest in ITSS MoS statistics have been consulted before the design process. The work has been interdisciplinary and involved staff from ITSS, the methods division and National Accounts.

The report provides issues and trade-offs considered during the design process, the design chosen for testing and findings from respondent testing. The report will also outline lessons learned and suggestions for the implementation of a full-scale pilot survey.

2. Preparation phase

2.1. Consulting the users

Users of trade statistics in Norway have for a long time expressed demand for statistics on services trade by mode of supply, as is the case for other countries. In the early stage of the project, a meeting with the Ministry of Foreign Affairs was arranged. The involvement of stakeholders and understanding their needs prior to the survey design was very helpful and enriching. Likewise, the Ministry of Foreign Affairs were very positive to our inquiry.

Prior to the meeting, emails were exchanged to have a unified understanding of the grants project and its delimitations. It was important for us to stress that the project was not a full-scale survey, but its purpose was to design a questionnaire and have users test it. We also pointed out the importance to weigh the degree of detail against the response burden and quality of reported data, while at the same time accommodate our users. As such, gaining a broader understanding of what kind of information the ministry needed was high on the agenda, i.e. what kind of information is most important? How aggregated and/or model-based can the data be before the utility disappears?

We did get valuable insights into their needs and benefits of MoS statistics: 1) in negotiations, to reinforce the argument towards negotiating counterparts, 2) in the ministry's communication outwards, including politicians' messages (public or at meetings of other ministers) and 3) in the work with other departments, business and labour organisations to achieve good anchoring of trade policy, including negotiation goals and positions. Not surprisingly, the users need as detailed and granular data as possible, preferably by service type, country and modes.

The attendants from the ministry acknowledged that the ITSS survey indeed is time-consuming and that adding the modes would further complicate the reporting. This led us to the question of prioritisation; which service areas are most important? We learned that services which are important for Norway, are important for the Ministry of Foreign Affairs as well, and hence is reflected in ITSS. The ministry also suggested to concentrate on the largest countries within each CPA. They were also interested in growth industries. Another issue we discussed was product classification, CPA vs CPC. The ministry uses the services sectoral classification list (W/120) under the GATS. They did point out that to utilise the future MoS statistics, a correspondence between the two classifications would be needed. The most important input from the meeting is highlighted below:

- To reduce the response burden, concentrate on the service types with the highest trade values and two-three countries from the ITSS survey.
- Export is most important, but import is also of importance.
- Growth industries.

2.2. Sampling and recruitment

The meeting with the Ministry of Foreign Affairs was useful and gave guidance on which enterprises and service types to target. We recruited enterprises with the largest export values by CPA ⁽²⁰³⁾ with one exception: the maritime transport industry. Below is a table listing up some characteristics of the recruited enterprises.

⁽²⁰³⁾ The Norwegian ITSS survey asks respondents to report services trade by CPA.

Table 13.15: Recruited enterprises characteristics

No	NACE	NACE SUBCLASS	CPA	PARTNER COUNTRY
1	C	24.450 - Other non-ferrous metal production	Contractual work and other industrial services	Canada and Switzerland
2	C	26.510 - Manufacture of instruments and appliances for measuring, testing and navigation	Research and development (R&D)	China and Netherlands
3	C	27.320 – Manufacture of other electronic and electronic wires and cables	Installation and assembly	UK and Philippines
4	C	30.113 – Building of oil-platforms and modules	Installation and assembly	UK and Angola
5	C	33.160 - Repair and maintenance of aircraft and spacecraft	Repair and maintenance	Belgium and UK
6	C	35.111 - Production of electricity through water power	Other business services	Chile and Peru
7	J	61.100 – Wired telecommunications activities	Telecommunications services	Sweden and UK
8	M	71.122 - Geological surveying	Technical consultancy services within engineering and architectural services	US and UK
9	M	71.122 - Geological surveying	Technical consultancy services within engineering and architectural services	Angola and UK
10	M	71.200 – Technical testing and analysis	Technical testing and analysis	Taiwan and Sweden

Source: Statistics Norway

The enterprises in the sub-sample were selected based on export figures from the 4th quarter 2018 ITSS reporting. Our survey methodologist finalised an interview guide, which is enclosed as an attachment. This document was helpful during the tests and acted as a script and a checklist. We interviewed 10 enterprises using telephone and internet. A maximum of five countries was selected under each CPA.

3. Implementation phase

3.1. Testing

During the testing phase, our primary focus was to investigate the responses to the survey questions and address problems in the questions: i.e. did the test persons understand the underlying concept of the different modes? Could they extract these data from their business records? How accurate would the allocation between the modes be? Other goals included assessing the response burden: Is it a burdensome process?

The user test was divided into two main parts. First, the respondents had the opportunity to read and comment on our draft questions. In the second part, the respondents could comment on the weaknesses or problems that had been uncovered in the first part. The questionnaire covered both export and import. The testing was done by phone and there were two of us at the table at our end, one from ITSS and one from the method division.

Designing the draft web questionnaire was not a linear process, but an iterative process. During the designing, building and testing, we ended up going back and forth between the design and making amendments. We discussed if we should include all four modes or just concentrate on Mode 1 and 4. We concluded that it would be easier for users to allocate the values between modes if they got a complete, exhaustive list. Furthermore, our survey methodologist considered it to be easier for the respondents cognitively to have a complete picture presented.

The questionnaire was made using an application for prototyping web questionnaire, therefore not all features worked as intended. The finished questionnaire will look better and have more functionality in the Altinn portal ⁽²⁰⁴⁾. Note that, based on recommendation from our survey methodologist, Mode 1 (Cross-border supply) and 4 (Presence of natural person) have changed its order. In the web-form Mode 1 corresponds to Mode 4 in the EU simplified model and vice versa. The questionnaire was tailored to each enterprise, by

⁽²⁰⁴⁾ Altinn is an internet portal for digital dialogue between businesses, private individuals and public agencies. Altinn is also a technical platform that government bodies can use to develop digital services, and where Statistics Norway is required to provide its business surveys. See www.altinn.no.

selecting the most important service types and countries from each enterprise's ITSS reporting in Q4 2018. In the *final version* of the questionnaire, were made some important adjustments after some user tests. We tested the first version of the questionnaire on seven selected respondents, then based on the response and comments we adjusted the questionnaire. The reason for these adjustments is further elaborated on in the next section under Findings. The new, improved questionnaire, called final version, was tested on three respondents. The questionnaire is presented in Annex IV.

4. Findings

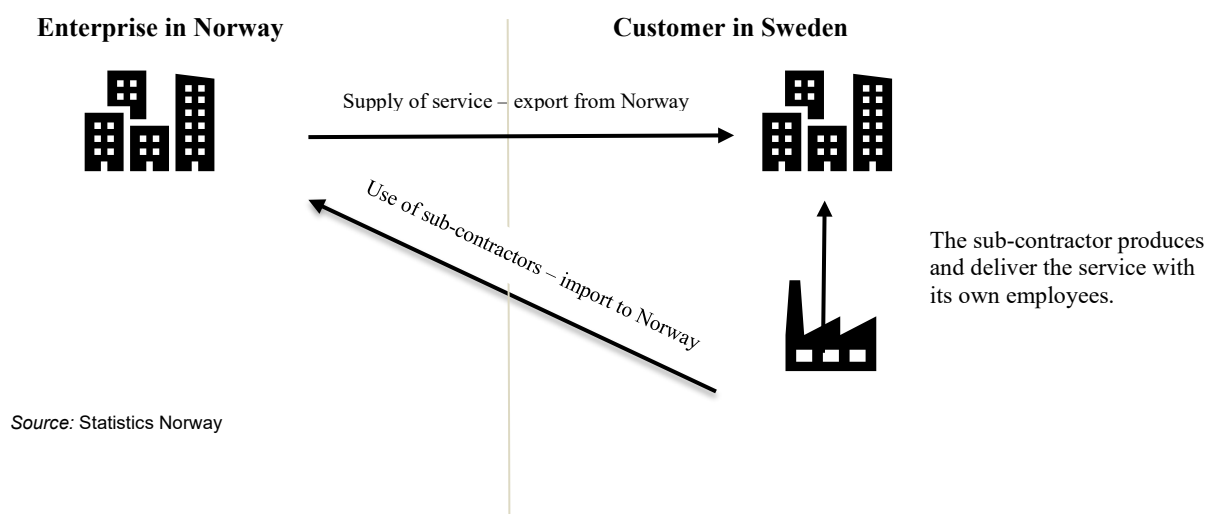
4.1. Trade in services by mode of supply

The questionnaire in testing had a different reference period than the ITS survey, from quarter to year. No confusion was found around this change. The questionnaire consisted of two parts, one for export and one for import. The majority of the respondents had no trouble understanding the questions, help texts nor the concept of mode of supply. However, two respondents spent some time digesting the question, but they interpreted it correctly.

For enterprises that only had one mode of supply, it was easy to give precise figures and to answer the questionnaire. Contrary, for enterprises that had two or more modes of supply (multi-mode), it was difficult to allocate the revenues/costs between the different modes. The multi-mode transactions were further compounded if the work was done in a different country from which the invoice came from. One respondent said that their installation services took place in Africa, while the invoice went through the sister company in the UK. Another respondent pointed out that it was difficult to find the correct mode related to their shipping transport expenses, since the shipping company used several ports.

Most of the respondents did not have hands-on information on the sales/costs figures but relied on other departments/divisions in the firm to do the extraction of data for the ITSS reporting. Only one respondent had the IT competence to facilitate the data extraction without any assistance. 7 out of 10 respondents were uncertain whether the information of modes existed in their accounting systems at all. As such, for those with multi-mode transactions, their first strategy would be to involve other colleagues at i.e. sales department and to review the sales invoices of the company to foreign customers. Given that the information on modes existed, which was unknown, a large part of the companies would have to make advanced adaptations in their systems to extract this kind of information. Respondents with one mode of delivery, did not need to involve others and had the knowledge themselves.

Figure 13.9: Outsourcing Installation and assembly services to sub-contractors abroad



Source: Statistics Norway

Mode 1 – initial wording:

'The service was provided without any employees of the Norwegian enterprise, or anyone from the foreign customer, physically crossing the Norwegian border. The service was e.g. delivered by the company in

Norway via post, telephone, email or other digital delivery methods.’

In one case, a respondent had trouble finding the right mode since the service in fact was not delivered electronically from the enterprise in Norway, but from a subcontractor in the customers’ country (same location).

Another problem highlighted by a respondent, was first allocating the export expenses and then the import revenues ⁽²⁰⁵⁾. The respondents accounting system have the invoices in one system. It was not intuitive to distinguish between export revenue and import costs.

Finally, a respondent found the inclusion of Mode 3 in the available options as confusing.

Given this feedback we excluded Mode 3 from the options and the wording for Mode 1 was changed to:

Mode 1 – final wording:

‘Other delivery methods. The service was delivered without employees of the Norwegian enterprise, or anyone from the foreign customer, physically crossing the Norwegian border.’

With the change in phrasing, we wanted to capture that the delivery could also happen from abroad. Moreover, we excluded the specific examples post, email, telephone, and digital delivery methods as we believed it narrowed the mode too much.

Table 13.16 Summary table of findings

TP	Understanding of concepts	Multi-mode	Information exists and can be easily extracted	Accuracy of data	Burdensome
1	Good First version	Yes	No, need help from others in the company. Need to look at contracts for each country to decide on the modes and to allocate between the modes.	Quite accurate estimates	Yes
2	Good First version	No	No, information does not exist today, but TP can facilitate data extraction. Does not need help of others.	Precise figures: Can retrieve figures from the accounting system per project	No
3	Confused with the concepts and what is meant by “delivered” First version	No	No, need to adjust the extraction system with help of others	Quite accurate estimates, given that all transactions fall under one mode	Yes
4	Good First version	Yes	No, need help from others in the company. Must enter into each contract. Difficult and time consuming to find out	Rough estimates	Yes
5	Good First version	Yes	Yes, TP can retrieve the information easily on exports, but needs help on imports.	Precise figures on exports, imports more difficult: quite rough estimates	Exports: No Imports: Yes
6	Good First version	Yes	No, need help from others in the company. Must enter into each contract. Difficult and time consuming to find out	Rough estimates	Yes
7	Good Final version	No	Yes, no need investigating the contracts/invoices. TP would allocate 100 % to Mode 3	Quite accurate estimates.	No
8	Good Final version	Yes	No, need help from others in the company. Information not easily accessible.	Rough estimates	Yes
9	Good First version	Yes	No, need help from others in the company. Information not easily accessible.	Rough estimates	Yes
10	Good Final version	No	Yes, no need investigating the contracts/invoices. TP would allocate 100 % to Mode 3	Quite accurate estimates.	No

Source: Statistics Norway

4.2 Accuracy

None of the test companies had information on delivery methods in their current accounting system. Only two respondents were able to deliver precise figures which was mainly based on their own knowledge of

⁽²⁰⁵⁾ The respondents were asked to allocate the services exports between Mode 1 and 4, and then to split in their services imports. The respondent got confused when asked about exports and then imports. This was only mentioned by one respondent.

operation and high IT skills. More importantly, the precision of these answers must be seen in relation to only one mode of delivery. For companies with multiple modes, the precision ranged from 'rough estimates' to 'quite accurate estimates'. Another point worth emphasising, was the number of contracts. As one respondent put it, if there is only one contract per country, the reporting would be easy.

On the last question on how representative the distribution of the service types by mode were, relative to other countries not mentioned, we found that geographical distance did not affect the way the services were supplied. In the final version we decided to include the two questions about the accuracy of the distributions, but not the question on geographical distance (see Annex IV- Final questionnaire).

5. Conclusion and next steps

As stated in the introduction, Statistics Norway is in the early stage of exploring MoS statistics. This project, both the process and outcomes, have been valuable. Our meeting with the Ministry of Foreign Affairs was fruitful and confirmed the need of statistics in the international supply of services detailed by service category, mode of supply and partner country. Despite the need for detailed MoS statistics, the ministry also acknowledged the already complex ITS-report would become very burdensome when including a split by modes of supply. As such, we got valuable feedback on the most important combinations of sectors and service types which we prioritised in the sampling and design process.

A large part of the project went to designing the draft web-form. During the designing, building and testing, we ended up going back and forth between the designing and making amendments. This iterative process resulted in a revised version of the questionnaire; reducing the number of modes from four to three and change of wording. The project's primary goal was to test the respondent's understanding of the different modes and investigate whether the information existed in their business records. The results show that the test persons grasped quite quickly the concept of modes of supply. As regard to the availability of the requested information, it was confirmed that the accounting systems do not track information by mode. Data in records are determined by business - not statistical- needs.

The results indicate that single mode transactions that neatly falls into one mode can be retrieved, but it is mainly based on the respondent's knowledge of their operations rather than business records. On the contrary, single service transactions that involve multiple modes is difficult to retrieve and allocating between modes. In this context, the respondents were not confident that they could estimate reliably. Many of the test persons would have to involve other colleagues at i.e. sales department and to go through sales invoices or contracts, one by one. Further, the findings suggest that the questionnaire design needs to take into consideration that respondents will differ in their ability to provide accurate data and in their strategies for providing estimates.

Statistics Norway supports the need for providing estimates on modes of supply for national purposes. Future work may involve carrying out a pilot survey based on the final version of the questionnaire on a larger subset of enterprises from the ITS sample. The data collection from a future pilot study will be important for analysis purposes and assessing the quality and accuracy of the data collected.

Annexes

Annex I – Alternative mapping tables for Mode 3 compilation

Table 1 presents the correspondence table using 'hybrid EBOPS' categories. By creating some hybrid categories, this allocation overcomes the inherent difficulty of allocating certain NACE activities to EBOPS when the exact allocation is not straightforward. This mapping is used in the WTO's TiSMOS.

Annex I. Table 1. EBOPS 2010 - NACE Rev. 2 correspondence including 'hybrid EBOPS' categories (TiSMOS)

Ebops-like code	Description	NACE Rev. 2 code	Description	%
SA	Manufacturing services on physical inputs owned by others	-	-	
SB	Maintenance and repair services not included elsewhere	C33	Repair and installation of machinery and equipment	100
		S95	Repair of computers, personal and household goods	50
SC	Transport	D	Electricity, gas, steam	50
		H	Transportation and storage	100
SDB1SK21	Health services	Q	Human health and social work activities	100
SDB2SK22	Education services	P	Education	100
SDASDB3	Tourism and business travel	I	Accommodation and food service activities	100
SE	Construction	F	Construction	100
SFSG	Insurance and financial services	K	Financial and insurance activities	100
SF	Insurance and pension services	K65	Insurance, reinsurance and pension funding, except compulsory social security	100
		K66	Activities auxiliary to financial services and insurance activities	50
SG	Financial services	K64	Financial service activities, except insurance and pension funding	100
		K66	Activities auxiliary to financial services and insurance activities	50
SH	Charges for the use of intellectual property n.i.e.	N77	Rental and leasing activities	25
SISK1	Telecommunications, computer, information and audio-visual services	J	Information and communication	100
		N77	Rental and leasing activities	50
		S95	Repair of computers, personal and household goods	50
S11	Telecommunication services	J61	Telecommunications	100
S12	Computer services	J62	Computer programming	100
		N77	Rental and leasing activities	25
		S95	Repair of computers, personal and household goods	50

Ebops-like code	Description	NACE Rev. 2 code	Description	%
SI3	Information services	J58	Publishing activities	100
		J63	Information service activities	100
SK1	Audiovisual services and related services	J59	Motion picture, video and television programme production, sound recording and music publishing activities	100
		J60	Programming and broadcasting activities	100
		N77	Rental and leasing activities	25
SJXSJ34	Other business services (excluding trade-related)	L	Real estate activities	100
		M	Professional, scientific and technical activities	100
		N77	Rental and leasing activities	25
		N78-82	Employment, travel agency, security	100
		D	Electricity, gas, steam	50
33SK23	Heritage and recreational services	E	Water supply; sewerage, waste management and remediation activities	100
		R	Arts, entertainment and recreation	100
SK24	Other personal services	S94	Activities of membership organisations	100
		S96	Other personal service activities	100
SWSJ34	Total trade-related services (Distribution)	G	Wholesale and retail trade; repair of motor vehicles and motorcycles	100

Source: WTO's TiSMOS

Table 2 in the next page presents the mapping using standard EBOPS categories, at an aggregated level. This table can be used if the disaggregated table 6.3 cannot yet be used, for example, for reference years for which the full detail by EBOPS subitem is not yet mandatory.

Table 2 has been revised and aligned to the disaggregated Table 6.3.

Annex I. Table 2. EBOPS 2010 - NACE Rev. 2 correspondence table, aggregated level

EBOPS code	Description	NACE Rev.2	Description	%		
SA	Manufacturing services	-	-	-		
SB	Maintenance and repair	C33	Repair and installation of machinery and equipment	100		
		S95-96	Repair of computers, personal, household goods and other personal service activities	10		
SC	Transport	D*	Electricity, gas, steam and air conditioning supply	20		
		H	Transportation and storage	100		
SD	Travel	-	-	-		
SE	Construction	F	Construction	100		
SF	Insurance and pension	K65*	Insurance, reinsurance and pension funding, except compulsory social security	100		
		K66*	Activities auxiliary to financial services and insurance activities	50		
SG	Financial	K64*	Financial service activities, except insurance and pension funding	100		
		K66*	Activities auxiliary to financial services and insurance activities	50		
SH	Intellectual property	N77	Rental and leasing activities	10		
SI	Telecommunication, computer, and information services	J58	Publishing activities	100		
		J61	Telecommunications	100		
		J62	Computer programming, consultancy and related activities	100		
		J63	Information service activities	100		
		S95-96	Repair of computers, personal, household goods and other personal service activities	10		
<i>SI1</i>	<i>Telecommunication services</i>	<i>J61</i>	<i>Telecommunications</i>	<i>100</i>		
<i>SI2</i>	<i>Computer services</i>	<i>J62</i>	<i>Computer programming, consultancy and related activities</i>	<i>100</i>		
<i>SI3</i>	<i>Information services</i>	<i>S95-96</i>	<i>Repair of computers, personal, household goods and other personal service activities</i>	<i>10</i>		
		<i>J58</i>	<i>Publishing activities</i>	<i>100</i>		
<i>SI3</i>	<i>Information services</i>	<i>J63</i>	<i>Information service activities</i>	<i>100</i>		
		D*	Electricity, gas, steam and air conditioning supply	80		
SJ	Other business services	E	Water supply; sewerage, waste management and remediation activities	100		
		L	Real estate activities	100		
		M	Professional, scientific and technical activities	100		
		N77	Rental and leasing activities	80		
		N78-82	Employment, travel agency, security	100		
		I	Accommodation and food service	100		
SK	Personal, cultural and recreational services	J59	Motion picture, video and television programme production, sound recording and music publishing activities	100		
		J60	Programming and broadcasting activities	100		
		N77	Rental and leasing activities	10		
		P	Education	100		
		Q	Human health and social work activities	100		
		R	Arts, entertainment and recreation	100		
		S94	Activities of membership organisations	100		
		S95-96	Repair of computers, personal, household goods and other personal service activities	80		
		<i>SK1</i>	<i>Audiovisual services and related services</i>	<i>J59</i>	<i>Motion picture, video and television programme production, sound recording and music publishing activities</i>	<i>100</i>
				<i>J60</i>	<i>Programming and broadcasting activities</i>	<i>100</i>
<i>N77</i>	<i>Rental and leasing activities</i>			<i>10</i>		
<i>SK2</i>	<i>Other personal, cultural and recreational services</i>	<i>I</i>	<i>Accommodation and food service activities</i>	<i>100</i>		
		<i>P</i>	<i>Education</i>	<i>100</i>		
		<i>Q</i>	<i>Human health and social work activities</i>	<i>100</i>		
		<i>R</i>	<i>Arts, entertainment and recreation</i>	<i>100</i>		
		<i>S94</i>	<i>Activities of membership organisations</i>	<i>100</i>		
<i>SK2</i>	<i>Other personal, cultural and recreational services</i>	<i>S95-96</i>	<i>Repair of computers, personal, household goods and other personal service activities</i>	<i>80</i>		
		G*	Wholesale and retail trade; repair of motor vehicles and motorcycles	100		

NOTE: Turnover value should be used - except for the activities marked with an asterisk for which value of output should be used.

Source: Eurostat, adapted from the 2021 edition table.

Annex II - Eurostat technical document for MoS data transmission

Technical document for data transmission under the European Business Statistics Regulation

Background

Regulation (EU) 2019/2152²⁰⁶ on European business statistics sets the data requirements in the field of international supply of services (ISS) by modes of supply (MoS) for the EU Member States and EFTA countries. The exact technical specifications are listed in Commission Implementing Regulation (EU) 2020/1197²⁰⁷.

This document contains the technical data requirements, the suggested transmission format and further technical guidelines for transmitting ISS data by MoS. It also provides instructions on how to submit data to Electronic Data files Administration and Management Information System (EDAMIS) and contains data validation rules.

²⁰⁶ EUR-Lex - 32019R2152 - EN - EUR-Lex (europa.eu) – [Regulation \(EU\) 2019/2152](#).

²⁰⁷ [Commission Implementing Regulation \(EU\) 2020/1197](#)

Annex II. Table 1: MoS tables – overview

Breakdown	Product breakdown	Modes of supply breakdown	First reference year	Data transmission deadline (First data transmission)	EDAMIS FLOW ¹	TABLE IDENTIFIER
(1) International supply of services by mode of supply and geographical breakdown	Total	MoS1	2023	T+10M	ESTAT:MOS_MOD124_A(1.0)	MOD124
		MoS2		(Oct 2024)		
		MoS4		T+22M	ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT MODALL
		MoS3				
		Total (MoS1+MoS2+MoS3+MoS4)				
(2) International supply of services by mode of supply, type of product and geographical breakdown	1) Total 2) EBOPS 2010 main components 3) EBOPS 2010 complementary grouping	MoS1	2025	T+10M	ESTAT:MOS_MOD124_A(1.0)	MOD124
		MoS2		(Oct 2026)		
		MoS4		T+22M	ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT MODALL
		MoS3				
		Total (MoS1+MoS2+MoS3+MoS4)				
(3) International supply of services by mode of supply, detailed type of product breakdown and geographical breakdown	1) Total 2) EBOPS 2010 main components 3) EBOPS 2010 complementary grouping 4) EBOPS 2010 detailed components	MoS1	2027	T+10M	ESTAT:MOS_MOD124_A(1.0)	MOD124
		MoS2		(Oct 2028)		
		MoS4		T+22M	ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT MODALL
		MoS3				
		Total (MoS1+MoS2+MoS3+MoS4)				

Note: - For all breakdowns: Variables: 460101 (Imports), 460201 (Exports), Geographical breakdown: GEO level 5
- Table identifier MODALL can be used to also report Modes 1, 2 and 4 in MOS_MOD3TOT_A, on a voluntary basis.

Source: Eurostat

MoS matrix for DSD

The following table provides a synthesis of the MoS data tables, including the respective dimensions, measure and attributes for each table.

Annex II. Table 2: MoS data tables description

DATA-FLOW	DIMENSIONS	MEASURES	ATTRIBUTES	DESCRIPTION
ESTAT: MOS_MOD124_A(1.0)	TABLE_IDENTIFIER: MOD124; FREQ; TIME_PERIOD; REF_AREA; UNIT_MEASURE; COUNTERPART_AREA; MODE_SUPPLY; PRODUCT; FLOW	OBS_VALUE	UNIT_MULT; DECIMALS;	International supply of services by mode of supply and geographical breakdown – modes 1,2 and 4
			OBS_STATUS; CONF_STATUS	International supply of services by mode of supply, type of product and geographical breakdown – modes 1,2 and 4
				International supply of services by mode of supply, detailed type of product and geographical breakdown – modes 1,2 and 4
ESTAT: MOS_MOD3TOT_A(1.0)	TABLE_IDENTIFIER: MOD3TOT or MODALL FREQ; TIME_PERIOD; REF_AREA; UNIT_MEASURE; COUNTERPART_AREA; MODE_SUPPLY; PRODUCT; FLOW	OBS_VALUE	UNIT_MULT; DECIMALS;	International supply of services by mode of supply and geographical breakdown – for Mode 3 and total (Mode 1,2 and 4 voluntary)
			OBS_STATUS; CONF_STATUS	International supply of services by mode of supply, type of product and geographical breakdown – for Mode 3 and total (Mode 1,2 and 4 voluntary)
				International supply of services by mode of supply, detailed type of product and geographical breakdown – for Mode 3 and total (Mode 1,2 and 4 voluntary)

Source: Eurostat

Data transmission

A single data structure definition (DSD)²⁰⁸ enables the MoS transmissions; the two EDAMIS transmission data flows include all the Statistical Data and Metadata eXchange (SDMX) recommended concepts and the relevant SDMX cross-domain concepts. The European business statistics regulation (EBS) code lists are applied. SDMX-CSV is the unique format for data transmission.

The data should be transmitted through two EDAMIS flows:

- ESTAT:MOS_MOD124_A(1.0) with a TABLE_IDENTIFIER: MOD124: the flow consists of modes 1, 2 and 4 and has a transmission deadline of T+10 months;
- ESTAT:MOS_MOD3TOT_A(1.0) with either of the below TABLE_IDENTIFIERS.
 - MOD3TOT: this flow consists of Mode 3 and total international supply of services (total of modes 1, 2, 3 and 4) and has a transmission deadline of T+22 months.
 - MODALL: this flow can be used to transmit the entire data set (all four modes and the total). It consists of modes 1, 2, 3 and 4, and total international supply of services (total of modes 1, 2, 3 and 4) and has a transmission deadline of T+22 months. Therefore, this flow enables the transmission of revisions for previous years or revisions for all four modes and total for the same reporting year.

The transmission flows should follow the structure shown in Table 3. The sequence of the concepts should strictly follow the order as listed in the table.

Any data transmission before the deadlines mentioned is greatly appreciated.

Below are listed the exact breakdowns to be reported with each data transmission:

²⁰⁸ A data structure is a specialized format for organizing, processing, retrieving, and storing data.

1. International supply of services by mode of supply and geographical breakdown

- a. Mode of supply:
 - (i) Total international supply of services (total of modes 1, 2, 3 and 4) - ESTAT:MOS_MOD3TOT_A(1.0);
 - (ii) Mode 1 ('cross border supply') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iii) Mode 2 ('consumption abroad') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iv) Mode 3 ('commercial presence') - ESTAT:MOS_MOD3TOT_A(1.0);
 - (v) Mode 4 ('presence of natural persons') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0).
- b. Product:
 - (i) Total international supply of services.
- c. Geographical breakdown: (i) Geo level 5²⁰⁹.
- d. Trade flow:
 - (i) exports;
 - (ii) imports.

2. International supply of services by mode of supply, type of product and geographical breakdown

- a. Mode of supply:
 - (i) Total international supply of services (total of modes 1, 2, 3 and 4) - ESTAT:MOS_MOD3TOT_A(1.0);
 - (ii) Mode 1 ('cross border supply') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iii) Mode 2 ('consumption abroad') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iv) Mode 3 ('commercial presence') - ESTAT:MOS_MOD3TOT_A(1.0); and
 - (v) Mode 4 ('presence of natural persons') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0).
- b. Product:
 - (i) Total international supply of services;
 - (ii) 2010 Extended Balance of Payments Services Classification (EBOPS 2010) main components²¹⁰,
 - (iii) EBOPS 2010 complementary grouping,
 - (iv) *Product breakdown according to CPA classification (voluntary data transmission).*
- c. Geographical breakdown: (i) Geo level 5.
- d. Trade flow:
 - (i) exports;
 - (ii) imports.

3. International supply of services by mode of supply, detailed type of product and geographical breakdown

- a. Mode of supply:
 - (i) Total international supply of services (total of modes 1, 2, 3 and 4) - ESTAT:MOS_MOD3TOT_A(1.0);
 - (ii) Mode 1 ('cross border supply') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iii) Mode 2 ('consumption abroad') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0);
 - (iv) Mode 3 ('commercial presence') - ESTAT:MOS_MOD3TOT_A(1.0); and
 - (v) Mode 4 ('presence of natural persons') - ESTAT:MOS_MOD124_A(1.0) and voluntary ESTAT:MOS_MOD3TOT_A(1.0).
- b. Product
 - (i) Total international supply of services;
 - (ii) EBOPS 2010 main components;
 - (iii) EBOPS 2010 complementary grouping;
 - (iv) EBOPS 2010 detailed components;
 - (v) *Product breakdown according to CPA classification (voluntary data transmission).*
- c. Geographical breakdown: (i) Geo level 5.
- d. trade flow:
 - (i) exports;
 - (ii) imports.

See Reg. 2020/1197 Annex I, Part B, Table 38 for detailed definition.

⁽²⁰⁹⁾ As defined in an implementing act in accordance with Article 7(1)(d) of [Regulation \(EU\) 2019/2152](#).

⁽²¹⁰⁾ The product breakdowns are defined in Annex VI, Section 2, Table 1 in [Commission Implementing Regulation \(EU\) 2020/1197](#)

DATA TRANSMISSION GUIDELINES

Which data format?

The transmission format for sending data to Eurostat is SDMX-CSV.

Where to send data?

The data should always be sent to Eurostat's single entry point for all regular data sets: **EDAMIS**.

More information about EDAMIS as well as links to user guides and instructional videos is available at EDAMIS web section²¹¹.

The EDAMIS Web Portal has been integrated with automated validation services: structural validation (called STRUVAL²¹²) and content validation (called CONVAL²¹³) and gives access to automatically generated validation reports. The use of EDAMIS for pre-validation of data sets before the official transmission is strongly encouraged.

Where to find Euro SDMX registry and code lists?

Eurostat uses the Euro SDMX Registry²¹⁴ to implement the SDMX Registry specifications. The Euro SDMX Registry contains statistical classifications and standard cross-domain code lists used in Eurostat's reference database in SDMX/XML.

How to send data and transmission data flows

The MoS breakdowns will be implemented by a single DSD, containing 15 concepts.

The data should be sent via two EDAMIS flows:

- ESTAT:MOS_MOD124_A(1.0) with a TABLE_IDENTIFIER: MOD124: the flow consists of modes 1, 2 and 4; and has a transmission deadline of T+10 months.
 - This flow should be used for sending modes 1, 2, and 4 for year T-1.
- ESTAT:MOS_MOD3TOT_A(1.0) with either of the below TABLE_IDENTIFIERS.
 - MOD3TOT: the flow consists of Mode 3 and total international supply of services (total of modes 1, 2, 3 and 4) and has a transmission deadline of T+22 months.
 - MODALL: this flow can be used to send the entire data set (all four modes and the total). The flow consists of modes 1, 2, 3 and 4, and total international supply of services (total of modes 1, 2, 3 and 4) and has a transmission deadline of T+22 months (relevant for Mode 3 and total). Any data revisions for previous years or revisions for modes 1, 2 and 4 for the reporting period are to be submitted via this data flow, using this table identifier.

This flow is used to send Mode 3 and the total for year T-2. By setting TABLE_IDENTIFIER to MODALL, the flow can be used to send a complete data set for the reference year (all four modes and total). This enables revisions to be sent, either for modes 1, 2 and 4 together with the transmission of Mode 3 and total for year T-2, or for previous years.

If Table MOD3TOT is used, then the system uses the already transmitted values for modes 1, 2 and 4 (as for any given reference year, modes 1, 2 and 4 are always sent before Mode 3 and total, at T+10).

The TABLE_IDENTIFIER defines the relevant MoS table. The exact structure of the .CSV file is displayed in Annex II. Table 3. The sequence of the concepts should strictly follow the order as listed in the Annex II. Table 3 displaying an example of a data transmission .csv file.

A detailed description of the used concepts and the respective code lists is presented in Annex III.

⁽²¹¹⁾ https://ec.europa.eu/eurostat/cros/content/edamis_en

⁽²¹²⁾ Structural validation (STRUVAL) - <https://cros-legacy.ec.europa.eu/content/structural-validation/>

⁽²¹³⁾ Content Validation (CONVAL) - https://cros-legacy.ec.europa.eu/content/content-validation_en

⁽²¹⁴⁾ <https://webgate.ec.europa.eu/sdmxregistry>

Annex II. Table 3: An example of a data transmission .csv structure

DATAFLOW	TABLE_IDENTIFIER	FREQ	TIME_PERIOD	REF_AREA	OBS_VALUE	OBS_STATUS	CONF_STATUS	UNIT_MEASURE	UNIT_MULT	DECIMALS	COUNTERPART_AREA	MODE_SUPPLY	PRODUCT	FLOW
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS1	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS2	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS4	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS1	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS2	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	B6	MOS4	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS1	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS2	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS4	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS1	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS2	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	D6	MOS4	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS1	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS2	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS4	S	M
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS1	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS2	S	X
ESTAT:MOS_MOD124_A(1.0)	MOD124	A	2019	DE		A	F	EUR	3	0	E1	MOS4	S	X

DATAFLOW	TABLE_IDENTIFIER	FREQ	TIME_PERIOD	REF_AREA	OBS_VALUE	OBS_STATUS	CONF_STATUS	UNIT_MEASURE	UNIT_MULT	DECIMALS	COUNTERPART_AREA	MODE_SUPPLY ¹⁾	PRODUCT	FLOW
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS1	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS2	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS3	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS4	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	TOTAL	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS1	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS2	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS3	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	MOS4	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	B6	TOTAL	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	MOS1	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	MOS2	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	MOS3	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	MOS4	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	TOTAL	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MODALL	A	2019	DE		A	F	EUR	3	0	D6	MOS1	S	X
OR														
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	B6	MOS3	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	B6	TOTAL	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	B6	MOS3	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	B6	TOTAL	S	X
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	D6	MOS3	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	D6	TOTAL	S	M
ESTAT:MOS_MOD3TOT_A(1.0)	MOD3TOT	A	2019	DE		A	F	EUR	3	0	D6	MOS3	S	X

Source: Eurostat

The columns with a darker background are dimensions that are always kept constant (they should have only fixed values):

- DATAFLOW:
 - ESTAT:MOS_MOD124_A(1.0) or
 - ESTAT:MOS_MOD3TOT_A(1.0);
- TABLE_IDENTIFIER:
 - MOD124 if the TABLE_ID is ESTAT:MOS_MOD124_A(1.0);
 - MOD3TOT if the TABLE_ID is ESTAT:MOS_MOD3TOT_A(1.0);
 - MODALL if the TABLE_ID is ESTAT:MOS_MOD3TOT_A(1.0);
- FREQ: A;
- UNIT_MULT: 3 and
- DECIMALS: 0.

The columns with a white background are changing compositions and should be filled in accordingly by the reporting country. The exact code lists to be used for each concept are listed under point 6 and in Annex I and II.

How many data files?

The data should be sent using **as few data files as possible for each EDAMIS dataflow**.

The ESTAT:MOS_MOD124_A(1.0) data flow should cover only the reporting period, while a single data file sent via the ESTAT:MOS_MOD3TOT_A(1.0) flow may cover **several reporting periods (including data revisions)**. Each data file should include all the dimensions, following the example in Annex 1.

Automated validation services are implemented in the MoS domain and can validate transmissions only on a file-by-file basis. It is important that each transmitted file contains all series, which consistency will be checked. Therefore, **the smallest unit of transmission should contain all mandatory series plus any series sent voluntarily**.

Uniqueness of the key

No two cells in a data set can have the same key value (the key is the combination of the dimensions of the key family). In other words, the (combination of) values of the dimensions given in a data set must be unique. **This guarantees that there are no duplicates in the data set**; the elements stored in a cell (value, status, confidentiality) are unique.

Which unit multiplier?

Currency:

All data must be sent in thousands of a national currency. The unit multiplier attribute is set to '3' and it is applied at time series level.

What about empty cells?

If there are no transactions for a specific item because the type of transaction does not exist at all in the economy, this should be reported as **empty** with **observation status code 'M' – missing value; data do not exist**.

If the value of the transaction is unknown, it should be reported as **empty** with **observation status code 'L' - missing value; data exist but were not collected**. Such situations should occur only in exceptional cases.

If the value of the transaction is negligible or 'true' zero (e.g. the amount of the transaction is equal to zero), **this should be reported as zero** with an appropriate observation status code and not empty.

If the 1 % rule is applied a country may not send data for all partners and flows, for all EBOPS items (and sub-items) that fall below 1 % of the respective EU trade volume, for a specific time period/year (a more detailed explanation of

the 1 % rule and the description of its application is provided in Part 5 below). The cells where reference area = counterpart area **should be reported as zero** with confidentiality status free.

If the observation status (OBS_STATUS) is reported as empty this will be interpreted as an 'A' flag, i.e., a normal observation.

The observation status

The observation status (OBS_STATUS) will be considered as a normal value if reported with an 'A' ('Normal value') flag or left empty.

How to deal with confidential data?

Chapter V 'Statistical confidentiality' of Regulation (EC) No 223/2009 on European statistics regulates protection and transmission of confidential data within the European Statistical System (ESS) and the European System of Central Banks (ESCB). Article 10 of the Commission Implementing Regulation (EU) 2020/1197²¹⁵ says: 'Member States shall provide all levels of aggregation of the breakdowns as defined in the tables of Annex I, Part B and the data transmitted shall contain, where applicable, all primary and secondary confidentiality flags in accordance with the confidentiality rules existing at national level.'

The confidentiality status allocation is mandatory in the MoS domain and therefore each observation must be flagged with a confidentiality status. Accepted flags, for the code list CL_CONF_STATUS, are presented in Annex II. Table 4.

Annex II. Table 4: Code list of the flags under the concept CONF_STATUS

Code	Description	Operational use and details
F	Free; (free for publication)	Observations flagged with F are considered free for publication and may be released through the Eurostat public databases.
N	Not for publication, restricted for internal use only.	The data for use as a contribution to European totals only (CETO) should be marked with this flag. Eurostat must not publish those data, and Member States must not mark nationally published data with a CETO flag. This flag should not be used with an observation that reveals data of individual respondents: in this case, the observation should be flagged as 'confidential statistical information' (see next row). No secondary confidentiality treatment is done for cells with N-flags.
C	Confidential statistical information	These observations are used by the receiver for compilation purposes within the statistics production area. An observation flagged as 'confidential' could reveal data of individual respondents. In this case, the corresponding legal acts apply and sharing between institutions would not be possible, unless provided for by a legal act. Before the release of a data set that contains confidential cells, secondary confidentiality treatment must be done to eliminate indirect disclosure ²¹⁶ .
D	Secondary confidentiality set by the sender, not for publication	The sender (e.g., NCB/NSI) must use this to flag observations that should be 'suppressed' in a subsequent processing stage (on the receiver's side) to prevent observations flagged as 'confidential statistical information' to be indirectly deduced.
S	Secondary confidentiality set and managed by the receiver, not for publication	Eurostat use this to flag observations that must be 'suppressed' at a subsequent processing stage to appropriately protect and prevent observations being flagged (by the sender) as 'confidential statistical information' to be indirectly deduced.

Source: Eurostat

Transmitting confidential data is needed for the quality of the EU aggregates but requires coordination between Member States and Eurostat to ensure confidential information is not disclosed. Member States can apply confidentiality status (conf_status) to ensure that sensitive data of individual respondents remain protected when

²¹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R1197&qid=1597836386474&from=EN>

²¹⁶ By using secondary confidentiality management techniques, e.g. by reducing the breakdowns, suppressing other components.

processed by Eurostat. **Member States are invited to use confidential flags conservatively. Moreover, C-flags must generally not be used in case of quality issues.**

When the information is already released and disseminated by the national compiler (e.g., it is published on their website) applying confidentiality status codes such as C 'Confidential statistical information' or N 'Not for publication, restricted for internal use only' is not justified.

The confidentiality status code 'Not for publication, restricted for internal use only' – 'N' flag – must be used when the data are not to be published but used as a contribution to European totals only (CETO). Applying confidentiality status ('C' or 'N'-flags) to suppress publication of data with insufficient quality should be avoided.

If data are made confidential because of their quality, the observation status should instead carry the appropriate value 'U' (low reliability) for low quality. This would indicate existing observations, but the user should be aware of the low quality assigned.

Regarding quality reservations, instead of the 'N' flag for confidentiality status, Member States are encouraged to use observation status codes (OBS_STATUS) such as 'E' (estimated value), 'F' (forecast value), 'P' (provisional value), 'I' (imputed value) or 'U' (low reliability).

It is recommended to apply the observation status 'U' for transmissions of data with quality issues. Data with such an observation status and a confidentiality status 'F' would be published in Eurostat public databases, but with the appropriate 'U' flag.

Under the concept OBS_STATUS, the flag 'J' – Derogation – is used if the derogation implies that the data are calculated using different definitions/methodology than usually expected. No flag is used if the derogation implies that no data are available.

If data are marked with the flag 'V' – unvalidated value – they should not be published.

The data flagged with the 'N' flag are not released for publication, but they are not subject to the secondary confidentiality treatment. Secondary confidentiality treatment is applied only when data are flagged with 'C'.

Confidential flags should be used with caution as the quantity of data concerned with secondary confidentiality would increase.

Different rules are currently applied by national compilers to identify confidential statistical data. However, data must be declared confidential only under the following scenarios.

- They may concern several observations below a minimum threshold. This number is always more than two (usually 3): if data on two respondents were disseminated, each respondent would have easy access to the other's confidential data.
- The data are such that one or more observation(s) dominate(s) the total information by a percentage above a given rate (as provided by national legal frameworks, usually around 85 %).
- The data are such that the user or any respondent can estimate the reported value of a respondent quite accurately. Such disclosure occurs, and the data are declared sensitive, if upper and lower estimates for the respondent's value are closer to the reported value than a pre-specified percentage.

The transmission of confidential data is very important for the quality of the EU aggregates. However, the processing of confidential data implies numerous significant constraints and good co-ordination between Member States and Eurostat is essential. Secondary confidentiality treatment must be done when confidential data can be recalculated using other non-confidential data. To prevent recalculation of confidential data, the superseding aggregate or one of its sub-components should be suppressed. The secondary confidentiality functions used for all items are mainly based on the integrity rules for each dimension. Interrelationships between the dimensions should be also considered.

Countries can use code **C** (for primary confidentiality) or **D** (for secondary confidentiality) to flag their confidential data, while S flag is to be used at Eurostat when treating secondary confidentiality. The EBS Regulation requires countries to apply secondary confidentiality to the transmitted data. Eurostat may also apply further secondary confidentiality adding 'S' flags to national data where needed, especially to keep the EU aggregates publishable across all MoS dimensions. As already noted, secondary confidentiality is applied only on observations flagged as 'confidential', not on those flagged as 'non-publishable'.

To avoid any accidental disclosure of confidential data, the confidentiality applied on the MoS data should be harmonised and compatible with the confidentiality patterns used for totals in international trade in services statistics (ITSS) and services trade by enterprise characteristics (STEC). Member States are recommended to follow the confidentiality patterns applied for their ITSS and STEC data sets, verifying that data already published in these domains are not marked as confidential (C or S flag) for the ISS domain.

When Eurostat run secondary confidentiality functions, they are run separately and successively through an iterative procedure for each dimension according to the integrity rules for each dimension. Full lists of integrity rules for all dimensions are included in Annex III. When only one item in the integrity rule is flagged as 'confidential', a second item is flagged with a secondary confidentiality 'S' flag.

Suggested tools for secondary confidentiality treatment in the Member States are Argus (mu Argus and tau Argus) and R based applications ([sdc Micro](#) and [sdc Table](#)). Both Argus and R libraries are open source and are available on [GitHub](#). They offer tools for micro and tabular data protection. SDC tools User Support on GitHub offer support on using Argus and R based tools (see all questions and answers; to ask a question click on 'New issue' and register yourself).

The official user support is available under the following address: <https://github.com/sdcTools/UserSupport>.

Data quality controls

Before each data transmission to Eurostat, national compilers should conduct plausibility checks and ensure accounting integrity of the data sets. Eurostat made automated validation services available, which are integrated directly into the data transmission workflow, accessible on the EDAMIS Web Portal.

In practice, national compilers use the validation services in two different scenarios:

- **pre-validation of data sets by the national compilers without their actual delivery.** Pre-validation service available for national compilers with quick feedback allows potential issues to be identified in the data sets and for them to be corrected before the official transmission takes place.
- **automated validation of the official transmissions from the national compilers.** Each incoming transmission is automatically validated and the sender is informed about the result of the validation. If the data set is rejected by one of the validation services (STRUVAL or CONVAL), the sender needs to correct it and resubmit it.

An incoming data set is validated in two steps by two distinct services:

- **STRUVAL** (Structural Validation) carries out structural validation of statistical data sets in SDMX-CSV file format based on structural information stored in a data structure definition (DSD) document for a given data flow (in the MoS domain, the data flows are ESTAT:MOS_MOD124_A(1.0) and ESTAT:MOS_MOD3TOT_A(1.0)). The STRUVAL service:
 - verifies that the SDMX-CSV file (the data set) is a well-formulated CSV document and its structural elements are correctly ordered and nested (see example in Annex I);
 - detects misplaced, undefined and missing dimensions and attributes at the data set, groups, series, and observation levels;
 - detects invalid codes based on the pre-defined code lists and the data flow constraints;
 - detects invalid data format and invalid values for time-period concepts; and
 - detects duplicated observations.
- **CONVAL** (Content Validation) carried out content validation of a file with a statistical data set, based on pre-defined set of validation rules. The CONVAL service covers:
 - basic logical checks (REF_AREA = sender country code, consistency of the observation value with the observation and confidentiality status flags);
 - basic content checks (missing series, doubtful negative values); and
 - general plausibility and consistency within the file (check of identities representing integrity rules).

Validations by STRUVAL and CONVAL are carried out automatically on each data transmission. Validation services send automated notifications to the sender via email with validation results only (success, warning or error):

- Success: the file has successfully passed the structural and content validation. The file has been loaded into the input hole.
- Warning – the file has successfully passed the structural validation and failed some of the content validations. The file has not been loaded into the input hole. It is possible for Eurostat to accept the warnings and load the file.
- Error - The file has not successfully passed the structural nor content validation. The file cannot be loaded into the input hole; the sender must correct the errors and resubmit.

Detailed reports are available for download from the EDAMIS Web Portal.

A certain level of tolerance (calculated as the relative difference between the two sides of the equation) is applied in relation to the sent notifications for all integrity rules.

For validation rules that give an ERROR, the following rules apply:

- Relative difference <1 % – success message;
- Relative difference between 1 %-2 % – warning message;
- Relative difference >2 % – error message.

For validation rules that give a WARNING, the following rules apply:

- Relative difference <1 % – success message;
- Relative difference > 1 % – warning message.

The automatic validation can only take place if the data set is complete, i.e., if all mandatory codes for a defined flow and table are reported. The combinations of mandatory codes that should exist in each table are presented in Annex I. If a file is not complete then it is rejected and an error message returned to the sender, with the missing mandatory items.

After automatic checking, if all received series keys are syntactically correct, members of the ITSS team carry out further completeness and consistency checks. Once the basic completeness and consistency of received data has been checked, Eurostat will do a time series analysis, so that abnormal observations (outliers) and revisions are detected and further investigated in cooperation with national compilers. Consistency between the MoS totals and the annual ITSS totals is also checked.

Information on major revisions should be reported by national compilers during the metadata transmissions to ensure a smooth data production. In the revision analysis, the revised series are compared with the data previously reported for the same reference period. To detect outliers, comparison with data transmitted for the same period in the previous year is carried out.

Data sent to Eurostat should comply with a set of validation rules, which are listed in the Annex III. Some of these rules presented in this document might be further modified based on the experience and lessons learned from the implementations in the ITSS domain and the subsequent tests in acceptance environment for the MoS domain.

The first date on which the data set successfully passes STRUVAL/CONVAL (i.e. no errors detected) is that which is taken into account for the timeliness criterion and for compliance purposes.

Statistical dimensions and attributes

IMPORTANT NOTE:

Only the codes included in the following lists can be used for data transmission.

This section provides an overview of the codes lists that must be used in data transmission, as set out in the EBS Regulation and the MoS Data Structure Definitions (DSD).

MOS DSD DIMENSIONS

Table identifier

This concept defines the reported breakdown and provides information for the attributes of the MoS data table. The table identifiers are:

1. MOD124 – for modes 1, 2 and 4 with deadline of T+10 months;
2. MOD3TOT – for Mode 3 and total international supply of services (total of modes 1, 2, 3 and 4) with deadline of T+22 months.
3. MODALL – for modes 1, 2, 3, 4 and total international supply of services (total of modes 1, 2, 3 and 4) with deadline of T+22 months (relevant for Mode 3 and total of modes).
 - **Definition:** The data table identifier (code)
 - **Concept mnemonic/Identifier:** TABLE-IDENTIFIER
 - **Name of the code list:** CL_MOS_TABLEID
 - **Maintenance agency:** ESTAT, Version 1.0
 - **Format:** Fixed length- MOD124, MOD3TOT and MODALL.

Frequency

This concept identifies the periodicity of the reported data. The frequency of the MoS time series is annual, therefore the 'Frequency' dimension should be coded as 'A'.

- **Definition:** The frequency of the series
- **Concept mnemonic/Identifier:** FREQ
- **Name of the code list:** Frequency code list - CL_FREQ
- **Maintenance agency:** SDMX, Version 2.0
- **Format:** Fixed – A.

Time period

The time for the reported data.

- **Definition:** Time period of the data
- **Concept mnemonic/Identifier:** TIME_PERIOD
- **Name of the code list:** time format
- **Maintenance agency:** ESTAT
- **Format:** Fixed length, variable values, the accepted format is: YYYY

Reference country or area

This concept identifies the reference area for the time series encoded using the relevant code list of the DSD. The reference area is a country for which MoS statistics are provided. The country code list follows the ISO 3166-1 alpha-2 classification and is a cross-domain code list, used also in business statistics, balance of payment and national accounts.

- **Definition:** The country or geographical/political group of countries related to a measured economic phenomenon
- **Concept mnemonic/Identifier:** REF_AREA
- **Name of the code list:** Area code list - CL_AREA
- **Maintenance agency:** IMF, Version 1.13
- **Format:** Only pre-defined codes accepted.

Counterpart area

Identifies the counterpart area for transactions. Geo level 5 to be reported, as set out in an implementing act in accordance with Article 7(1)(d) of Regulation (EU) 2019/2152. Commission Implementing Regulation (EU) 2020/1470 of 12 October 2020 sets out the exact coverage of GEO level 5.

- **Definition:** The counterpart country or geographical/economical group of countries
- **Concept mnemonic/Identifier:** COUNTERPART_AREA

- **Name of the code list:** Area code list - CL_AREA
- **Maintenance agency:** IMF, Version 1.13
- **Format:** Only pre-defined codes accepted.

Unit of measure

This concept identifies the unit of measure in which the time series is recorded. Most frequently, but not always, it refers to a currency unit. According to the EBS Regulation, for MoS this is the national currency.

- **Definition:** Unit of measure for reporting the time-series
- **Concept mnemonic/Identifier:** UNIT_MEASURE
- **Name of the code list:** Unit of measure code list - CL_UNIT
- **Maintenance agency:** IMF, Version 1.14
- **Format:** Only pre-defined codes accepted

Mode of supply

The mode of supply refers to four modes of supply of services.

- **Definition:** Mode of supply
- **Concept mnemonic/Identifier:** MODE_SUPPLY
- **Name of the code list:** Modes of supply code list - CL_MODE_SUPPLY
- **Maintenance agency:** ESTAT, Version 1.0
- **Format:** Only pre-defined codes accepted.

Product

Under the EBS Regulation, the variables “Imports and acquisition of services” and “Exports and provision of services” cover the services broken down by product.

EBOPS 2010 classification is used to provide a breakdown of the product by type of service. The specific EBOPS components, complementary groupings and detailed components used are noted in the product code list. At the time of writing, reporting by CPA is voluntary.

- **Definition:** Product breakdown
- **Concept mnemonic/Identifier:** PRODUCT
- **Name of the code list:** Product code list - CL_STEC_MOS_PRODUCT
- **Maintenance agency:** ESTAT, Version 1.0
- **Format:** Only pre-defined codes accepted.

Flow

This concept identifies whether the time series is an export or import.

- **Definition:** Describes the data type, e.g. import or export.
- **Concept mnemonic/Identifier:** FLOW
- **Name of the code list:** Flow entry code list - CL_TRADE_FLOW
- **Maintenance agency:** ESTAT, Version 1.0
- **Format:** Only pre-defined codes accepted (e.g. X or M).

MOS DSD ATTRIBUTES

Observation status

- **Attachment level:** Observation
- **Concept mnemonic/Identifier:** OBS_STATUS
- **Name of the code list:** Observation status code list - CL_OBS_STATUS
- **Maintenance agency:** SDMX, Version 2.2
- **Format:** Fixed length

Confidentiality status

- **Attachment level:** Observation
- **Concept mnemonic/Identifier:** CONF_STATUS
- **Name of the code list:** Confidentiality status code list - CL_CONF_STATUS
- **Maintenance agency:** SDMX, Version 1.2
- **Format:** Fixed length

Unit multiplier

- **Attachment level:** Series
- **Concept mnemonic/Identifier:** UNIT_MULT
- **Name of the code list:** CL_UNIT_MULT
- **Maintenance agency:** SDMX, Version 1.1
- **Format:** Fixed - 3

Decimals

- **Attachment level:** Series
- **Concept mnemonic/Identifier:** DECIMALS
- **Name of the code list:** CL_DECIMALS
- **Maintenance agency:** SDMX, Version 1.0
- **Format:** Fixed – 0

MOS DSD MEASURE

Observation value

The value of the observed phenomenon.

- **Concept mnemonic/Identifier:** OBS_VALUE
- **Maintenance agency:** ESTAT, Version 1.0
- **Format:** Number.

The CETO flags

Regulation (EU) 2020/1197 enables countries to mark some data to be used as a contribution to European totals only (CETO); to flag a data point as CETO, the sender should use the N flag. Neither Eurostat nor the Member States should publish CETO flagged data. Furthermore, no secondary confidentiality check is carried out for these data.

The use of the CETO flag is limited to a certain threshold depending on the country's contribution to the EU trade volume. Each year, Eurostat will communicate to the countries (shortly after the annual ITSS data is published, e.g., by end of January / beginning of February) a table with the country groups and the allowed number of CETO flagged cells for each country.

The contribution to the EU totals will be calculated as a three-year average share of the countries' trade volumes (import plus export of services) compared to the EU trade volumes.

The amount of CETO flags in a data set will automatically be checked by STRUVAL and CONVAL. If a data set exceeds the allowed number of CETO flagged cells, it will be rejected.

Annex II. Table 5: Application of the CETO flags

Country group	Threshold (% of the EU trade volume (=IMP+EXP))	No of cells under CONF_STATUS marked with N flag
Group I (Small)	<1 %	<40 %
Group II (Medium)	1 %-4 %	<15 %
Group III (Large)	>4 %	<10 %

Source: Eurostat

Application of the 1 % rule

Both Regulation (EU) 2019/2152 and Regulation (EU) 2020/1197 envisage the usage of the '1 % rule'.

The 1 % rule states that a country may not compile certain variables if its contribution to the total services volume (imports plus exports of services) in a specific EBOPS 2010 category or product (CPA) breakdown is less than 1 % of the EU totals for the latter.

In the MoS domain, the following exemptions apply for breakdown 2 and 3.

- International supply of services by mode of supply, type of product and geographical breakdown (CETO flag or 1 % rule on the level of total trade volume (imports + exports of services) as defined in Annex III.B and A.1 of Regulation (EU) 2019/2152 may be applied).
 - If the 1 % rule is applied, then breakdown 2 is not reported (only breakdown 1 is reported).
- International supply of services by mode of supply, detailed type of product breakdown and geographical breakdown (CETO flag or 1 % rule on the level of total trade volume (imports + exports of services) as set out in Annex III.B and A.1 of Regulation (EU) 2019/2152 may be applied).
 - If the 1 % rule is applied, then breakdown 3 is not reported (only breakdown 1 is reported).

These two breakdowns are non-mandatory for the first two reference years of implementation. Therefore, the 1 % rule effectively comes into force only for reference year 2025 onwards.

If a country's share falls below 1 % of the EU total for one or more EBOPS items (or sub-items), the following will apply.

- Breakdown 1: for this breakdown there is no 1 % rule, all detail should always be reported.
- Breakdown 2 (& 3):
 - a country is not required to send data for all partners and flows for all EBOPS items (and sub-items) that fall below 1 %;
 - a country should always report all mandatory detail for all EBOPS items (sub-items) for which their share is above 1 %.

Eurostat will communicate annually (shortly after the annual ITSS data is published, e.g. by end of January / beginning of February) a table with country shares per EBOPS item and indicate if they are above/below 1 % of the EU totals.

Further details on the implementation of the 1 % rule will be specified in due time, before the first production cycle for which 1 % rule will apply.

Mandatory data points

Based on the requirements for each data table, the total mandatory data points to be reported are presented.

Annex II. Table 6: Mandatory data points

Reference period	Table	Total mandatory data points
2023	MOD124	522
	MOD3TOT	348
	MODALL	870
2024	MOD124	522
	MOD3TOT	348
	MODALL	870
2025	MOD124	7308
	MOD3TOT	4872
	MODALL	12180
2026	MOD124	7308
	MOD3TOT	4872
	MODALL	12180
2027 onwards	MOD124	15138
	MOD3TOT	10092
	MODALL	25230

Source: Eurostat

Calculation of the ISS total

This paragraph explains how the goods are treated in relation to the calculation of the total ISS and the relationship between ISS and S (the annual ITS 'total services'). The integrity rules for the ISS total are presented in Table A.6. Note that the ISS reported under MoS covers only imports and acquisition of services and exports and provision of services.

The total ISS could be calculated in two ways:

- $ISS = SA + SB + SC + SD + SE + SF + SG + SH + SI + SJ + SK + SL + SN + S_DS$

Note that since ISS is defined as a services-only total, in the MoS domain the codes SB, SD, SE and SL already exclude any goods values (for the reporting of which codes SBG, SDG, SEG and SLG can be used).

In other words, the following equation holds:

- $ISS = S + S_DS - SBG - SDG - SEG - SLG$

I.e. if the value of S (total services as in the annual ITS statistics) is reported, then the total ISS can be calculated by deducting the goods value (e.g. the sum of SBG, SDG, SEG and SLG) and adding the distribution services (S_DS).

Annex II. Table 7: Integrity rules for the ISS total

Code	Operator	Integrity rule
ISS	=	$SA + SB + SC + SD + SE + SF + SG + SH + SI + SJ + SK + SL + SN + S_DS$
ISS ⁶	=	$S^* + S_DS - SBG^* - SDG - SEG - SLG$

Note:

*The codes are requested only on voluntary basis and the integrity rules which include these codes should be considered as relevant only for countries reporting the voluntary codes.

Source: Eurostat

Annex III: Description of the concepts and code lists

The concepts marked in *italic* are inserted to facilitate future voluntary data collections.

Annex III. Table 1: Description of the concepts and code lists

Concept ID	Description of the Concept ID	Code list	Code	Description of the codes
DATAFLOW	Dataflow		ESTAT:MOS_MOD124_A(1.0) ESTAT:MOS_MOD3TOT_A(1.0)	The name of the dataflow to be transmitted to EDAMIS.
TABLE_IDENTIFIER	Table		MOD124 MOD3TOT MODALL	The table identifier, shows the code of the data table.
FREQ	Frequency	CL_FREQ	A	Annual
REF_AREA	Reference area	CL_AREA	See Annex IV	Reporting country
COUNTERPART_AREA	Counterpart area	CL_AREA	See Annex V	Partner country (Geo level 5217)
MODE_SUPPLY	Mode of supply	CL_SUPPLY	MOS1	Mode 1
			MOS2	Mode 2
			MOS3	Mode 3
			MOS4	Mode 4
			TOTAL	Total modes (mode1+mode2+mode3+mode4)
			_X	Not allocated/unspecified ²¹⁸

²¹⁷ As defined in an implementing act in accordance with Article 7(1)(d) of [Regulation \(EU\) 2019/2152](#).

²¹⁸ The code "_X" will be used to report the Goods items: (SBG, SDG, SEG and SLG - these items denote Goods values, present in ITS and needed in MOS for validation purposes. Therefore, the codes SBG, SDG, SEG and SLG should never be reported with any other MODE_SUPPLY code (always '_X' must be used for them).

Concept ID	Description of the Concept ID	Code list	Code	Description of the codes
PRODUCT	Product	CL_MOS_PRODUCT	See Annex VI	Product breakdown by EBOPS 2010 and CPA 2.1. (voluntary)
FLOW	Flow	CL_TRADE_FLOW	M	Import
			X	Export
TIME_PERIOD	Time period of the data	Time Format	Time Format	The period to which the measured information refers to
OBS_VALUE	Observation value	Double		The field for reporting the actual value of the observation
OBS_STATUS	Status of the observation	CL_OBS_STATUS	A or null=empty cell	Normal value
			E	Estimated value
			O	Missing value
			P	Provisional value
			B	Time series break
			D	Definition differs
			F	Forecast value
			G	Experimental value
			H	Missing value; holiday or weekend
			I	Value imputed by a receiving agency
			J	Derogation
			K	Data included in another category
			L	Missing value; data exist but were not collected
			M	Missing value; data cannot exist
N	Not significant			

Concept ID	Description of the Concept ID	Code list	Code	Description of the codes
			Q	Missing value; suppressed
			S	Strike and other special events
			U	Low reliability
			V	Unvalidated value
			F	Free (free for publication)
			C	Confidential statistical information
			N	Not for publication, restricted for internal use only, CETO flagged.
			D	Secondary confidentiality set by the sender, not for publication
			S	Secondary confidentiality set and managed by the receiver, not for publication
			A	Primary confidentiality due to small counts
			O	Primary confidentiality due to dominance by one unit
			T	Primary confidentiality due to dominance by two units
			G	Primary confidentiality due to dominance by one or two units
			M	Primary confidentiality due to data declared confidential based on other measures of concentration
			E	Not for publication, restricted for internal use only (equivalent to the code N) until the embargo time elapses; Free for publication (equivalent to the code F) after the embargo time elapses.
DECIMALS	Decimals	CL_DECIMALS	0	Thousand
UNIT_MULT	Unit multiplier	CL_UNIT_MULT	3	
UNIT_MEASURE		CL_UNIT	GBP	UK pound sterling
CONF_STATUS	Confidentiality status of the observation	CL_CONF_STATUS		

Concept ID	Description of the Concept ID	Code list	Code	Description of the codes
	Unit measure of		BAM	Bosnia-Herzegovinian convertible mark
			BGN	Bulgarian lev
			CHF	Swiss franc
			CZK	Czech koruna
			DKK	Danish krone
			EUR	euro
			ISK	Iceland krona
			PLN	Polish zloty
			RON	Romanian leu
			RSD	Serbian dinar
			HUF	Hungarian forint
			MKD	Macedonian denar
			ALL	Albanian lek
			SEK	Swedish krona
			NOK	Norwegian krone
			TRY	Turkish lira

Source: Eurostat

Annex IV - Reference area requirements

(Code list ID: CL_AREA for reporting country)

Annex IV. Table 1: Reference area requirements

Code	Name
BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
GR	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
CH	Switzerland
IS	Iceland
NO	Norway
AL	Albania
BA	Bosnia and Herzegovina
ME	Montenegro
MK	North Macedonia
XK	Kosovo
RS	Serbia
TR	Turkey

Annex V - Counterpart area requirements

(Code list ID: CL_AREA for partner country)

The partner country breakdown should be reported on GEO level 5, as defined in the [Commission Implementing Regulation \(EU\) 2020/1470 of 12 October 2020](#), Annex II.

Annex V. Table 1: Counterpart area requirements

Code	Name
W1	Rest of the World
E1	Europe
BE	Belgium
BG	Bulgaria
CZ	Czechia
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
GR	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
IS	Iceland
LI	Lichtenstein
NO	Norway
CH	Switzerland
G10	Other European countries (not including Iceland, Liechtenstein, Norway and Switzerland)
RU	Russian Federation
TR	Turkey
GB	United Kingdom
F1	Africa
F4	North Africa
EG	Egypt
MA	Morocco

Code	Name
F2	Other African countries
NG	Nigeria
ZA	South Africa
A1	America
A2	North American countries
CA	Canada
US	United States
A5	Central America and Carribean countries
MX	Mexico
A7	South American countries
AR	Argentina
BR	Brazil
CL	Chile
UY	Uruguay
VE	Venezuela
S1	Asia
S3	Near and Middle East countries
S35	Gulf Arabian Countries
S37	Other Near and Middle East countries
S6	Other Asian countries
CN	China
HK	Hong Kong, China
IN	India
ID	Indonesia
JP	Japan
MY	Malaysia
PH	Philippines
SG	Singapore
KR	South Korea
TW	Taiwan
TH	Thailand
O1	Australia, Oceania and Polar regions
AU	Australia
NZ	New Zealand
B6	Intra Union
D6	Extra Union
I8	Intra Euro area
J8	Extra Euro Area
4A	European Union Institutions (excl. ECB and ESM)
4C	European Investment Bank (EIB)
4F	European Central Bank (ECB)
B09	Intra union not allocated
D09	Extra union not allocated
R12	Offshore financial centers
9A	International organizations (excluding Union Institutions)
1C	International Monetary Fund (IMF)

Source: Eurostat

Annex VI - Product breakdown by EBOPS 2010 and CPA2.1

Code list ID: CL_MOS_PRODUCT

Annex VI. Table 1: Product breakdown by EBOPS 2010 and CPA2.1

Code	Name
ISS	Total international supply of Services
S	<i>Total services</i>
SA	Services: Manufacturing services on physical inputs owned by others
SB	Services: Maintenance and repair services n.i.e.
SBG	<i>Services: Maintenance and repair services n.i.e. (goods)</i>
SC	Services: Transport
SC1	Services: Sea transport
SC2	Services: Air transport
SC3	Services: Other modes of transport
SC4	Services: Postal and courier services
SCB	<i>Services: Valuation of freight transport services on a transaction-basis</i>
SD	Services: Travel
SDG	Services: Travel (goods)
SE	Services: Construction
SEG	Services: Construction (goods)
SF	Services: Insurance and pension services
SG	Services: Financial services
SH	Services: Charges for the use of intellectual property n.i.e.
SI	Services: Telecommunications, computer, and information services
SI1	Services: Telecommunications services
SI2	Services: Computer services
SI3	Services: Information services
SJ	Services: Other business services
SJ1	Services: Research and development services
SJ2	Services: Professional and management consulting services
SJ21	<i>Services: Legal, accounting, management consulting, and public relations services</i>
SJ22	<i>Services: Advertising, market research, and public opinion polling services</i>
SJ3	Services: Technical, trade-related, and other business services
SJ31	<i>Services: Architectural, engineering, scientific, and other technical services</i>
SJ32	<i>Services: Waste treatment and de-pollution, agricultural and mining services</i>
SJ33	<i>Services: Operating leasing services</i>
SJ34	<i>Services: Trade-related services</i>
SJ35	<i>Services: Other business services n.i.e.</i>
SK	Services: Personal, cultural, and recreational services
SK1	Services: Audiovisual and related services
SK2	Services: Personal, cultural, and recreational services other than audiovisual and related services
SN	<i>Services: Services not allocated</i>
SL	Services: Government goods and services n.i.e.
SLG	Services: Government goods and services n.i.e. (goods)
S_DST	<i>Services: Total trade related transactions</i>
S_DS	Services: Distribution services

Code	Name
<i>_U</i>	<i>Unknown for CPA categories</i>
<i>CPA_A</i>	<i>Products of agriculture, forestry and fishing</i>
<i>CPA_B</i>	<i>Mining and quarrying</i>
<i>CPA_C</i>	<i>Manufactured products</i>
<i>CPA_D</i>	<i>Electricity, gas, steam and air conditioning</i>
<i>CPA_E</i>	<i>Water supply; sewerage, waste management and remediation services</i>
<i>CPA_F</i>	<i>Constructions and construction works</i>
<i>CPA_G</i>	<i>Wholesale and retail trade services; repair services of motor vehicles and motorcycles</i>
<i>CPA_G45</i>	<i>Wholesale and retail trade and repair services of motor vehicles and motorcycles</i>
<i>CPA_G46</i>	<i>Wholesale trade services, except of motor vehicles and motorcycles</i>
<i>CPA_G47</i>	<i>Retail trade services, except of motor vehicles and motorcycles</i>
<i>CPA_H</i>	<i>Transportation and storage services</i>
<i>CPA_H49</i>	<i>Land transport services and transport services via pipelines</i>
<i>CPA_H50</i>	<i>Water transport services</i>
<i>CPA_H51</i>	<i>Air transport services</i>
<i>CPA_H52</i>	<i>Warehousing and support services for transportation</i>
<i>CPA_H53</i>	<i>Postal and courier services</i>
<i>CPA_I</i>	<i>Accommodation and food services</i>
<i>CPA_I55</i>	<i>Accommodation services</i>
<i>CPA_I56</i>	<i>Food and beverage serving services</i>
<i>CPA_J</i>	<i>Information and communication services</i>
<i>CPA_J58</i>	<i>Publishing services</i>
<i>CPA_J59</i>	<i>Motion picture, video and television program production services, sound recording and music publishing</i>
<i>CPA_J60</i>	<i>Programming and broadcasting services</i>
<i>CPA_J61</i>	<i>Telecommunications services</i>
<i>CPA_J62</i>	<i>Computer programming, consultancy and related services</i>
<i>CPA_J63</i>	<i>Information services</i>
<i>CPA_K</i>	<i>Financial and insurance services</i>
<i>CPA_K64</i>	<i>Financial services, except insurance and pension funding</i>
<i>CPA_K65</i>	<i>Insurance, reinsurance and pension funding services, except compulsory social security</i>
<i>CPA_K66</i>	<i>Services auxiliary to financial services and insurance services</i>
<i>CPA_L</i>	<i>Real estate services</i>
<i>CPA_M</i>	<i>Professional, scientific and technical services</i>
<i>CPA_M69</i>	<i>Legal and accounting services</i>
<i>CPA_M70</i>	<i>Services of head offices; management consulting services</i>
<i>CPA_M71</i>	<i>Architectural and engineering services; technical testing and analysis services</i>
<i>CPA_M72</i>	<i>Scientific research and development services</i>
<i>CPA_M73</i>	<i>Advertising and market research services</i>
<i>CPA_M74</i>	<i>Other professional, scientific and technical services</i>
<i>CPA_M75</i>	<i>Veterinary services</i>
<i>CPA_N</i>	<i>Administrative and support services</i>
<i>CPA_N77</i>	<i>Rental and leasing services</i>
<i>CPA_N78</i>	<i>Employment services</i>
<i>CPA_N79</i>	<i>Travel agency, tour operator and other reservation services and related services</i>
<i>CPA_N80</i>	<i>Security and investigation services</i>
<i>CPA_N81</i>	<i>Services to buildings and landscape</i>

Code	Name
<i>CPA_N82</i>	<i>Office administrative, office support and other business support services</i>
<i>CPA_O</i>	<i>Public administration and defence services; compulsory social security services</i>
<i>CPA_P</i>	<i>Education services</i>
<i>CPA_Q</i>	<i>Human health and social work services</i>
<i>CPA_R</i>	<i>Arts, entertainment and recreation services</i>
<i>CPA_S</i>	<i>Other services</i>
<i>CPA_T</i>	<i>Services of households as employers; undifferentiated goods and services produced by households for own use</i>
<i>CPA_U</i>	<i>Services provided by extraterritorial organizations and bodies</i>
<i>_T</i>	<i>Total for CPA categories</i>

The concepts marked in *italic* are inserted to facilitate future voluntary data collections.

Source: Eurostat

ANNEX VII: Integrity rules for data transmission

Annex VII. Table 1: Structural and content validation rules(1)

Dimension	Code	Operator	Integrity rule ²	Notification to display ³	Data flow	First reference year ⁴	First transmission for which rule applies ⁴
PRODUCT ⁵	ISS	=	SA+SB+SC+SD+SE+SF+SG+SH+SI+SJ+SK+SL+SN+S_DS	ERROR	MOS_MOD124_A MOS_MOD3TOT_A	2025	Oct-2026 for MOS_MOD123_A Oct-2027 for MOS_MOD3TOT_A
	ISS ⁶	=	S*+ S_DS – SBG* – SDG – SEG – SLG	ERROR	MOS_MOD124_A	2027	Oct-2028 for MOS_MOD123_A
	ISS ⁷	=	S*+ S_DS – SDG – SEG – SLG	warning	MOS_MOD3TOT_A		Oct-2029 for MOS_MOD3TOT_A
	SC	=	SC1+SC2+SC3+SC4	ERROR			
	SI	=	SI1+SI2+SI3	ERROR			
	SJ	=	SJ1+SJ2+SJ3	ERROR			
	SJ2	=	SJ21*+SJ22*	ERROR			
	SJ3	=	SJ31*+SJ32*+SJ33*+SJ34*+SJ35*	ERROR			
	SK	=	SK1+SK2	ERROR			
	S_DST*	=	SJ34*+S_DS	ERROR			
	T*	=	CPA_A+CPA_B+CPA_C+CPA_D+CPA_E+CPA_F+CPA_G+CPA_H+CPA_I+CPA_J+CPA_K+CPA_L+CPA_M+CPA_N+CPA_O+CPA_P+CPA_Q+CPA_R+CPA_S+CPA_T+CPA_U+CPA_U	info			2025
	CPA_G*	=	CPA_G45+CPA_G46+CPA_G47				
	CPA_H*	=	CPA_H49+CPA_H50+CPA_H51+CPA_H52+CPA_H53				
	CPA_I*	=	CPA_I55+CPA_I56				
	CPA_J*	=	CPA_J58+CPA_J59+CPA_J60+CPA_J61+CPA_J62+CPA_J63				
	CPA_K*	=	CPA_K64+CPA_K65+CPA_K66				
	CPA_M*	=	CPA_M69+CPA_M70+CPA_M71+CPA_M72+CPA_M73+CPA_M74+CPA_M75				
	CPA_N*	=	CPA_N77+CPA_N78+CPA_N79+CPA_N80+CPA_N81+CPA_N82				

Dimension	Code	Operator	Integrity rule ²	Notification to display ³	Data flow	First reference year ⁴	First transmission for which rule applies ⁴			
Cross-domain checks between the ITS domain and the MoS domain ^{8; 9}	ITS.S	=	MOS1.S + MOS2.S + MOS4.S + SBG* +SDG + SEG + SLG	warning	MOS_MOD124_A	2027	Oct-2028 for MOS_MOD123_A Oct-2029 for MOS_MOD3TOT_A			
	ITS.S	=	MOS1.S + MOS2.S + MOS4.S + SDG + SEG + SLG	warning	and					
	ITS.SB ¹⁰	=	MOS1.SB +MOS2.SB + MOS4.SB + SBG*	ERROR	MOS_MOD3TOT_A (if MODALL)	2025 for the main categories (SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL) for MOS_MOD124_A	Oct-2026 for the main categories (SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL) for MOS_MOD124_A			
	ITS.SB ¹¹	=	MOS1.SB +MOS2.SB + MOS4.SB	warning				Oct-2027 for the main categories (SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL) for MOS_MOD3TOT_A		
	ITS.SD ¹²	=	MOS1.SD +MOS2.SD + MOS4.SD + SDG	ERROR						
	ITS.SD ¹³	=	MOS1.SD +MOS2.SD + MOS4.SD	warning						
	ITS.SE ¹⁴	=	MOS1.SE +MOS2.SE + MOS4.SE + SEG	info						
	ITS.SE ¹⁵	=	MOS1.SE +MOS2.SE + MOS4.SE	warning						
	ITS.SL ¹⁶	=	MOS1.SL +MOS2.SL + MOS4.SL + SLG	ERROR					2027 for all the detailed breakdowns and Goods part	Oct-2028 for all the detailed breakdowns and Goods part for MOS_MOD124_A
	ITS.SL ¹⁷	=	MOS1.SL +MOS2.SL + MOS4.SL	warning						
	ITS.SA	=	MOS1.SA +MOS2.SA + MOS4.SA	ERROR					Oct-2029 for all the detailed breakdowns and Goods part for MOS_MOD3TOT_A	
	ITS.SC	=	MOS1.SC +MOS2.SC + MOS4.SC	ERROR						
	ITS.SC1	=	MOS1.SC1 +MOS2.SC1 + MOS4.SC1	ERROR						
	ITS.SC2	=	MOS1.SC2 +MOS2.SC2 + MOS4.SC2	ERROR						
	ITS.SC3	=	MOS1.SC3 +MOS2.SC3 + MOS4.SC3	ERROR						
	ITS.SC4	=	MOS1.SC4 +MOS2.SC4 + MOS4.SC4	ERROR						
	ITS.SF	=	MOS1.SF +MOS2.SF + MOS4.SF	ERROR						
	ITS.SG	=	MOS1.SG +MOS2.SG + MOS4.SG	ERROR						
	ITS.SH	=	MOS1.SH +MOS2.SH + MOS4.SH	ERROR						
	ITS.SI	=	MOS1.SI +MOS2.SI + MOS4.SI	ERROR						
	ITS.SI1	=	MOS1.SI1 +MOS2.SI1 + MOS4.SI1	ERROR						
	ITS.SI2	=	MOS1.SI2 +MOS2.SI2 + MOS4.SI2	ERROR						
	ITS.SI3	=	MOS1.SI3 +MOS2.SI3 + MOS4.SI3	ERROR						
	ITS.SJ	=	MOS1.SJ +MOS2.SJ + MOS4.SJ	ERROR						
	ITS.SJ1	=	MOS1.SJ1 +MOS2.SJ1 + MOS4.SJ1	ERROR						
	ITS.SJ2	=	MOS1.SJ2 +MOS2.SJ2 + MOS4.SJ2	ERROR						
	ITS.SJ21	=	MOS1.SJ21* +MOS2.SJ21* + MOS4.SJ21*	ERROR						
	ITS.SJ22	=	MOS1.SJ22* +MOS2.SJ22* + MOS4.SJ22*	ERROR						
	ITS.SJ3	=	MOS1.SJ3 +MOS2.SJ3 + MOS4.SJ3	ERROR						
	ITS.SJ31	=	MOS1.SJ31* +MOS2.SJ31* + MOS4.SJ31*	ERROR						
	ITS.SJ32	=	MOS1.SJ32* +MOS2.SJ32* + MOS4.SJ32*	ERROR						
	ITS.SJ33	=	MOS1.SJ33* +MOS2.SJ33* + MOS4.SJ33*	ERROR						
ITS.SJ34	=	MOS1.SJ34* +MOS2.SJ34* + MOS4.SJ34*	ERROR							
ITS.SJ35	=	MOS1.SJ35* +MOS2.SJ35* + MOS4.SJ35*	ERROR							
ITS.SK	=	MOS1.SK +MOS2.SK + MOS4.SK	ERROR							
ITS.SK1	=	MOS1.SK1 +MOS2.SK1 + MOS4.SK1	ERROR							
ITS.SK2	=	MOS1.SK2 +MOS2.SK2 + MOS4.SK2	ERROR							
ITS.SN	=	MOS1.SN* +MOS2.SN* + MOS4.SN*	ERROR							

Dimension	Code	Operator	Integrity rule ²	Notification to display ³	Data flow	First reference year ⁴	First transmission for which rule applies ⁴
MODE_SUPPLY ¹⁸	TOTAL ¹⁹	=	MOS1 + MOS2 + MOS3 + MOS4	ERROR	MOS_MOD3TOT_A	2023	Oct-25
COUNTERPART_AREA	W1	=	B6+D6	ERROR	MOS_MOD124_A	2023	Oct-24
	W1	=	E1 + A1 + F1 + O1 + S1 + 9A + D09	ERROR	MOS_MOD3TOT_A		
	W1	=	B6 + CH + IS + LI + NO + G10 +A1 + F1 + O1 + S1 + 9A + D09	ERROR			
	W1	=	B6 + CH + IS + LI + NO + G10 +A1 + F2 + F4 + O1 + S3 + S6 + 9A + D09	ERROR			
	W1	=	B6 + CH + IS + LI + NO + G10 +A1 + F2 + F4 + O1 + S35 + S37 + S6 + 9A + D09	ERROR			
	W1	=	BE + BG + CZ + DK + DE + EE+ IE + GR+ ES + FR + HR + IT + CY + LV + LT+ LU + HU + MT + NL + AT + PL + PT+ RO + SI + SK + FI + SE + 4A + 4F +B09 + CH + IS + LI + NO + G10 + A1 + F1 + O1 + S1 + 9A + D09	ERROR			
	W1	=	BE + BG + CZ + DK + DE + EE+ IE + GR+ ES + FR + HR + IT + CY + LV + LT+ LU + HU + MT + NL + AT + PL + PT+ RO + SI + SK + FI + SE + 4AA + 4F +B09 + CH + IS + LI + NO + G10 + +A1 + F2 + F4 + O1 + S35 + S37 + S6 + 9A + D09	ERROR			
	B6	=	BE + BG + CZ + DK + DE + EE+ IE + GR+ ES + FR + HR + IT + CY + LV + LT+ LU + HU + MT + NL + AT + PL + PT+ RO + SI + SK + FI + SE + 4A + 4F +B09	ERROR			
	D6	=	CH + IS + LI + NO + G10 + A1 + F1 + O1 + S1 + 9A + D09	ERROR			
	D6	=	CH + IS + LI + NO + G10 + A1 + F2 + F4 + O1 + S3 + S6 + 9A + D09	ERROR			
	D6	=	CH + IS + LI + NO + G10 + A1 + F2 + F4 + O1 + S35 + S37 + S6 + 9A + D09	ERROR			
	E1	=	B6 + CH + IS + LI + NO + G10	ERROR			
	E1	=	BE + BG + CZ + DK + DE + EE+ IE + GR+ ES + FR + HR + IT + CY + LV + LT+ LU + HU + MT + NL + AT + PL + PT+ RO + SI + SK + FI + SE + 4A + 4F +B09 + CH + IS + LI + NO + G10	ERROR			
	G10	>	RU + TR + GB	ERROR			
	A1	>	CA + US + MX + AR + BR + CL + UY + VE	ERROR			
	A2	>	CA + US	ERROR			
	A5	>	MX	ERROR			
	A7	>	AR + BR + CL + UY + VE	ERROR			
	F1	=	F2 + F4	ERROR			
	F2	>	NG + ZA	ERROR			
	F4	>	EG + MA	ERROR			
	O1	>	AU + NZ	ERROR			
	S1	=	S3 + S6	ERROR			
	S3	=	S35 + S37	ERROR			
	S6	>	CN + HK+ IN + ID + JP + MY + PH + SG + KR + TW + TH	ERROR			

Notes:

1) Some of the rules might be modified based on the experience and lessons learned from the implementation.

For the first data transmissions in 2024, 2025 and 2026 (ref years 2023-2024) only the Total supply of services 'ISS' is mandatory.

However, data by EBOPS items could be provided on a voluntary basis, therefore the system should be able to process such transmissions. As these items will be voluntary, any rules involving EBOPS items should give warnings (not errors), before the first mandatory transmission.

2) An integrity rule is implemented only if ALL items are reported. Therefore, the integrity rules with one or more voluntary items should only be checked if all voluntary items are reported and only for countries that are using these codes.

3) The notification applies to Conval only.

The applicable tolerance in Conval should be relative and valid for all dimensions.

The following rules are to be applied:

<1% OK;

1%-2% Warning;

>2 % Error (in case the rule gives ERROR)

4) For the earlier data transmissions the rule should display only 'info'; i.e. it should not block the file to pass the Conval validations.

5) Reporting by CPA is on a voluntary basis, so all these rules apply only when CPA codes are transmitted.

6) The rule ISS=S*+ S_DS – SBG* – SDG – SEG – SLG is used if both S* and SBG* are reported.

7) The rule ISS=S*+ S_DS – SDG – SEG – SLG is used if S* is reported, but SBG* is not reported.

8) Cross checks are performed for the respective item/s from the ITS domain against the respective item/s in the MoS domain (for all levels of FLOW and COUNTERPART_AREA breakdowns).

9) The Goods items (SBG, SDG, SEG and SLG) are requested in MOS for validation purposes - cross-checking with ITS.

10) Rule to be checked if SBG is reported.

11) Rule to be checked if SBG is not reported.

12) Rule to be checked if SDG is reported.

13) Rule to be checked if SDG is not reported.

14) Rule to be checked if SEG is reported.

15) Rule to be checked if SEG is not reported.

16) Rule to be checked if SLG is reported.

17) Rule to be checked if SLG is not reported.

18) If the TABLE_IDENTIFIER=MODALL, means that the transmission contains all four modes and TOTAL, then the rule is checked on the MODALL dataset.

19) The rule is checked only for reference years for which all four modes and the total have been reported. There are two cases depending on the TABLE_IDENTIFIER:

- if a country transmits MODALL, then this means that all the modes and the Total is reported, and the rules is checked on the submitted data

- if a country transmits MOD3TOT, then this means that the submission contains only Mode 3 and Total; then the values from MOD124 (already reported in the previous year's transmission for the same ref year) will be used by the system, and the rule will be checked.

20) These two flags of OBS_STATUS (M and L) are both used to denote missing values, but they mean different things:

- 'M' flag: Missing value which cannot exist (i.e. we don't have railroad companies in the country, so railroad transport cannot have a value) - such items do not affect the completeness score in the Compliance exercise

- 'L' flag: Missing value that exists but the compiler does not collect it (i.e. doesn't have a system to collect it yet) - **such missing values affect the completeness score**

21) The system will anyway check that the number of N flags does not exceed the max allowed number of N flags for the country, however, as the max share of N flags for any country is always below 40%, we can already give an error in Conval is any country transmits more than 40% of N flags.

*To be reported on a voluntary basis.

The integrity rules with one or more voluntary items should only be checked if all voluntary items are reported and only for countries that are using these codes.

Annex VII. Table 2:**Structural & completeness validation rules - applicable for all transmissions**

		Notification ¹	Data flow
COUNTERPART_AREA REF_AREA	If Counterpart Area = Ref Area then if OBS_VALUE not = 0 or CONF_STATUS is not = "F"	ERROR	MOS_MOD124_A MOS_MOD3TOT_A
mandatory item	If one or more mandatory items for any dimension is not reported (to be applied before start checking any integrity rules)	ERROR	
empty cell²	if OBS_VALUE is 'missing' and the OBS_STATUS flag is not "M" or "L"	ERROR	
number of items with 'N' flag	If number of items with N flag (in CONF_STATUS) > 40 % of the total number of items	ERROR ³	

Notes:

1) The notification applies to Conval only.

The applicable tolerance in Conval should be relative and valid for all dimensions.

The following rules are to be applied:

<1% OK;

1%-2% Warning;

>2 % Error (in case the rule gives ERROR)

2) These two flags of OBS_STATUS (M and L) are both used to denote missing values, but they mean different things:

- 'M' flag: Missing value which cannot exist (i.e. we don't have railroad companies in the country, so railroad transport cannot have a value) - such items do not affect the completeness score in the Compliance exercise

- 'L' flag: Missing value that exists but the compiler does not collect it (i.e. doesn't have a system to collect it yet) - **such missing values affect the completeness score**

3) The system will anyway check that the number of N flags does not exceed the max allowed number of N flags for the country, however, as the max share of N flags for any country is always below 40%, we can already give an error in Conval if any country transmits more than 40% of N flags.

Source: Eurostat

Annex VIII - Survey on international tourism in Italy – 2023 edition

The following tables present the part of the Italian international tourism survey that focuses on the type of expenditure incurred by the tourists.

Annex VIII. Table 1: Survey on international tourism in Italy – 2023 edition

Now consider all the expenses you had during the trip, i.e. money spent by yourself and by those you've been sharing expenses with (question 17). Think of all your expenses, i.e. payments you made before reaching Italy (for example, for reservations you made yourself or through a travel agency) as well as payments made in Italy.

V. "INCLUSIVE" TRIPS	
<p>12a. Was your trip "inclusive", i.e. an organized trip or package tour which covered expenses for <u>two or more</u> of the following services: travel, accommodation, meals, other services?</p> <p>- Yes 1</p> <p>- No 2 → Q13a.</p> <p>12b. Which of the following services were included in the package you purchased?</p> <p>- Travel between Italy and other countries 1</p> <p>- Travel in your home country and between/in other countries 2</p> <p>- Travel in Italy 3</p> <p>- Accommodation with or without meals in the facilities you stayed in 4</p> <p>- Restaurants, cafes (and any other meals non eaten in the facilities where you stayed in) 5</p> <p>- Other services (museums, events, entertainment, guided tours car rentals etc.) 6</p> <p>12c. How did you purchase your travel package?</p> <p>- In-person, by going to a travel agency or a tour operator office 5</p> <p>- Online, through a travel agency or a booking portal 6</p> <p>- Other (specify) 4</p> <p>- I don't know/I did not book 9</p>	<p>12d. How much was spent on this organized trip?</p> <p>□ □ □ □ □ □ □ □</p> <p>12e. In which currency? _____ </p> <p>12f. Does the amount you paid for the package (indicated in q. 12d above) also refer to visits to other countries besides Italy</p> <p>- Yes, the trip includes nights I spent and/or will spend in other countries 1</p> <p>- No, no other country is included in the package 2 → Q. 12h.</p> <p>12g. How many nights did you and/or will you spend in the other countries included in the trip? N° Nights</p> <p>□ □ □ □</p> <p>12h. Do you have other expenses for this trip?</p> <p>- Yes 1</p> <p>- No 2 → Q.16a.</p>

VI. "NON-INCLUSIVE" TRIPS + EXPENSES NOT INCLUDED BEFORE					
	13a. Please tell me all the expenses you have had on this trip		13b. Means of payment? (see codes above)	13c. Amount spent	13d. In which currency?
	YES	NO			
			- Payment in cash using any currency 2 - Payment with credit card or debit card 3 - Payment by banker's order 8 - Payment with other means of payment 4 - Hospitality/free of charge 7		
<p>• Travel outside Italy</p> <p>- Tickets for <u>journeys between Italy and other countries</u> (return tickets) ..</p> <p>- Tickets if any, for <u>journeys in your home country and other countries</u></p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
<p>• Travel in Italy</p> <p>- Travel if any, in <u>Italy including fuel purchases in Italy</u></p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
<p>• Accommodation in Italy (hotel, rented apartment/house, campsite etc.), including any meals eaten in the facilities you stayed in (breakfast, half board, full board etc.)</p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
<p>• Restaurants and cafés in Italy (and other meals not eaten in the facilities you stayed in)</p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
<p>• Shopping in Italy: SOUVENIRS, GIFTS, CLOTHING, FOOD AND DRINK etc., for personal use</p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
<p>• Other services in Italy: MUSEUMS, EVENTS, ENTERTAINMENT, GUIDED TOURS, CAR RENTAL, LANGUAGE COURSES etc.</p>	1	2	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □	□ □ □ □ □ □ □ □
14a. TOTAL OTHER EXPENSES (13c)				□ □ □ □ □ □ □ □ AMOUNT	□ □ □ □ □ □ □ □ CURRENCY
14b. TOTAL EXPENDITURE PAYMENTS FOR "INCLUSIVE" TRIP + OTHER EXPENSES (12d + 13c)				□ □ □ □ □ □ □ □ AMOUNT	□ □ □ □ □ □ □ □ CURRENCY

Annex IX – The Netherlands, primary sources and detailed tables

Primary sources in Dutch ITSS system

Primary sources: enterprises directly surveyed by Statistics Netherlands

In this Annex the ITSS system of primary services is described in 2014 figures, but the actual system has not basically changed. The total number of enterprises is a gross sample frame containing approximately 250 000 enterprises from the Business Register with over 1.4 million enterprises. The frame is constructed and based on the probability of an enterprise to export or to import services. The probability is determined by NACE category and VIES value, combined with previous reports if they are available.

Next, this gross sample frame is reduced by removing enterprises whose value of the international trade in services is expected to be limited and which have a NACE category or size class which is less likely to have large ITS values. This leaves a net sample frame of just over 52 000 enterprises of which then 5 050 enterprises are sampled and actually surveyed for one full year.

In sum, the ITS survey consists of two different surveys. First, there is the LE cluster in terms of international service trade. As a subgroup of 416 Enterprise Groups, they represent 56-63 % of the linkable international trade in services and no grossing -up is done. Secondly, there is a revolving set of medium and small enterprises (SME) drawn from the net sample frame. As a subgroup of 5 050 enterprises they represent 44-37 % of the linkable international trade in services and grossing up is needed (see Table 1).

Annex IX Table 1: International Trade in Services, survey type by total export and import and share in 2014

SU	Survey type	Grossing-up	Export (billion euro)	Share (%)	Import (billion euro)	Share (%)
EG	LE - cluster	No	56.6	56	48.0	63
ENT	SME survey reported	Yes	25.1	25	19.7	26
ENT	SME grossing-up		19.1	19	8.3	11

Source: Statistics Netherlands

MoS is an efficient subset of the survey. The survey design is based on the size value of the international trade in services and is split into two groups. The group of large enterprises (**LEs**) contains enterprise groups with a significant share in the total value of services they report. These enterprises are integrally observed quarterly on the statistical level of the enterprise group (EG). The number of large enterprises groups varies yearly; in 2017, 466 LEs were surveyed. The survey detail is on all 74 service items and with a full breakdown by country.

The group of **SMEs** (small and medium-sized enterprises) contains enterprises with a less significant share in the value of the international trade in services. This group is observed quarterly on the statistical level of the enterprise, and they are part of the survey for one full year. The number of SMEs is yearly about 5 000 enterprises; LEs were surveyed. The survey detail is on 53 service items, and a country breakdown is not requested.

The statistics on international trade in services are collected in concordance with Regulation (EC) 184/2005 of the European Parliament and of the Council. International trade in services (ITS) covers all services transactions between a country (i.e. its residents and resident enterprises) and foreign countries or international organisations (i.e. the non-resident enterprises or inhabitants of that country). The target population consists of all resident enterprises that engage in import or export of services. The data are collected by means of a survey and secondary sources. The group (cluster) of the most important enterprises in the services sector in terms of annual service trade, are surveyed integrally. For the remaining enterprises

a survey based on a sample is conducted.

To get an estimate of the mode of supply which the ITSS enterprises in our sample use (1, 2 or 4) we asked a subset of our sample to further specify their reported trade in services to mode of supply. We have done this by conducting telephone interviews. Our aim hereby was to ask the largest enterprises per service in our sample to determine the largest part of the value by service to the correct mode of supply. Also we asked a subset of the smaller enterprises per service so we could reliably estimate the mode of supply of the majority of smaller enterprises for each service.

Annex IX Table 2: Selected services for MoS investigation and coverage by additional surveying (Large and grossed up SME enterprises)

Flow	Service	Weighted coverage by the MoS reporting enterprises		Flow	Service	Weighted coverage by the MoS reporting enterprises
Export	SA	40 %		Import	SA	43 %
Export	SB	40 %		Import	SB	44 %
Export	SI1	52 %		Import	SI1	40 %
Export	SI2X	16 %		Import	SI2X	25 %
Export	SI31	53 %		Import	SI31	10 %
Export	SI32	80 %		Import	SI32	7 %
Export	SJ111	40 %		Import	SJ111	63 %
Export	SJ12	80 %		Import	SJ12	69 %
Export	SJ211	62 %		Import	SJ211	67 %
Export	SJ212	27 %		Import	SJ212	27 %
Export	SJ213	34 %		Import	SJ213	47 %
Export	SJ22	53 %		Import	SJ22	70 %
Export	SJ311	69 %		Import	SJ311	47 %
Export	SJ312	7 %		Import	SJ312	6 %
Export	SJ313	65 %		Import	SJ313	75 %
Export	SJ321	54 %		Import	SJ321	57 %
Export	SJ322	34 %		Import	SJ322	33 %
Export	SJ323	11 %		Import	SJ323	17 %
Export	SJ33	55 %		Import	SJ33	50 %
Export	SJ34	44 %		Import	SJ34	58 %
Export	SJ35	76 %		Import	SJ35	42 %
Export	SK1X	83 %		Import	SK1X	85 %
Export	SK21	32 %		Import	SK21	9 %
Export	SK22	38 %		Import	SK22	20 %
Export	SK24	24 %		Import	SK23	10 %
				Import	SK24	21 %

Source: Statistics Netherlands

Annex IX Table 3: Estimates of the international supply of services by modes of supply and EBOPS item, the Netherlands

Flow	GEO	Service	Mode 1	Mode 2	Mode 3	Mode 4
Export	Intra-EU	SA	0 %	71 %	29 %	0 %
Export	Intra-EU	SB	0 %	60 %	19 %	21 %
Export	Intra-EU	SC1	42 %	30 %	29 %	0 %
Export	Intra-EU	SC2	59 %	16 %	25 %	0 %
Export	Intra-EU	SC3	53 %	13 %	34 %	0 %
Export	Intra-EU	SD	100 %	0 %	0 %	0 %
Export	Intra-EU	SE	0 %	0 %	61 %	39 %
Export	Intra-EU	SF	6 %	0 %	94 %	0 %
Export	Intra-EU	SG	30 %	0 %	70 %	0 %
Export	Intra-EU	SH	68 %	0 %	32 %	0 %
Export	Intra-EU	SI	40 %	0 %	59 %	0 %
Export	Intra-EU	SJ1	67 %	0 %	33 %	0 %
Export	Intra-EU	SJ2	66 %	0 %	33 %	0 %
Export	Intra-EU	SJ3	26 %	1 %	70 %	4 %
Export	Intra-EU	SK	21 %	0 %	77 %	2 %
Export	Intra-EU	SL	100 %	0 %	0 %	0 %
Export	Intra-EU	S	44 %	5 %	49 %	2 %
Export	Extra-EU	SA	0 %	59 %	41 %	0 %
Export	Extra-EU	SB	0 %	36 %	47 %	16 %
Export	Extra-EU	SC1	73 %	12 %	14 %	0 %
Export	Extra-EU	SC2	88 %	4 %	8 %	0 %
Export	Extra-EU	SC3	29 %	11 %	59 %	0 %
Export	Extra-EU	SD	100 %	0 %	0 %	0 %
Export	Extra-EU	SE	0 %	0 %	45 %	55 %
Export	Extra-EU	SF	3 %	0 %	97 %	0 %
Export	Extra-EU	SG	16 %	0 %	84 %	0 %
Export	Extra-EU	SH	81 %	0 %	19 %	0 %
Export	Extra-EU	SI	61 %	1 %	38 %	1 %
Export	Extra-EU	SJ1	71 %	0 %	29 %	0 %
Export	Extra-EU	SJ2	45 %	0 %	55 %	0 %
Export	Extra-EU	SJ3	45 %	0 %	48 %	6 %
Export	Extra-EU	SK	50 %	0 %	49 %	1 %
Export	Extra-EU	SL	100 %	0 %	0 %	0 %
Export	Extra-EU	S	45 %	3 %	50 %	2 %
Export	World	S	44 %	4 %	49 %	2 %

Flow	GEO	Service	Mode 1	Mode 2	Mode 3	Mode 4
Import	Intra-EU	SB	0 %	29 %	40 %	31 %
Import	Intra-EU	SC1	52 %	34 %	13 %	0 %
Import	Intra-EU	SC2	58 %	30 %	12 %	0 %
Import	Intra-EU	SC3	65 %	24 %	11 %	0 %
Import	Intra-EU	SD	100 %	0 %	0 %	0 %
Import	Intra-EU	SE	0 %	0 %	76 %	24 %
Import	Intra-EU	SF	17 %	0 %	83 %	0 %
Import	Intra-EU	SG	75 %	0 %	25 %	0 %
Import	Intra-EU	SH	61 %	0 %	39 %	0 %
Import	Intra-EU	SI	42 %	1 %	57 %	1 %
Import	Intra-EU	SJ1	78 %	0 %	20 %	2 %
Import	Intra-EU	SJ2	88 %	0 %	12 %	0 %
Import	Intra-EU	SJ3	33 %	1 %	66 %	0 %
Import	Intra-EU	SK	17 %	0 %	81 %	2 %
Import	Intra-EU	SL	100 %	0 %	0 %	0 %
Import	Intra-EU	S	51 %	6 %	41 %	2 %
Import	Extra-EU	SA	0 %	34 %	66 %	0 %
Import	Extra-EU	SB	0 %	31 %	68 %	1 %
Import	Extra-EU	SC1	61 %	30 %	8 %	0 %
Import	Extra-EU	SC2	67 %	29 %	3 %	0 %
Import	Extra-EU	SC3	54 %	15 %	31 %	0 %
Import	Extra-EU	SD	100 %	0 %	0 %	0 %
Import	Extra-EU	SE	0 %	0 %	81 %	19 %
Import	Extra-EU	SF	18 %	0 %	82 %	0 %
Import	Extra-EU	SG	49 %	0 %	51 %	0 %
Import	Extra-EU	SH	96 %	0 %	4 %	0 %
Import	Extra-EU	SI	55 %	0 %	45 %	0 %
Import	Extra-EU	SJ1	86 %	0 %	13 %	1 %
Import	Extra-EU	SJ2	87 %	0 %	13 %	0 %
Import	Extra-EU	SJ3	28 %	0 %	72 %	0 %
Import	Extra-EU	SK	74 %	0 %	26 %	0 %
Import	Extra-EU	SL	100 %	0 %	0 %	0 %
Import	Extra-EU	S	64 %	2 %	34 %	1 %
Import	World	S	57 %	4 %	38 %	1 %

Source: Statistics Netherlands

Annex X – Final MoS questionnaire and interview guide – Norway

Annex X Figure 1: MoS Final questionnaire – Statistics Norway

Method of delivery - export of services to foreign customers

Below we have listed the type of service (s) the company exported in 2018. For each type of service, we have selected the most important countries in terms of value.

For each service type, please give a percentage estimate of how export revenue (from the country in question) is distributed between the four delivery methods below.

Mode 1
The service was provided by employees of the company in Norway traveling to the customer abroad

Mode 2
The service was provided by foreign customers coming to the company in Norway

Mode 3
Other delivery method. The service was delivered without the employees of the Norwegian enterprise, or anyone with foreign customers, physically crossing the Norwegian border.

SERVICE	MODE 1	MODE 2	MODE 3	TOTAL
Technical testing and analysis				
Technical testing and analysis to US TNOK 24 000 in 2018 <small>NOKK 24200 kr 2018</small>	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
Technical testing and analysis to Sweden TNOK 12 000 in 2018 <small>NOKK 12000 kr 2018</small>	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
Technical testing and analysis to China TNOK 10 000 in 2018 <small>NOKK 10000 kr 2018</small>	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
Technical testing and analysis to Canada TNOK 8 000 in 2018 <small>NOKK 8000 kr 2018</small>	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %
Waste treatment and environmental services				
Waste treatment and environmental services to Canada TNOK 8 000 in 2018	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %	<input type="text"/> %

Below are some questions about the accuracy of the distribution (s) above

CPA: XX services

How accurate are the estimates you provided for the type of service <XX>?

- Not estimates, exact figures
- Quite accurate estimates
- Useful estimates
- Quite rough estimates
- Rough estimates

CPA: XX services

How accurate are the estimates you provided for the type of service <XX>?

- Not estimates, exact figures
- Quite accurate estimates
- Useful estimates
- Quite rough estimates
- Rough estimates

For the service type <XX services>, how representative is the distribution (s) above, relative to other countries you are exporting to but not mentioned above?

Source: Statistics Norway

Interview guide for Modes of Supply

The following text is an enterprise interview guide for Modes of Supply related questions based on the Norwegian experience.

Are you ready to do some user testing?

There are two of us at the table here at our end, Therese from the subject matter division and me from the Division of methods.

I'll briefly say something about why we are conducting this test. As I mentioned on the phone, we are working on a project investigating the modes in which foreign trade in services are delivered. Information on this is important for the Ministry of Foreign Affairs when making trade agreements. (They need information on how open or closed the foreign trade markets are, e.g. whether there are visa restrictions for entering a country, whether the establishment

of subsidiaries is prohibited, or whether there are internet restrictions in a country.)

Your task today is to help us uncover weaknesses and problems with the draft questionnaire. Shortly, you will have the opportunity to review the questions. When doing this, it is important to us that you speak your mind. For the questions to become as good as possible, a critical look is imperative. It is also important to us to gain more information on whether you have the data we are asking for, and how easily or difficult it is to retrieve the information.

This user test is divided into two main parts. First, you will have the opportunity to read and comment on our draft questions. In the second part, we will talk more about weaknesses or problems that have been uncovered in the first part.

This is the first round of user tests. We plan to conduct 5-6 user tests during this iteration.

Do you have any questions, or shall we commence?

SEND THE LINK TO THE WEB QUESTIONNAIRE

AS THE QUESTIONNAIRE IS MADE USING AN APPLICATION WE USE FOR PROTOTYPING WEB QUESTIONNAIRES, NOT ALL FEATURES WILL WORK AS INTENDED. THE FINISHED QUESTIONNAIRE WILL LOOK BETTER IN THE ALTINN PORTAL.

Think aloud review:

Now I want you to read each question out loud and tell me whenever you detect something you react to or find unclear. E.g. if difficult words or terms are used, if the questions are unclear, if you don't have the information we request, or if the information is difficult to retrieve. In short, inform me about everything you think is difficult or unclear.

As I said during the introduction, we want you to do a critical review.

Spontaneous follow-up questions:

After having reviewed these questions, what is your main impression? Is it easy or difficult to respond to these questions? What was difficult? Why?

MODERATOR PROBES REGARDING TOPICS THAT HAVE BEEN NOTED AS DIFFICULT.

Checklist planned questions:

QUESTIONS WILL BE ASKED IF THE TOPICS HAVE NOT BEEN PREVIOUSLY ILLUMINATED

Exports:

Was it easy or difficult to understand the different types of services covered? Do you have any suggestions for a more intuitive term?

Were any of the four modes of supply difficult to understand? Please elaborate.

Was distributing the turnover between the four modes of supply easy or difficult? How would you proceed to respond to the question on modes of supply? Who in the enterprise would have responded to these questions? One or more people? How would the necessary tasks have been distributed between employees?

Do you have these data, or would you have made estimates? How accurate would the estimates be? Would the accuracy of estimates vary between types of services, or is the level of precision the same for all types of services?

How time-consuming would it be to respond to these questions?

What is your interpretation of the term other «digital modes of supply»?

QUESTION FOR ENTERPRISES THAT EXPORT TO EUROPE AS WELL AS ASIA. Based on the enterprise's experience with the <XX> type of service, are services sold to the Asian market delivered in other ways than the way in which they are usually delivered to the European market?

Imports:

Were any of the four modes of supply difficult to understand? Please elaborate.

How easy or difficult was it to distribute the import costs between the four modes of supply?

How would you proceed to respond to the question on mode of supply? Who in the enterprise would have

responded? One or more people? How would the task be distributed?

Do you have these data, or would you have given estimates? How accurate would the estimates be? Would the accuracy of estimates vary between types of services, or is the level of precision the same for all types of services?

General topics:

Did you notice that the reference period changed, from quarterly to yearly? How easy or difficult is it to report for the entire year? Are the 4th quarter figures representative for the year, or do the modes of supply vary during a year?

Comparison of draft question

Which of the phrasings regarding mode of supply 4 do you prefer? Why?

Glossary

The balance of payments (BOP) is a statistical summary of the transactions of a given economy with the rest of the world. It comprises three elements:

- the current account covers international transactions in goods, services, income, and current transfers;
- the financial account deals with transactions involving financial claims on, or liabilities to, the
 - rest of the world, including international purchases of securities, such as stocks and bonds;
- the capital account covers international capital transfers (e.g. debt forgiveness) and the
 - acquisition/disposal of non-produced, non-financial assets (such as patents).

Source: Eurostat – Statistics Explained: Glossary

The statistical classification of products by activity (CPA), is the classification of products (goods as well as services) at the level of the European Union (EU).

Product classifications are designed to categorise products that have common characteristics. They provide the basis for collecting and calculating statistics on the production, distributive trade, consumption, international trade and transport of such products.

CPA product categories are related to activities as defined by the Statistical classification of economic activities in the European Community (NACE). Each CPA product - whether a transportable or non-transportable good or a service - is assigned to one single NACE activity. This linkage to NACE activities gives the CPA a structure parallel to that of NACE at all levels.

Source: Eurostat – Statistics Explained: Glossary

The central product classification (CPC) constitutes a complete product classification covering goods and services. It serves as an international standard for assembling and tabulating all kinds of data requiring product detail, including industrial production, national accounts, service industries, domestic and foreign commodity trade, international trade in services, balance of payments, consumption and price statistics. Statistics based on CPC Version 2.1 are useful in studying transactions in goods and services in detail and as a basis for developing lists of goods and services for specific purposes, such as price statistics surveys.

Source: United Nations Statistics Division

European system of national and regional accounts (ESA 2010) is the newest internationally compatible European Union accounting framework for a systematic and detailed description of an economy. It is implemented as from September 2014; from that date onwards the data transmission from the EU Member States to Eurostat follows ESA 2010 rules.

The ESA 2010 differs in scope as well as in concepts from its predecessor [ESA 95](#) reflecting developments in measuring modern economies, advances in methodological research and the needs of users. The structure of the ESA 2010 is consistent with the worldwide guidelines on national accounting set out in the [System of national accounts 2008](#) (2008 SNA).

Source: Eurostat – Statistics Explained: Glossary

The Extended balance of payments services classification (EBOPS 2010) is the classification commonly used to report international trade in services data. It is described in the MSITS 2010 and is based on the definitions provided in the BPM6.

Source: MSITS 2010

Foreign affiliates statistics, abbreviated as **FATS**, describe the activities of **foreign affiliates**: enterprises resident in a country or area, such as the European Union (EU), controlled or owned by (multinational) enterprises which are resident outside that country or area.

Inward **FATS** describe the overall activity of foreign affiliates resident in the compiling economy. A foreign affiliate within the terms of inward FATS is an enterprise resident in the compiling country over which an institutional unit not resident in the compiling country has control. In simpler terms, inward FATS describe how many jobs, how much turnover, etc. are generated by foreign investors in a given EU host economy. While FDI statistics give an idea of the total amount of capital invested by foreigners in the EU economy, FATS add to that information by providing insight into the economic impact those investments have in the EU in terms of job creation, etc.

Outward **FATS** describe the activity of foreign affiliates abroad controlled by the compiling country. Foreign affiliate within the terms of outward FATS is an enterprise not resident in the compiling country over which an institutional unit resident in the compiling country has control. In simpler terms, outward FATS data describe, for example, how many employees work for affiliates of EU enterprises based abroad. In this case outward FATS give an idea of the economic impact of EU investments abroad.

Source: Eurostat – Statistics Explained: Glossary

Foreign direct investment (FDI) is an international investment within the balance of payment accounts. Essentially, a resident entity in one economy seeks to obtain a lasting interest in an enterprise resident in another economy. A lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise, and an investor's significant influence on the management of the enterprise.

A direct investment enterprise is one in which a direct investor owns 10 % or more of the ordinary shares or voting rights (for an incorporated enterprise) or the equivalent (for an unincorporated enterprise).

Source: Eurostat – Statistics Explained: Glossary

The WTO General Agreement on Trade in Services (GATS), in force since 1995, is the first trade agreement to cover services on a multilateral basis. The GATS defines the supply of services based on the location of the supplier and consumer at the time when the transaction takes place. It further defines trade in services as 'the supply of a service through four modes of supply'. Services broken down by the mode of supply give an indication of where and in which ways the services are supplied to foreign customers.

Source: WTO

International trade in services statistics (ITSS) covers the monetary indicators for trade in services broken down by the service categories (e.g. computer services, legal services etc.) and by partner countries. These statistics come from the transactions recorded under the country's balance of payments, hence the transactions that take place between the economy's residents and non-residents.

Source: Eurostat – Statistics Explained: Glossary

The international supply of services should be interpreted as a broader concept which covers:

- trade in services between residents and non-residents; and
- supply of services through the operations of foreign affiliates.

Source: Eurostat, WTO

International trade in goods statistics (ITGS) measure the value and quantity of goods traded between countries. In the EU context these are the goods traded between EU Member States (intra-EU trade) and goods traded by EU Member States with non-EU countries (extra-EU trade). 'Goods' mean all movable property, including electricity.

Source: Eurostat – Statistics Explained: Glossary

ISIC: The international standard industrial classification of all economic activities (ISIC) Rev.4 is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilised for the collection and reporting of statistics according to such activities. Since the adoption of the original version of ISIC in 1948, ISIC has provided guidance to countries in developing national activity classifications and has become an important tool for comparing statistical data on economic activities at the international level. Wide use has been made of ISIC, both nationally and internationally, in classifying data according to kind of economic activity in the fields of economic and social statistics, such as for statistics on national accounts, demography of enterprises, employment and others.

This fourth revision of ISIC (ISIC, Rev.4) is the outcome of a review process that spanned several years and involved contributions from many classifications experts and users around the world.

Source: United Nations Statistics Division.

The **modes of supply (MoS)** provide information how the services were traded. The General Agreement on Trade in Services (GATS) defines trade in services as the supply of a service through any of four modes of supply:

- **Mode 1: cross-border supply** - takes place when a service is supplied 'from the territory of one [WTO] Member into the territory of any other Member'.
- **Mode 2: Consumption abroad** – takes place when the service is supplied 'in the territory of one Member to the service consumer of any other Member'.
- **Mode 3: Commercial presence** – takes place through the supply of a service 'by a service supplier of one member, through a commercial presence in the territory of any other member'.
- **Mode 4: Presence of natural persons** – this takes place when an individual is temporarily present in the territory of an economy other than their own to provide a service. In GATS, Mode 4 is defined as the supply of a service 'by a service supplier of one member, through the presence of natural persons in the territory of any other Member'.

Source: WTO GATS

NACE. The Statistical classification of economic activities in the European Community, abbreviated as **NACE**, is the classification of economic activities in the European Union (EU); the term NACE is derived from the French *Nomenclature statistique des activités économiques dans la Communauté européenne*.

NACE is a four-digit classification providing the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics (e.g. production, employment and [national accounts](#)) and in other statistical domains developed within the [European statistical system \(ESS\)](#).

NACE Rev. 2, a revised classification, was adopted at the end of 2006 and, in 2007, its implementation began. The first reference year for NACE Rev. 2 compatible statistics is 2008, after which NACE Rev. 2 is consistently applied to all relevant statistical domains.

Source: Eurostat – Statistics Explained: Glossary

The **system of national accounts**, abbreviated as **SNA**, is the internationally agreed standard set of recommendations on how to compile measures of economic activity in accordance with established accounting conventions based on economic principles. The recommendations are expressed in terms of a set of concepts, definitions, classifications and accounting rules that comprise the internationally agreed standard for measuring such items as [gross domestic product \(GDP\)](#), the most frequently quoted indicator of economic performance. The accounting framework of the SNA allows economic data to be compiled and presented in a format that is designed for purposes of economic analysis, decision taking and policymaking.

Source: Eurostat – Statistics Explained: Glossary

The **statistical unit** is the entity for which the required statistics are compiled. It may be an [observation unit](#) in which information is received and statistics are compiled or an analytical unit, which statisticians create by splitting or combining [observation units](#) with the help of estimations or imputations in order to supply more detailed and/or homogeneous data than would otherwise be possible.

European business statistics uses four statistical units:

- Enterprise
- Kind-of-activity Unit
- Local-kind-of-activity Unit
- Local unit

Source: Eurostat – Statistics Explained: Glossary

Ultimate controlling institutional unit (UCI) of a foreign affiliate shall mean the institutional unit, moving up a foreign affiliate's chain of control, which is not controlled by another institutional unit. The UCI has a key role in the statistics on globalisation. It determines how a unit should be treated in inward or outward FATS or FDI statistics.

Source: Eurostat – Statistics Explained: Glossary

W120 classification - The GATT services sectoral classification list, known as W/120, is a classification system that has been used to structure commitments by members of the World Trade Organisation (WTO).

Source: WTO

Acronyms and abbreviations

BEA	The United States of America Bureau of Economic Analysis
BOP	Balance of payments
BPM6	IMF Balance of Payments and International Investment Position Manual, Sixth edition
BPM6 CG	BPM6 Compilation Guide
CBS	Statistics Netherlands
CIF/FOB	Cost, Insurance and Freight/Free On Board
CPA	Statistical classification of products by activity
CPC	Central product classification
DIP	Digital intermediation platforms
EBOPS 2010	Extended balance of payments services classification
EBS Regulation	European Business Statistics Regulation
EC	European Commission
ECB	European Central Bank
EGR	European Groups Register
EFTA	European Free Trade Association
ESA 2010	European System of Accounts
ESS	European Statistical System
EU	European Union
Eurostat	European Union Directorate-General for Statistics
FATS	Foreign affiliates statistics
FDI	Foreign direct investments
FISIM	Financial intermediation services indirectly measured
FIT	Freight insurance and transport
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GNI	Gross National Income
ICT	Information and communication technologies
IFATS	Inward foreign affiliates statistics
IMF	International monetary fund
INE	National statistical institute of Spain
ISIC	International standard industrial classification of all economic activities
ISS	International supply of services
ISTAT	Italian National Institute of Statistics

ITES	Information technology-enabled services
ITGS	International trade in goods statistics
ITSS	International trade in services statistics
ITRS	International Transactions Reporting System
KSH	Hungarian Central Statistical Office
LEs	Large enterprises
MDL	Microdata linking
MoS	Modes of supply
MOSS	Mini one-stop shops
MSITS 2010	Manual on statistics of international trade in services 2010
n.i.e.	Non-identified elsewhere
NA	National Accounts
NACE	Statistical classification of economic activities in the European Community
OECD	Organisation for Economic Cooperation and Development
OeNB	National bank of Austria
OFATS	Outward foreign affiliates statistics
ONS	The United Kingdom's Office for National Statistics
OSS	One-Stop-Shop, replaced the MOSS in 1 July 2021.
R&D	Research and development
SBS	Structural business statistics
SMEs	Small and medium enterprises
SPC	Single purpose company
SPE	Single purpose entity
STEC	Services trade by enterprise characteristics
SUT	Supply-use tables
TEC	Trade by enterprise characteristics
UCI	Ultimate controlling institutional unit
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNSD	United Nations Statistics Division
VAT	Value added tax
VIES	VAT information exchange system
WB	World Bank
WTO	World trade organisation

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European business statistics compilers guide for European statistics on international supply of services by mode of supply

The 'EBS Compilers Guide for European statistics on international supply of services by mode of supply' provides methodological guidance and practical information to the data compilers, on how to compile of statistics on the international supply of services by modes of supply. The guide builds upon the manual for statistics on international trade in services (MSITS 2010) and is the result of collaborative work between several countries and international organizations (WTO, OECD, UNSD) participating in the Eurostat Task Force on Modes of Supply. The term "international supply of services" appears for the first time in the WTO General Agreement on Trade in Services (GATS) in 1995. The GATS defines the supply of services on the basis of the location of the supplier and consumer at the time when the transaction takes place and describes it as 'the supply of a service through four modes of supply'. This extended dimension of international trade in services matters greatly from a trade policy perspective, as market access conditions vary among the four ways of supplying services internationally.

For more information

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