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

2021 edition

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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

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

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, 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.

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 have to follow the typology of international trade

([2]) 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

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 view.

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([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, Hungary, Poland, Italy, the Netherlands and others). Not all of 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.

This guide builds on this existing work and provides signposts for compiling such statistics.

([4]) See: 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]) See: 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&dh=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

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.

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 Balance of Payments and International Trade in Services statistics, 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
([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 the majority of 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 inter-institutional 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-%2019%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 OECD-WTO-IMF Handbook on Measuring Digital Trade([16]) provided the first comprehensive conceptual framework for measuring digital trade.

The handbook defines *digitally delivered trade* as covering all 'international transactions that are delivered remotely in an electronic format, using computer networks specifically designed for the purpose', and by definition only includes services. This definition builds on the closely related notion of trade in *ICT-enabled services* developed by UNCTAD([17]).

It is therefore clear that a great deal of overlap exists between the definition of mode 1 and the coverage of digitally delivered services.

The two concepts are, however, not exactly equivalent. While GATS considers the location of the supplier of a service relative to where the customer is located when defining modes of supply, the digital versus non-digital distinction considers 'how' the service itself is delivered.

As a consequence, mode 1 supply of services covers services delivered over the phone and by fax and manually typed email, which do not fall under the scope of digitally delivered trade. On the other hand, some mode 2 transactions can be delivered digitally, if for instance a non-resident traveller uses a local sim card.

As further explained in Chapter 7, surveys on digitally delivered cross-border services can be used to derive a lower bound estimate of mode 1 transactions for ICT-enabled services. Likewise, surveys on cross-border digitally delivered services may provide, for the same set of services, a reasonable upper bound approximation of cross-border digitally delivered trade.

1.6. Scope of the guide

This is the first edition of the Modes of Supply Compiler's Guide. The first edition describes the generic standard model (Eurostat-WTO model) and proposes several methods that can be used to fine-tune this model.

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 of the Commission Implementing Regulation (EU) 2020/1197, this first edition of the guide describes the generic model that can be used to compile MoS statistics. There are also several suggestions and examples of best practice that countries may use to improve on the standard model. 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

([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]) https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade.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.

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

- 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 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 Chapter 6, 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.

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 a recommended common approach on MoS dissemination. For EU and EFTA countries, the EBS Regulation will soon supersede this; the suggested dissemination is compatible with the requirements in that Regulation, and can already be used to provide data on a voluntary basis.

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.

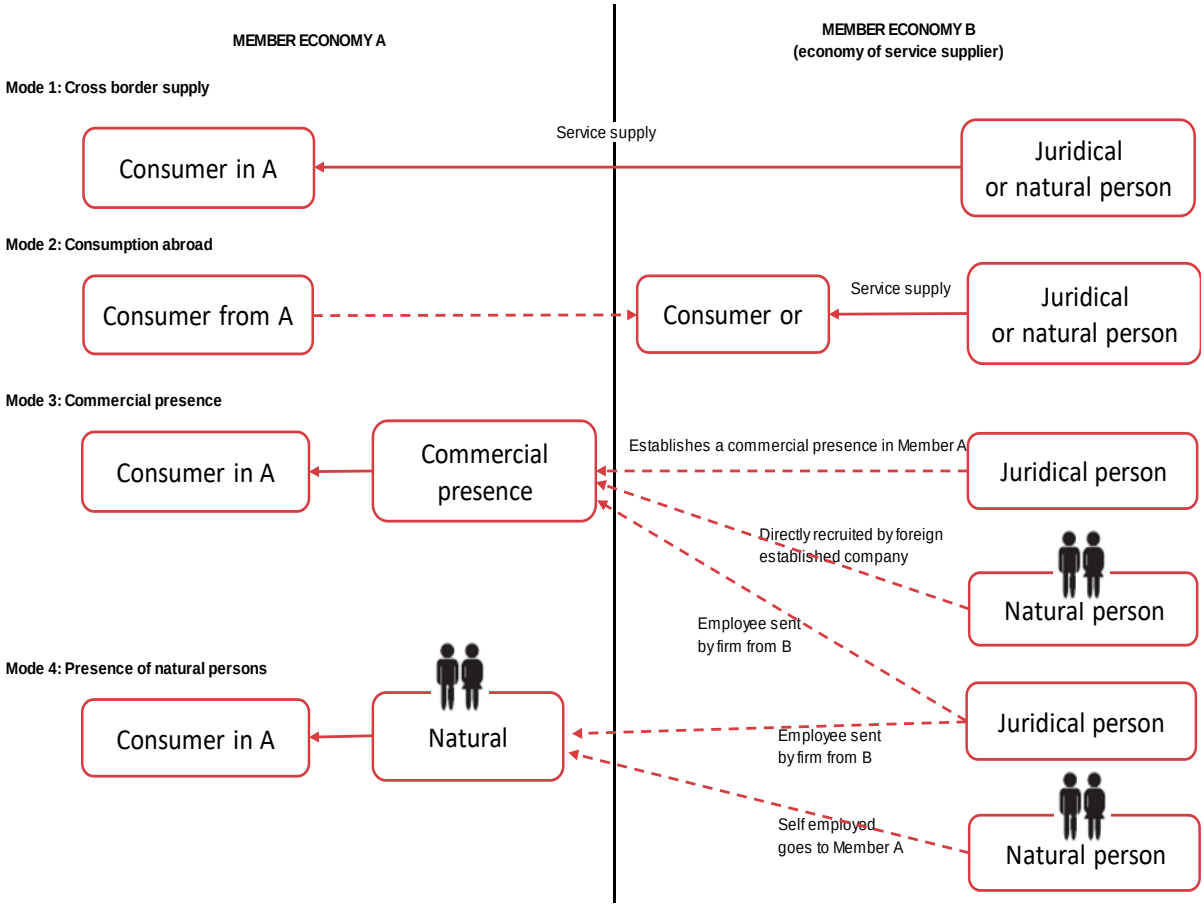
([20]) 'Property' should be understood to refer to physical assets / goods, i.e. something that can be repaired, processed, etc.

([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.

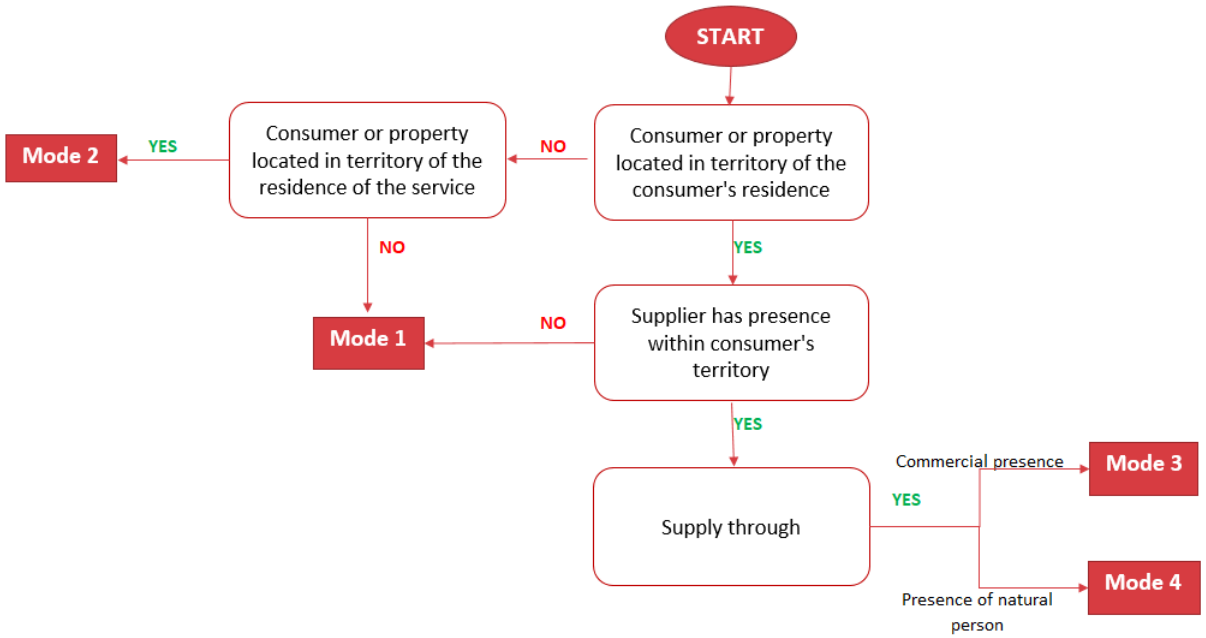
([24]) In case (b) the service is supplied through a commercial presence (mode 3) and in case (c) there is no actual service produced/rendered (yet).

([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).

([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.

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.

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.

([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 2.2.2.2, 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. 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. Further guidelines on how to treat multimodal supply will be developed for the second edition of this guide.

- **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 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 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.

a) 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

([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.

territory, the service is deemed to be provided via mode 1.

b) 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**

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.

In this case, a commercial presence is established in economy B([37]). The gross recording of the transactions would be:

([37]) 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.

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).

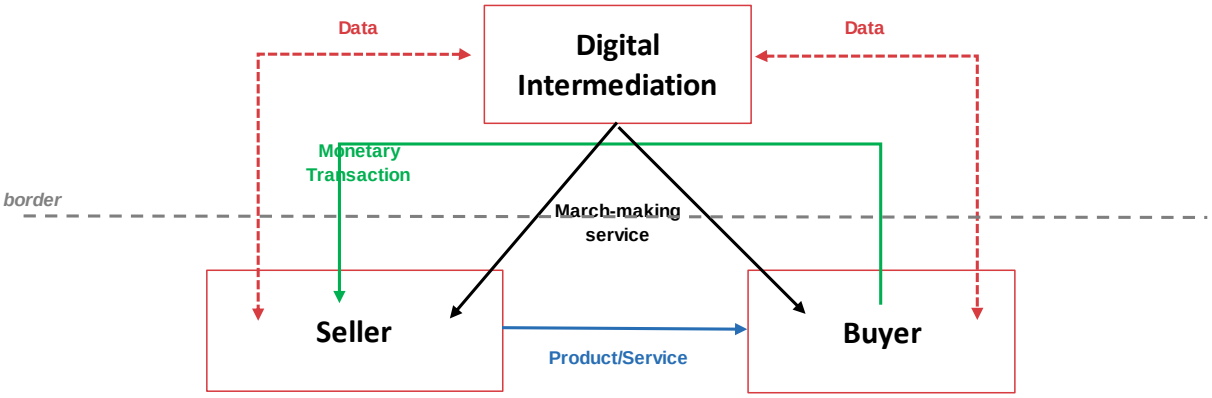
b) For economy B:

- 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).

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 and MSITS 2010 on how to treat the transactions facilitated by DIPs, the OECD-WTO-IMF Handbook on Measuring Digital Trade([38]) provides an initial 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 intermediation platform taking economic ownership of the goods or rendering of services that are being sold (intermediated)'([39]). Figure 2.3 provides an illustration of a possible transaction facilitated by a DIP.

Figure 2.3: Illustration of a transaction facilitated by a DIP



Source: OECD-WTO-IMF Handbook on Measuring Digital Trade

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, the intermediation services (provided by the DIPs) should be separated from the service (or good) they intermediate.

a) Recording of the intermediation fees

While gross recording is recommended by BPM6 and MSITS 2010 for subcontracting (see also section 2.2.2), the OECD-WTO-IMF Handbook on Measuring Digital Trade tentatively recommends recording the transactions intermediated by DIPs on a net basis (i.e. only the fee is recorded). The rationale behind this is that service subcontracting usually involves a higher degree of engagement on the part of the intermediary than digital intermediation platforms, which are typically completely automated.

([38]) See: https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf
([39]) Only DIPs which operate on a fee basis are considered in scope for digital trade (OECD-WTO-IMF Handbook).

When the transaction is international, the intermediation fees should be recorded in the balance of payments of the economy where the DIP is resident, as exports of trade-related services and are deemed to be supplied via mode 1([40]). The partner country attribution and the corresponding import transaction, however, depend on whether those fees are payed by the service seller, by the service consumer, or by both([41]).

b) Treatment of the intermediated transactions

When a DIP intermediates a transaction in services between residents and non-residents, this transaction should be recorded in the balance of payments under the relevant service category and attributed to the appropriate mode of supply.

Consider, for example, the case of a resident of economy A providing transport services to another resident of economy A. The transaction is facilitated by a digital platform resident in economy B. In this case, economy B would record an export of services([42]) to economy A (via mode 1), whether the intermediation fee is paid by the customer or the provider of the transport service.

However, if a transport service (carriage of people) is provided to a resident of economy C travelling to economy A, then economy C would record an import of services from economy B via mode 1 (assuming that the intermediation fee is paid by the customer), and a travel payment (local transportation services) to economy A (via mode 2).

It should be noted that the treatment of DIPs (and the associated transactions) in the international accounts (including the balance of payments) is still a work-in-progress([43]); however, this should not affect how the value of the service supply is allocated to the different modes. The issue of digital intermediation platforms is also being discussed in the context of the NACE and ISIC revisions, as well as in the context of the BPM6 revision. At the time of finalising this edition, these discussions had not reached a final conclusion; any related issues will be dealt with in the second edition of this compilers guide.

([40]) Intermediation services are to be recorded for both platforms intermediating goods and services when they operate on a fee basis.

([41]) For an overview of possible cases, see the OECD-WTO-IMF Handbook on Measuring Digital Trade, Table 5.1.

([42]) According to provisional guidance, intermediation fees for DIPs intermediating services should be classified under the industry whose services they intermediate. See OECD-WTO-IMF Handbook of Measuring Digital Trade, Recommendation 4.2.

([43]) The international standard industrial classification of all economic activities (ISIC, Rev.4) could facilitate the identification of digital intermediaries, namely companies registered under Divisions 62 and 63.

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 (Reg. 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([44]) used for compiling FATS statistics is the enterprise([45]). In an international setup, 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.

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'([46]). According to ESA 2010([47]) statistical units are resident units of a country.

([44]) 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.

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

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

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 Reg. 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([48])** 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).

The scope of '**international supply of services**' is defined in the MSITS 2010([49]). 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

([47]) 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).

([48]) https://unstats.un.org/unsd/nationalaccount/docs/sna2008.pdf

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

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([50]) from some transactions, namely maintenance and repair services n.i.e., travel, construction and government goods and services n.i.e.

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 OECD Handbook on Economic Globalisation Indicators, and the EU 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.

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	3
	1, 2, 4 and 3 (Construction only)	
Measure	Value of services supplied	Output/production value OR
	Value of services received	Turnover of the foreign affiliates
Direction of supply	Exports	Provision of services (outward)
	Imports	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([51])	

([50]) 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.

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

The term 'distribution services'([52]) 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)([53]). 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 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([54]) 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([55]). 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([56]), IMF, MFSM 2000, Chapter 3([57]) and the BPM6 Manual, Chapter 4([58]). However, it should be noted that for MoS

([52]) 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 realized 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.

([53]) 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.

([54]) 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.

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

([56]) 2008 SNA, Chapter 4 Institutional units and sectors

([57]) IMF, MFSM 2000, Chapter 3, Institutional units and sectors

([58]) 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

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).

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([59]) 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([60]) 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([61]).

([59]) MSITS 2010, 4.12 – see: https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=104

([60]) 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

([61]) Annex IV of the Reg. (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.'

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).

In the EU/EFTA countries, the corresponding variables in the European Business Statistics Regulation are the 'net turnover' (SBS), 'net turnover of foreign-controlled enterprises' (IFATS) and 'net turnover of enterprises abroad ultimately controlled by institutional units of the reporting country' (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 realized through the satisfaction by the statistical unit of performance obligations as foreseen in said contracts. Usually, a performance obligation is represented by the sale (transfer) of goods or the rendering of services, however, the gross inflows can also contain revenues obtained as a yield on the use by others of the statistical unit's assets.

Excluded from net turnover are:

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

…

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

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

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

For the activities of NACE K653 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([62]) 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([63])) are equivalent. Therefore, as turnover is more commonly available, turnover can be used in practice instead of output, for most economic activities. However, there are some notable exceptions([64]). These cases are summarised in Box 3.3.

In the EU/EFTA countries, the FATS/SBS variable 'production value' (renamed 'value of output' 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.

The following box describes the three notable cases for which value of output should be used instead of turnover.

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

([62]) MSITS 2010 4.46 – see: https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page114

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

([64]) MSITS 2010 4.47 – see: https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page114

([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

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 (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.

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**.

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([66]). 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 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([67]) (BPM6 4.149).

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

([66]) With the notable exception of freight and insurance, see BPM6 4.151.

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

product breakdown follows the extended balance of payments services classification (EBOPS 2010)([68]). 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, in particular in the absence of a breakdown of FATS data by product([69]).

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)([70]). In the international trade statistics context, the NACE classification([71]) 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]) See: https://unstats.un.org/unsd/classifications/Econ/Download/In%20Text/EBOPS2010_english.pdf

([69]) 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.

([70]) See: https://unstats.un.org/unsd/classifications/Econ/isic

([71]) 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 8 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([72]). Even though it is not a statistical classification, for the sake of completeness the W120 is also presented in this guide.

The classifications([73]) and manuals related to compliling statistics on the international supply of services worldwide and on an EU level are graphically presented in Fig. 4.1.

Eurostat's metadata server RAMON([74]) and UNSD([75]) provide correspondence tables among the different classifications.

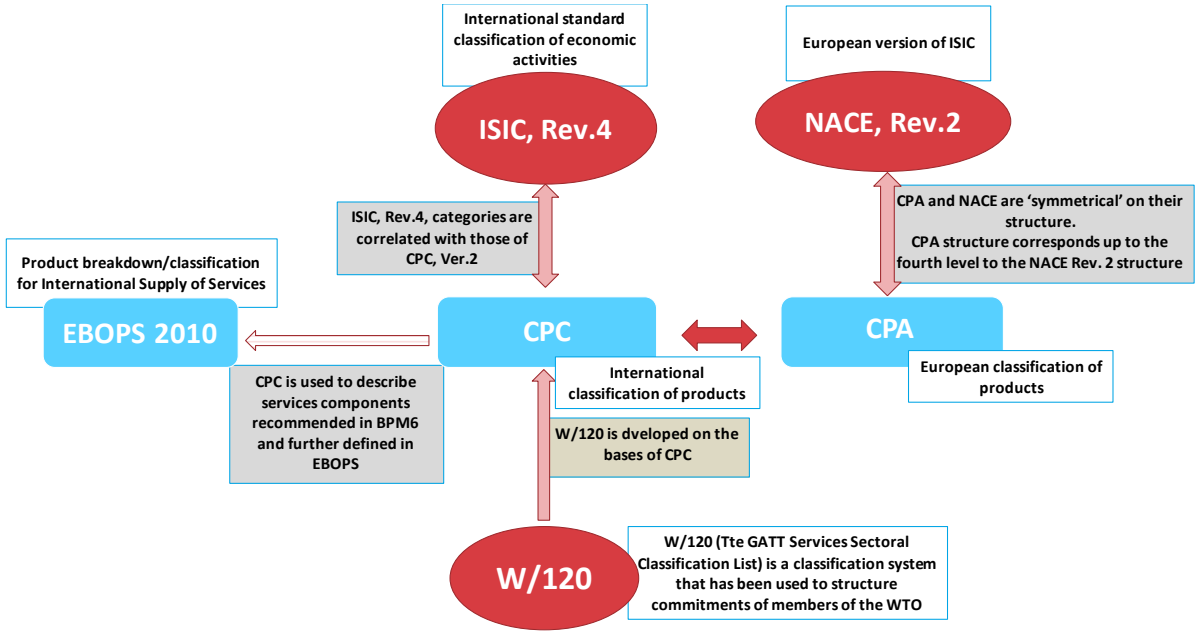
([72]) MSITS 2010, Annex IV Services Sectoral Classification List (MTN.GNS/W/120) – see: https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=170

([73]) The UNSD provides correspondence tables between the various classifications: see: https://unstats.un.org/unsd/classifications/Econ#Correspondences

([74]) https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=8

([75]) 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([76]) and is based on the definitions provided in the BPM6 (Chapter 10)([77]). 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. 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 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,

([76]) MSITS 2010, Annex 1 – see: https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=160
([77]) BPM6, chapter 10 - see: https://www.imf.org/external/pubs/ft/bop/2007/pdf/chap10.pdf

complementary groupings and detailed components is described in the European Business Statistics Regulation (Commission Implementing Regulation (EU) 2020/1197). In Chapter 12 we present a table that can be used to report on MoS data, broken down by the main EBOPS items and some sub-items. This level of detail is based on experience with MoS estimation mainly in EU countries, and it corresponds to the level of detail requested in the European Business Statistics Regulation.

On an international level, a country may further adapt the level of detail to match the specific characteristics and size of the national economy; maintaining a reporting of MoS data at least on the level of the main EBOPS 2010 components, would facilitate international comparability of MoS statistics.

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).

The correspondence tables for converting EBOPS 2010 to CPA 2008 and CPC 2 are available on Eurostat's metadata server RAMON([78]). 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)([79]) 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([80]). 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 4 digits is identical to that used in NACE([81]).

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

The GATT services sectoral classification list([82]), known as W/120, is a classification system that has been used to structure commitments by members of the World Trade Organization (WTO). It is reproduced in full in Annex IV of the MSITS 2010([83]). It should be noted that W120 is not a statistical classification([84]). It is mentioned here only for information and completeness.

([78]) See: https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=8

([79]) See: https://unstats.un.org/unsd/classifications/unsdclassifications/cpcv21.pdf

([80]) Correspondence tables CPA 2008 - CPC 2 – see: https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_LINK&StrNomRelCode=CPA%202008%20-%20CPC%202&StrLanguageCode=EN

([81]) Regulation (EC) No 451/2008 of the European Parliament and of the Council.

([82]) See http://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/annexes.htm

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

([84]) 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)([85]) 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([86]). 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([87]) is the European standard classification of economic activities and presents the universe of economic activities([88]) 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 global level.

([85]) http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27&Lg=1

([86]) Correlation tables can be found at http://unstats.un.org/unsd/class/default.Asp

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

([88]) 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).

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([89]). 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.

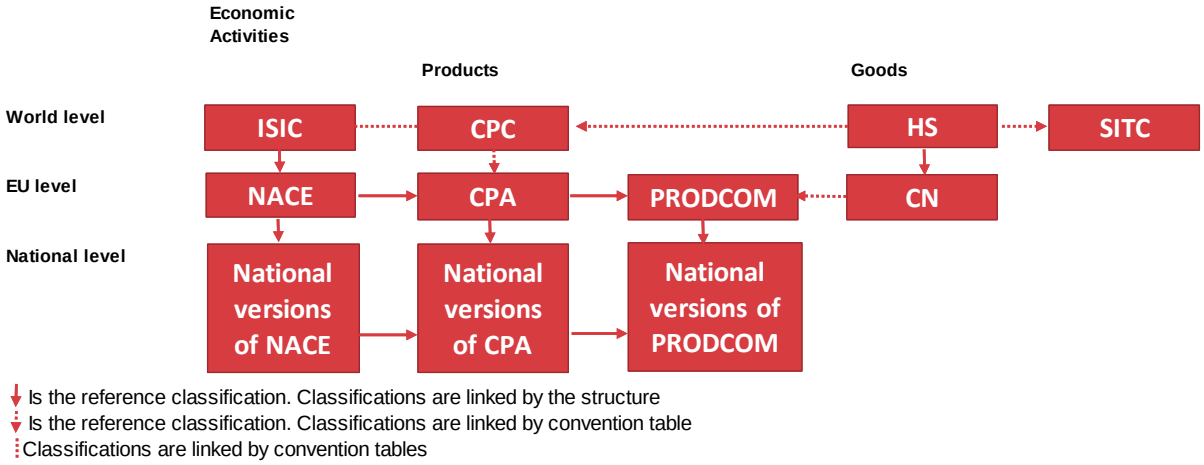
Figure 4.2: Structure of the NACE classification

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([90]).

Figure 4.3: The international system of economic classifications



Source: NACE Rev.2

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 the Commission Implementing Regulation (EU) 2020/1470([91]) 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).

([89]) See the correspondence tables NACE REV. 2 - ISIC REV. 4: https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_LINK&StrNomRelCode=NACE%20REV.%202%20-%20ISIC%20REV.%204&StrLanguageCode=EN

([90]) 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: http://circa.europa.eu/irc/dsis/nacecpacon/info/data/en/index.htm
CN stands for the 'combined nomenclature', a European classification of goods used for foreign trade statistics – see: http://ec.europa.eu/eurostat/ramon/nomenclatures/

([91]) 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 some 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([92]) 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([93]) and are regularly compiled in most countries worldwide (and in all EU countries in

([92]) 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.

([93]) 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).

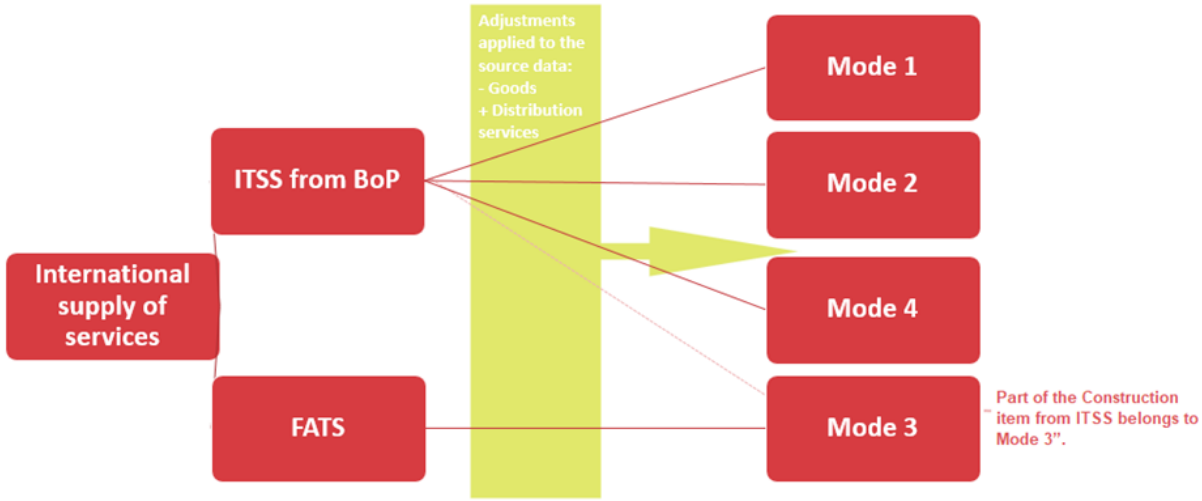
particular).

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

Generally speaking, 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([94]) 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;

([94]) 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

- 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 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 commonly used([95]) 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	
	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
VIES (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: Eurostat

([95]) 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.

5.2.2. Foreign Affiliates Statistics (FATS) data collection

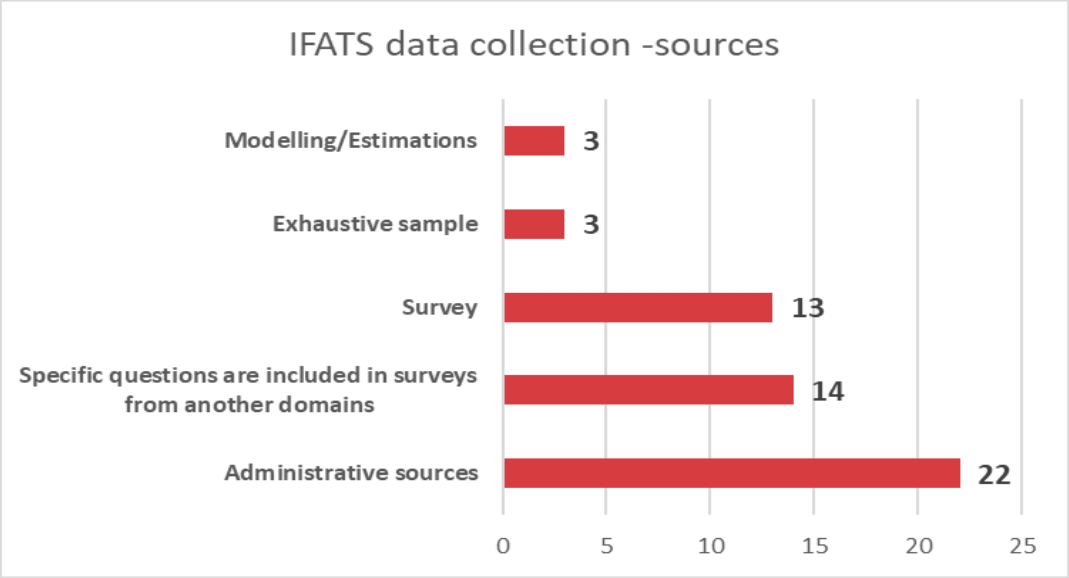
FATS statistics are the main source for the estimation of mode 3. Mode 3 is becoming more and more prominent, because 'services suppliers may choose to set up affiliates as a means of selling their services in foreign markets as an alternative or complement to exporting through other modes'([96]). Recent 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 some of the results of the 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)

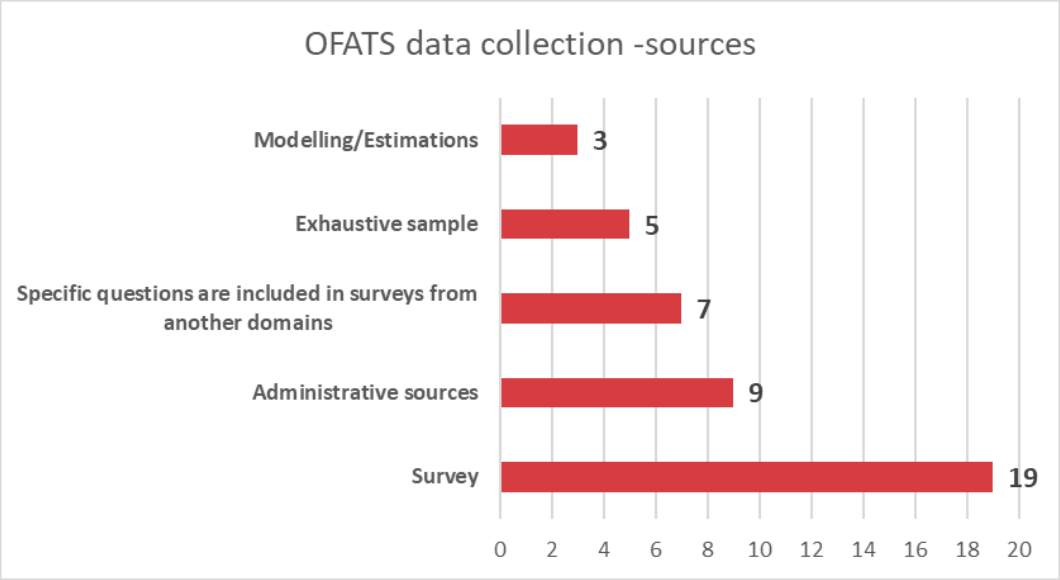


Source: Eurostat questionnaire on "International supply of services by mode of supply – data availability in the FATS domain"

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).

([96]) MSITS para. 5.64 – https://unstats.un.org/unsd/tradeserv/TFSITS/msits2010/docs/MSITS%202010%20M86%20(E)%20web.pdf#page=143

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"

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. The source of these tables is the Eurostat questionnaire on "International supply of services by mode of supply – data availability in the FATS domain".

Table 5.2: Information available in the FATS domain in the different countries

	IFATS			OFATS		
	NACE	EBOPS	CPA	NACE	EBOPS	CPA
Turnover, goods	**9 (1)**	**0**	**1**	**5 (2)**	**0**	**0**
	ES, PT, BE, RO, CZ, EL, FR, LT, BG		CZ	BE, SI, RO, CZ, EL		
Turnover, services	**9 (1)**	**0**	**1**	**5 (2)**	**0**	**0**
	ES, PT, BE, RO, CZ, EL, FR, LT, BG		CZ	BE, SI, RO, CZ, EL		
Domestic sales, total	**8 (3)**	**0**	**0**	**6**	**0**	**0**
(Turnover from domestic clients)	ES, BE, HU, PL, RO, CZ, EL, FR			BE, HU, SI, PL, EL, IT		
Domestic sales, goods	**2**	**0**	**0**	**3**	**0**	**0**
	BE, EL			BE, EL, SI		
Domestic sales, services	**2**	**0**	**0**	**3**	**0**	**0**
	BE, EL			BE, EL, SI		
Exports, total	**9 (3)**	**0**	**0**	**8 (4)**	**0**	**0**
(Turnover from clients abroad)	ES, BE, HU, PL, RO, CZ, EL, FR, LT			PT, BE, HU, SI, PL, EL, IT, CZ		
Exports, goods	**7 (5)**	**0**	**1**	**4**	**0**	**1**
	PT, BE, PL, RO, EL, BG, CH		BE	BE, SI, CZ, EL		BE
Exports, services	**4**	**1**	**0**	**4**	**1**	**0**
	BE, RO, PL, EL	BE		BE, SI, CZ, EL	BE	
Production value (Output)	**14 (6)**	**0**	**0**	**3**	**0**	**0**
	ES,PT,BE,AT,HU,PL,RO,CZ,LU,HR,FR,BG,LT,IT			BE, SI, RO		
Other	**8 (7)**	**1**	**1**	**7 (8)**	**1**	**1**
	ES, HU, PL, CZ, LU, HR, FR, CH	HU	HU	HU, SI, PL, CY, HR, FR, PT	HU	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 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 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: 'Export/shipment of goods & services': value of total exports and shipment of goods & 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: 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 by origin and the specified classifications, using the NACE-EBOPS bridge table and the NACE-CPA

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

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.

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([97]).

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 production value 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.

([97]) MSITS 2010 para 3.53,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 services (SI)		Other business services (SJ)		Personal, cultural, and recreational services (SK)		Government goods and services n.i.e. (SL)		IFATS	OFATS
	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP	EXP	IMP		
Enterprise surveys																										
(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																										
VIES (VAT registration)																										
Partner country data (mirror data)																										
Persons and households survey(s)																										
MOSS (used for digital trade services)																										
Exhaustive sample																										
Questions in surveys of other domains																										

Legend:

Most commonly used	Limited use
Moderate 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	VIES (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**			

Legend:

Most commonly used	Limited use
Moderate use	No use reported

Source: Eurostat

5.3.1. Main sources for estimating mode 1

This paragraph provides information and describes in detail only on the main sources for mode 1. 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.

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 in order 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 obtain a fine-tuned allocation of EBOPS items to modes.

As another data source we identified administrative records such as business registers, VIES and MOSS. The EGR (European Groups Register) and the OECD's ADIMA are statistical products that could be additionally used as population frameworks for FATS, being restricted in coverage to only multinational groups. Eurostat recommends that countries put effort into developing statistical registers of a high quality to serve them in twofold way – as a data source, for example for microdata linking, and to define the most relevant samples when modelling sample surveys.

Another possible source is VIES (the EU's VAT Information Exchange System([98])). 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([99]).

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 crosscheck 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 / setup survey strata, adjust intra-EU totals or crosscheck survey results and/or geographical allocation.

The 'mini one-stop shops' (MOSS) system focuses on transactions between enterprises providing telecommunications, television, radio broadcasting and electronically supplied services to private households in other Member States. MOSS 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 eleven EU Member States report that they have already integrated this source in their regular compilation process.

([98]) https://ec.europa.eu/taxation_customs/business/vat/eu-vat-rules-topic/vies-vat-information-exchange-system-enquiries_en
([99]) VIES also includes export and import values of all enterprises that are below the thresholds of surveys.

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 sub-items 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
SJ	Other business services (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 (the latter could be considered as possible data source, see para. 9.5.1 for more details).

Mobile phone data (MPD)([100]) – 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[101] 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 inter-institutional 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)([102]), 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 will be at the end of May 2022, covering the first quarter 2022 reference period.

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

([101]) Payment card data are usually classified by the so-called Merchant Category Codes (MCC). Generally speaking a mapping between MCC codes and EBOPS is possible. Such approaches will be further explored in the second edition of the guide.

([102]) 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([103]) for manufacturing services and 12.35-12.37([104]) (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 MOSS could be used.

The part on personal, cultural, and recreational services – audio-visual and related services (SK1) is estimated via administrative records, ITRS and the MOSS; 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).

([103]) BPM6CG 12.20-12.25 – see: https://www.imf.org/external/pubs/ft/bop/2014/pdf/Guide.pdf#page=209
([104]) 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([105]) 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 and household surveys.

([105]) 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

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		2nd	1st					2nd			
	(SI2: Computer services)											
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			
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**

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**

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 financial services types collected on the survey.

- The United Kingdom (Office of National Statistics – ONS) took a different approach and collected MoS information for all services types covered by its International Trade in Services Survey (Mann and Cheung([106])). 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([107]), 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?
    - 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([108]), pp. 59-60).
    - Survey methodology literature indicates that the selection of response categories can bias the responses (Schaeffer and Presser([109]), pp. 73). For example,

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

([107]) 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

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

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.([110]), pp. 65 and Schwarz et al.([111]), 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?
- 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?

([109]) Schaeffer, Nora Cate, and Stanley Presser. 'The science of asking questions', Annual review of sociology 29 (2003).

([110]) 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.

([111]) Schwarz, N., H. Hippler, B. Duetsch, and F. Strack. 1985. 'Response Scales: Effects of Category Range on Reported Behavior and Comparative Judgments', Public Opinion Quarterly 49 (3): 388–95.

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([112]) 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

([112]) The table will be continuously populated and an updated version will be presented in the second edition of the guide.
([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.

([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.

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.

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.

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.

This first edition of the guide already contains some recommendations on more advanced methods that can be used to refine the generic model. A revised second edition of the Compiler's Guide is envisaged to further expand on the recommended methods that can be used to estimate modes of supply, goods values and distribution services, using all available sources, and modelling techniques.

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.

The EBOPS 2010 classification is the best fit for the product-based classification used by trade negotiators except in 3 cases:

- 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 or using an 'ISIC/EBOPS hybrid' classification by product. 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 and CPA).

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 – in particular due to increasing digitalisation, changes in business models following the COVID-19 pandemic, and alternative, emerging and new data sources.
- 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 6.4) 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 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([117]), 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.

([117]) 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	3 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 services	X				X		
- Waste treatment and de-pollution, agricultural and mining services	**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([118]). 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([119]) 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([120]) 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 products 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 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 the estimation of mode 3, FATS economic variables are amended to cover only output sold locally. Finally, the results are presented using a bridge table, so that NACE/ISIC categories can be allocated to EBOPS items.

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 in order to better reflect the way services are provided. This can be achieved through contacts/interviews with the major players in each industry/field (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.

([118]) The Eurostat-WTO model provides the recommended generic estimation methods that can be used to compile MoS data following the Regulation (EU) 2020/1197, EBS regulation, Annex VI.

([119]) See Statistics Explained article: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services_trade_statistics_by_modes_of_supply#Applied_methodology

([120]) https://www.wto.org/english/res_e/statis_e/trade_datasets_e.htm

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). First, the value of goods included in travel 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). Similarly, the goods value should be singled out of the construction item and, if possible, from government goods and services n.i.e. and maintenance and repair services([121]).

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. 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. Finally, if relevant to the compiling economy the goods part should be singled out from the EBOPS item “government goods and services”.

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 presented in Table 6.2. Typically, a compiler will have information available at the required level of detail. Where this is not the case, missing detailed level data can be estimated (see Chapters 7-8 for more details).

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 sub-items (see section 8.3 for more details).

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

([121]) 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. This topic is included as a point for future research and will be tackled in the second edition of this compilers guide.

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([122]), 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([123]) 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.

6.3.1.2 CONSTRUCTION

The BOP item *construction* is reported on a gross basis. It identifies goods and services([124]) 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([125]) (i.e. the price paid by clients to contractors):

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

The adjusted values need to be allocated to modes 3 and 4. The model recommends a 50-50 split in the general case. 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 an EU construction company may send workers registered in one EU country to work temporarily in another).

As already noted, following GATS only the services part of construction should be taken into account. However, given the current data availability (and irrespective of the correction SE*), it may not be possible to identify separately the pure service component for construction([126]).

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.

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

([123]) 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.

([124]) 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).

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

([126]) Ideally, an estimate of the goods value of construction projects should be singled out, as only the services value is relevant for MoS data. Current data availability may not allow this. However, compilers may be able to arrive at a good estimate by interviewing major exporting construction companies in the country. If this is not feasible, compilers can report the full amount and note this in the metadata. Improved recommendations on this issue will be provided in the second edition of the Compiler's Guide.

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**
Of which:	
Goods	645
Services	120
Labour[a]	435
Materials and labour purchased from residents of economy B	**6 655**
Of which:	
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
Construction abroad		*Construction in the compiling economy*	
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:

1. Estimating the amount of goods traded by the wholesale and retail industry.
   As this information is not directly available, this can be done using the ratio of the exports (or imports) of that industry over total exports (or imports), multiplied by the value of exported (or imported) goods.
2. Finding out the trade margin of the wholesalers and retailers.

This can be done, for example, using Eurostat SBS data([127]), 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 is added to the trade-related services item under mode 1.

Chapter 10 provides further details on this approach, as well as alternative ways of 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 for the consolidated Eurostat-WTO allocation). 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 sub-items taken alone) are allocated 100% to mode 1, as also recommended in the MSITS simplified approach.

There are also some sub-items 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 allocations in the sub-items 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).

([127]) 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 (including distribution services)				
1	S	Services				
2	SA	Manufacturing services on physical inputs owned by others		100		
2	SB	Maintenance and repair services n.i.e.		90		10
3	SC	Transport	90	10		
		Transport – 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		
		Transport – 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		
		Travel – 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		
		Travel – 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		

	Category	Category description	M1	M2	M3	M4
4	SDB3	Other (Personal travel)		100		
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 standardized guarantee services	100			
4	SF41	Pension services	100			
4	SF42	Standardized 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 customized and non-customized 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 organization services	75			25

	Category	Category description	M1	M2	M3	M4
3	SJ3	Technical, trade-related and other business services	80			20
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	**100**			

*Only imports on a commercial bases 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.

Recommended allocations in the sub-items 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.

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 taken into account; however, generally it is not possible to readily identify such secondary activities at present. 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) and underestimate other cases (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. When this guide was finalised, Sections P, Q, R were yet not available for IFATS for most EU/EFTA countries, and Section K was partially covered. The data coverage is expected to improve with the implementation of the EBS Regulation. Such missing items may need to be estimated (see e.g. section 6.3.3.2).

According to GATS, 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 resident in other countries.

The FATS variable output (or production value) is deemed to be the most pertinent measure of the international supply of services by mode, although in most cases turnover (sales) offer a very good measure as well. For wholesale and retail trade or financial intermediation, only 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)

Production value (or 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. For wholesale and retail trade; repair of motor vehicles and motorcycles, the production variable may not be reported by every country and/or may only be available on the inward side. Consequently, the average share between production and turnover (sales) can be used to estimate the variable output when the information is missing. The weighted average ratio is calculated([128]) as 25%, which means that the production value comprises a quarter of the turnover value of the distribution services.

([128]) This share is the average based on the data available at the time of writing (February 2021). This average ratio is based on SBS data in the EU for a number of years (See Chapter 9 for details).

6.3.3.2. FINANCIAL AND INSURANCE ACTIVITIES (K)

For the financial sector, production value should be used whenever it is available. If the information is not available for the aggregated sector, the subsectors of Section K can be considered, as described below (this information is based on the current situation in EU and EFTA countries, for inward FATS).

a) For financial service activities, except insurance and pension funding (NACE K64), the production value is available and can be used.
b) For insurance, reinsurance and pension funding, except compulsory social security (NACE K65), and activities auxiliary to financial service and insurance activities (NACE K66) only turnover value is available in IFATS. Countries are encouraged to correct these values (for example, by subtracting claims payable of the major insurance companies, when known from financial reports). If this is not possible, compilers should correct turnover values by multiplying using a weighting factor implied by other statistics and economic sectors for which both turnover and production value are available. For instance, in SBS statistics (Eurostat table 'Annual detailed enterprise statistics for services' [sbs_na_1a_se_r2]), data are available for both turnover and production value for division K65. The weighting factor obtained by dividing production value by turnover can then be used as a correction coefficient to be multiplied by the IFATS turnover (see section 9.5.1 for further details).
c) The total value for Section K is calculated by adding (a) and (b).

The availability of data for Section K in inward FATS is generally limited. Therefore, if no inward FATS data for Section K is available, missing values can be estimated from, for example, national accounts data (supply-use tables) using proportional assumptions (see section 9.5.1 for more details). Looking at partner mirror data can also help estimating missing values.

For OFATS, generally turnover is available for Section K. This value can be corrected using the implied ratio from SBS data (see section 9.5.1 for details).

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) constitute 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-ISIC/NACE Rev.2 bridge 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. Therefore, a bridge table is necessary to present the results by mode and by type of product.

A product-based classification has been developed to fit the information needs of negotiators. It is derived from EBOPS 2010, while remaining consistent with it at the most detailed level of disaggregation. It regroups transactions relating to education and health services and adds an entry for distribution services. The ICFA Rev. 1 (based on ISIC REV.4) classification introduced in MSITS 2010 enables correspondence between EBOPS2010 and NACE Rev. 2. However, given that FATS are not compiled at a level of detail sufficient to fit ICFA Rev. 1 (and consequently EBOPS 2010), it is necessary to establish a rough

correspondence table between EBOPS 2010 and NACE Rev.2.

A correspondence table was developed using expert judgement (both at the Eurostat and WTO levels), and some data-based evidence. Table 6.3 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.

In some cases, compilers may need to report statistics by the usual EBOPS 2010 items, as many users are accustomed to that classification. In particular, the EBS Regulation requires that EU and EFTA compilers report MoS data by the standard EBOPS 2010 items. This can be achieved using the allocation method presented in Table 6.4. This mapping table provides a practical way of linking NACE Rev. 2 Sections and divisions to EBOPS standard categories. To achieve this, it is necessary to employ some additional assumptions about the allocation shares of certain NACE categories (since some NACE sections/divisions may actually correspond to more than one([129]) EBOPS items). Note that the underlying allocation shares are essentially the same in Tables 6.3 and 6.4.

Data for some economic activities may not be collected or available. For instance, in EU and EFTA countries IFATS data do not currently cover Sections P, Q and R. In many cases, these activities have very small values, in which case the values can be assumed to be equal to zero (alternatively values may be estimated). We recommend that the compilers add a note on the adopted approach in the national metadata. If FATS data are available on section level but not on division level, then the split by division can be estimated (for instance, using the distribution implied by the corresponding divisions in the SBS data).

For some categories (like SISK1 in Table 6.3 and SI and SK in Table 6.4), the correspondence to the sub-items is also given. We recommend using the more detailed level if possible.

([129]) In such cases the current allocation is simply proportional. Eurostat is working on an improved allocation table based on STEC data and matrix estimation techniques; this work was not completed at the time of finalising this guide. Once completed, the tables will be published on RAMON – Eurostat's Metadata Server (https://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC).

Table 6.3: EBOPS 2010-NACE Rev. 2 correspondence (including 'hybrid EBOPS' categories)

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
SI1	Telecommunication services	J61	Telecommunications	100
SI2	Computer services	J62	Computer programming	100
		N77	Rental and leasing activities	25
		S95	Repair of computers, personal and household goods	50
SI3	Information services	J58	Publishing activities	100
		J63	Information service activities	100
SK1	Audio-visual 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
		E	Water supply; sewerage, waste management and remediation activities	100
33SK23	Heritage and recreational services	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 6.4: EBOPS 2010 - NACE Rev. 2 correspondence

EBOPS code	Description	NACE Rev.2 code	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	50
SC	Transport	D*	Electricity, gas, steam and air conditioning supply	50
		H	Transportation and storage	100
SD	Travel	-	-	-
SE	Construction	F	Construction	100
SF	Insurance and pension	K65*	Insurance, reinsurance and pension funding, except compulsorysocial 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	25
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
		N77	Rental and leasing activities	25
		S95-96	Repair of computers, personal, household goods and other personal service activities	50
SI1	*Telecommunication services*	*J61*	*Telecommunications*	*100*
SI2	*Computer services*	*J62*	*Computer programming, consultancy and related activities*	*100*
		N77	*Rental and leasing activities*	*25*
		S95-96	*Repair of computers, personal, household goods and other personal service activities*	*50*
SI3	*Information services*	*J58*	*Publishing activities*	
		J63	*Information service activities*	*100*
SJ	Other business services	D*	Electricity, gas, steam and air conditioning supply	50
		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	25
		N78-82	Employment, travel agency, security	100
SK	Personal, cultural and recreational services	I	Accommodation and food service	100
		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
		P	Education	100
		Q	Human health and social work activities	100
		R	Arts, entertainment and recreation	100
		S94	Activities of membership organisations	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*
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*
Distribution services		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 production value should be used.

Source: Eurostat, OECD and WTO

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.

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/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. Better mapping tables between the two classifications are needed; 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 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. However, this will be addressed once most data compilers adjust the percentages distribution to the evidence-based data and considering the particularities of the reporting economy. Another significant aspect (resulting from applying the MSITS 2010 simplified approach) is that the model currently allocates an EBOPS item to a maximum of two modes, (although in a few cases we have allocated an item to three modes).

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

([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.

share of 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.

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. As future work, national compilers should also reflect on how shares allocated to modes have evolved over time.

All the above noted issues will be further addressed in the second edition of this compilers guide.

6.5. Summary of guidance notes

This section summarises how the consolidated 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 extended balance of payments services classification (EBOPS) 2010 items: maintenance and repair (if possible); travel; construction and government goods and services. 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 items and sub-items, 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 in order to represent more accurately the compiler's economy, as also described in Chapters 7 and 8.

- Mode 3 and FATS data: Starting from FATS turnover and production value, compilers can estimate mode 3 and use a mapping approach to either:
    - present mode 3 by EBOPS items (as requested by the EBS regulation for the EU and EFTA countries); or
    - present modes of supply with an ISIC/EBOPS hybrid classification by product, as GATS commitments are made by type of product (see section 6.3).

- 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 approached. 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).

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 sub-items, 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. This chapter discusses some of the practical methods that can be used to further explore the allocation of services to modes 1 and 4.

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 (over the phone, fax, and manually typed email). The latter type of services would not be included in the definition of digitally delivered trade([133]) as they do not make use of ‘computer networks specifically designed for the purpose’, but generic networks and systems.

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, ‘digitally delivered services trade’ can be used to estimate mode 1 (although the two concepts are not exactly the same.

([133]) As defined in the Handbook on measuring digital trade (Version 1; OECD, WTO and IMF).

Box 7.1. Digital trade definition

The OECD/WTO/IMF handbook on measuring digital trade([134]) defines digital trade as

all trade that is digitally ordered and/or digitally delivered.

The handbook further defines **digitally ordered trade** (which is equivalent to the OECD definition of e-commerce) 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.*

In turn **digitally delivered trade** is defined as:

> *International transactions that are delivered remotely in an electronic format, using computer networks specifically designed for the purpose.*

For both **digitally ordered and digitally delivered trade**, transactions cover orders/deliveries made over computer networks (the web/internet, including via mobile devices, extranet or via electronic data interchange) but should exclude any services not provided or ordered over computer networks, including via phone, fax or manually typed email.

Source: Handbook on measuring digital trade (Version 1; OECD, WTO and IMF)

7.2.2. Information and Communication Technologies (ICT)-enabled services

The occurrence of ICT-enabled services per EBOPS item can serve as an indication to provide insight into the underlying mode of supply (i.e. ICT-enabled services are predominantly supplied via mode 1).

Even though all 'digitally delivered services' are supplied through mode 1, by definition not all ICT-enabled services fit into mode 1. For example, ICT service providers may travel abroad to deliver computer services to their customers and in that case the mode of supply would be mode 4.

The UNCTAD Technical Notes on ICT for Development N°3([135]) discuss how to identify services that can be delivered remotely over ICT networks (e.g. potentially ICT-enabled services). Potentially ICT-enabled services are defined as services that can be delivered remotely. These include: ICT services, sales and marketing, management, administration, and back office services, engineering, R&D, education and any other services that can be delivered remotely.

Services that cannot be delivered remotely over ICT networks include those that involve the movement of physical objects or people, such as transport services, or those requiring face-to-face contact, such as personal services. This is the case even if such services use ICT for other purposes than remote delivery (e.g. to manage logistics for the movement of objects or to keep track of appointments for personal services).

The study shows that services that can be delivered remotely over ICT networks are distributed unevenly among the EBOPS 2010 major components. In the case of the EBOPS item "other business services n.i.e." only 46% of the CPC Ver. 2.1 product codes included in this category can potentially be delivered remotely (see Box 7.2).

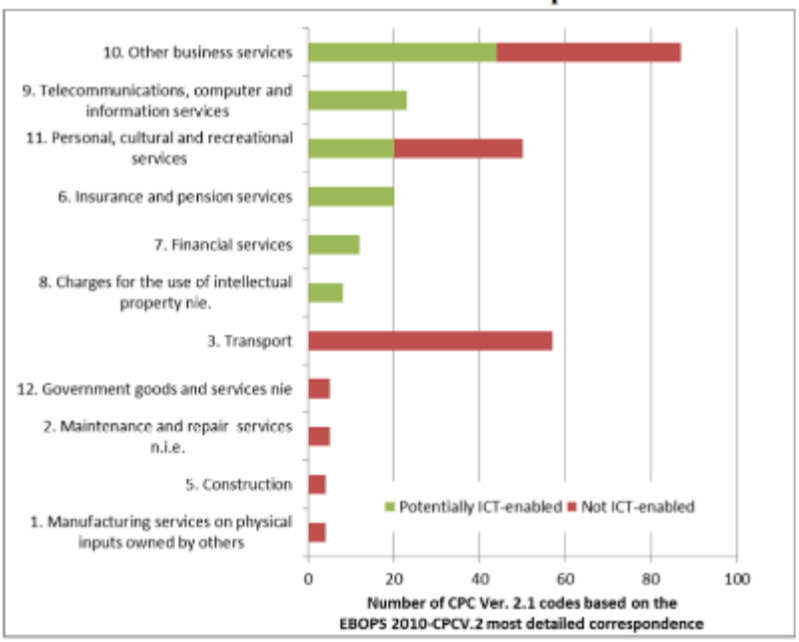
([134]) Measuring Digital Trade (Version 1; OECD, WTO and IMF) – See https://www.oecd.org/sdd/its/handbook-on-measuring-digital-trade.htm
([135]) https://unctad.org/system/files/official-document/tn_unctad_ict4d03_en.pdf

Box 7.2. ICT-enabled services

The UNCTAD Technical Notes on ICT for Development N˚3

Figure 1 shows the distribution of CPC Ver.2.1 codes identified as potentially ICT-enabled, by major EBOPS 2010 service component.

Figure 1. Distribution of potentially ICT-enabled services by EBOPS 2010 major components, EBOPS 2010-CPC Ver.2- CPC Ver.2.1 correspondences



Source: (United Nations, 2012) and UN Statistical Division, 'Correspondence between the EBOPS 2010 and the Central Product Classification (CPC, version 2) - Detailed version' and correspondence between CPC Ver.2 and CPC Ver.2.1 http://unstats.un.org/unsd/tradeserv/tfsits/msits2010/ebops2cpc_detailed.htm#ebops4

In terms of collecting data that will make it possible to measure trade in ICT-enabled services, two methods may be considered and applied with flexibility:

(i) To measure the value of services delivered via mode 1 (cross-border supply) following the survey methodology developed in MSITS (2010) for the list of potentially ICT-enabled services([136]). In this approach, the compiling agency (central bank and/or statistical office) would need to identify modes of supply in collection and compilation. If only administrative records are used (such as the International Transactions Reporting System (ITRS)) then these records would need to be examined for clues about the mode of supply employed. If business surveys are used, then questions can be added to identify modes of supply and, by extension, information technology-enabled services (ITES). In summary, to capture the ICT-enabled portion of each category of service, countries may collect data on trade in services according to modes of supply 1, 2 and 4. Data according to mode 1 'Service delivered within the territory of the Member, from the territory of another Member' is equivalent to trade in ICT-enabled services for the selected types of services identified above.

(ii) Using the Business survey to measure ICT-enabled services – by adding to the business survey the question: 'Estimate the % of services transactions with [country X] that were delivered remotely' (see Table

([136]) Potentially ICT-enabled services include EBOPS 2010 components Insurance and pension services, Financial services, Charges for the use of intellectual property rights n.i.e, Telecommunications, computer, and information services, and parts of Other business services and Personal, cultural, and recreational services. ICT-enabled services can only be supplied across borders (mode 1) without travel by natural persons (mode 4) or consumers (mode 2). Most services deemed to be supplied across borders (mode 1) without people also crossing borders are ICT-enabled.

5 for example).

Table 5. Model questions for business survey measuring at ICT-enabled services

Type of Service (based on the alternative grouping for potentially ICT-enabled services)	% of sales to [country X] delivered remotely	% of purchases from [country X] received over Internet or phone,
1.1 ICT services - Telecommunications		
1.2 ICT services - Computer services		
1.3 Sales and marketing services, not including trade and leasing services		
1.4 Information services		
1.5 Insurance and financial services		
1.6 Management, administration, and back office services		
1.7 Licensing services		
1.8 Engineering, related technical services and R&D		
1.9 Education and training services		

Source: UNCTAD Technical Notes152 on ICT for Development N˚3

7.2.3. 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.

7.2.4. 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 COVID-19 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).

Further work is required to understand the impact the COVID-19 pandemic has had on the way services are traded. A practical method may 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([137]) 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 by a third. For instance, 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 = (1-1/6) *25). Therefore, in this example 91.75% of *computer services* in 2020 would be

([137]) 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

allocated to mode 1 and 8.25% to mode 4 to account for the reduction in travel due to the pandemic restrictions.

7.3. Country examples and experience

7.3.1. Austrian approach in estimating Modes 1 and 4

The starting point when compiling([138]) 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([139]). 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.

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

([139]) 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.*

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 modes 1 and 4.
- 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.
- ICT-enabled services per EBOPS item can serve as an indication for the underlying mode of supply.
- The importance of services supplied through mode 4 is 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 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).

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 sub-items (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 de-pollution;
- 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

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

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 para. 3.14).

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 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 para. 5.44). These goods fall outside that scope; only the services part of travel should 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

([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 taken into account.

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)

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 more accurately 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.

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 World Tourism Organization (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 Tourism Satellite Account: Recommended Methodological Framework 2008 (also known as 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 tourism satellite account (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. 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.

([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.

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 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]).

([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.

([149]) See: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R2011

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 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 balance of payments 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

([150]) See also the *Handbook on the Use of Mobile Phone Data for Official Statistics* developed by the UN Global Working Groupon Big Data for Official Statistics, available here: https://unstats.un.org/bigdata/task-teams/mobile-phone/MPD%20Handbook%2020191004.pdf

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). Therefore, the recommendation for compilers is to estimate shopping expenses net of retail trade margins, and exclude only the net goods value from mode 2 leaving the associated distribution services in mode 2. Retail trade margins can be estimated in a similar manner as for the distribution services margins described in Chapter 10.

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 sub-items).

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 para. 4.3)([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. It is also possible to estimate the distribution services value included in the value of goods acquired, through TSA data, and leave this part into mode 2 (see 13.2.2 for more details).

8.3.2. Some national estimations of the goods in the Travel item

This paragraphs 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 setups.

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).

([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).

([152]) See: 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.

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).

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 space 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 in order for the service to be supplied. 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. However, not all movement of property would constitute a mode 2 transaction. 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.

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

([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.

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:
  - Maintenance and repair services n.i.e. (if possible)
  - Travel
  - Government goods and services n.i.e.

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.

Ideally, when excluding goods value from travel, only the net value of goods should be excluded, leaving the associated distribution services in mode 2.

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 0, 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 2018 about 60% 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 in the compiling economy (inward FATS) and controlled foreign affiliates of 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/structural-business-statistics/global-value-chains/foreign-affiliates.

Figure 9.1: Inward FATS – example of supply of services

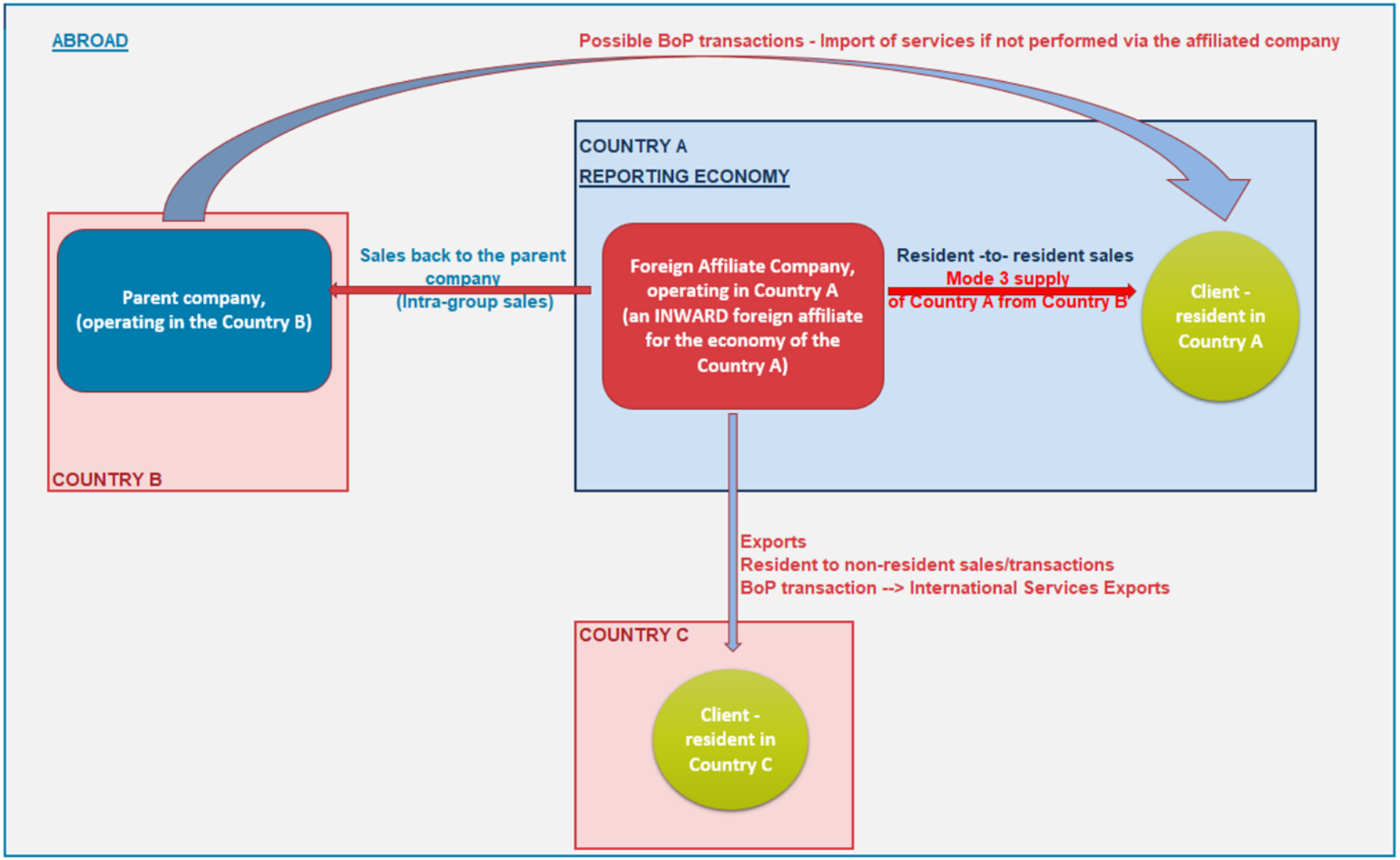
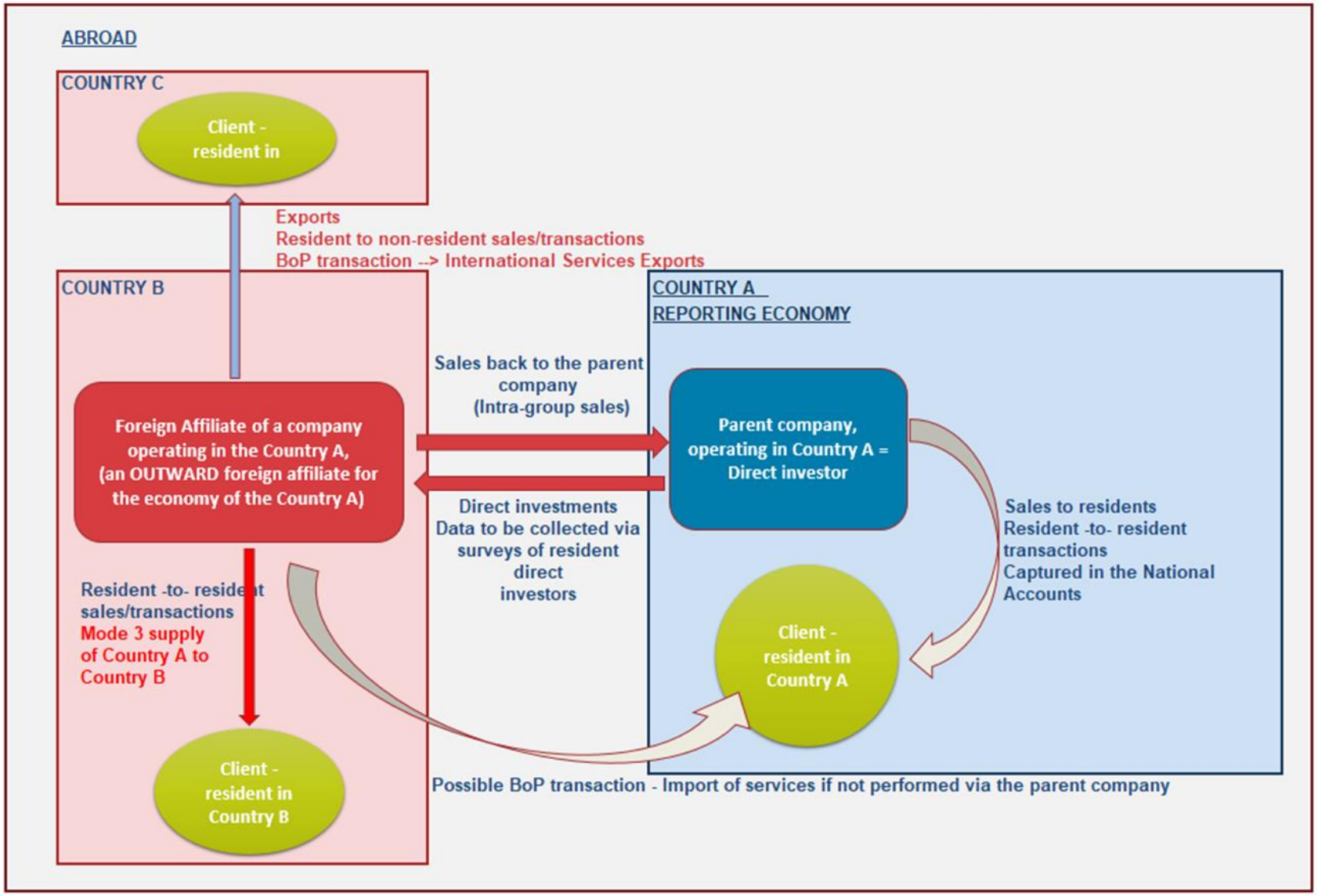


Figure 9.2: Outward FATS - example of supply of services



9.3. From FATS to mode 3 refinements and complementary sources

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 – 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 in Europe, and NAICS in North America). Since trade in services data follow EBOPS, 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 to EBOPS 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 in order to express mode 3 in terms of EBOPS items. The main variable used is the turnover; however, for specific economic activities the production value 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.

evidence from European SBS statistics. The mapping has several limitations, for instance a proportional allocation of some NACE divisions/sections in two or more EBOPS items. So 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 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 trading enterprise. This table can be used to compute relative weights that map each EBOPS code to one or more NACE codes. The matrices implied by STEC data may also be used to produce more refined EBOPS-NACE cross-referencing.
- 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. 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.

The suggested mapping can be used as a default, until further guidance is developed.

An alternative is to present MoS by the hybrid EBOPS categories developed, which partially overcomes the above limitations (see Table 6.3). Note that a mapping by hybrid categories cannot be used to transmit data according to the EBS regulation, as the regulation requires usage of the standard EBOPS items.

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([159]). 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([160]). 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 realized 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

([159]) In general, measured output will be identical to sales for most service activities (see MSITS 2010 paras. 4.46-4.52).

([160]) 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.

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).

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 realized 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, sales 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 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. The following table presents the EU turnover and value of output for the reference year 2018, based on Eurostat data([161]).

Table 9.1. Comparison of turnover and production value, EU, year 2018, (million euro)

D – Electricity, gas supply		E – Water supply		F – Construction		G – Wholesale and retail trade	
Turnover	Production value	Turnover	Production value	Turnover	Production value	Turnover	Production value
1 448 366	1 174 122	247 000	242 000	1 576 888	1 584 448	8 746 670	2 392 620

Source: Eurostat SBS database

The presented percentages of production value in relation to turnover for Sections G and D (Table 9.1) are an option that can be used.

Section G is included in the table for comparative purposes. As expected, there is a significant difference between the turnover and production value for Section G (as goods for resale are excluded in the production value). For Sections E and F the turnover measure is practically equivalent to the production value (this trend is similar for all years in the period 2014-2018 and also for most individual Member States). So for the case of E and F, turnover can be used as it is a good measure for mode 3 purposes. For Section D, production value is lower than turnover (production value is about 80% of the turnover value). It should also be noted that there is significant variation by country for Section D (for some countries the production value 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). More discussion within the statistical community may be needed for Section D; however, at this stage the recommendation is to include it in mode 3 estimates, using the production value (values of output) as a measure of mode 3 services.

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;
- 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

Practical limitations must also be taken into account. Notably, the European Business Statistics regulation requires 'turnover' and 'value of output' to be collected for IFATS data, but only 'turnover' is to be collected for OFATS. Some countries are nevertheless already collecting value of output also for OFATS (see Table 5.2). However, generally speaking, at least for some EU and EFTA countries, the value of output is not currently available for OFATS.

In these cases, it is recommended that compilers estimate the value of output (production value) for the OFATS Sections D, G and K.

([161]) Reference year 2018 was the earliest year for which data were available at the time of finalising this guide. Data were downloaded from the Eurostat SBS database, accessible in this link.

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 production value of Section G is about 24-27% of the turnover, consistently for each reference year from 2014 to 2018 (see also Table 9.1). Therefore, for EU countries it can be assumed that for OFATS also, the production value of Section G is about 25% 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.

For Section D, the production value for OFATS can be estimated at 80% of the turnover (see Table 9.1).

A similar approach may also be used by non-EU countries. It would be interesting to check how these trends compare to data of other countries in the world.

As regards financial and insurance activities (NACE Section K) in FATS (at least in most EU countries) there are currently several practical limitations:

Outward FATS (mode 3 exports): only the turnover value is available. For insurance services, this means generally ‘premiums paid to be insured’; the ‘production value’ (the ‘margins’) would be a better estimate for services supply, but it is not available.

Inward FATS (imports): the following variables are currently available:

- K64: the production value
- K65 and K66: turnover

Furthermore, currently, the availability of data for Section K in inward FATS is generally limited.

Some of these limitations will be gradually lifted in the next years (at least on an EU level), as the requirements of the European Business Statistics regulation come into force. The EBS regulation requires full coverage of Section K (both for SBS and IFATS), and the collection of both turnover and value of output. When these data become available for Section K, they can be used for IFATS, and SBS data can be used to estimate the value of output for OFATS (in a similar manner as for Section G and D).

Until data become available under the EBS regulation, countries are encouraged to estimate Section K, especially when the values are of a significant volume. If only turnover data are available for insurance companies (division K65), compilers can try subtracting an estimate of claims payable, for instance (this may be available from other sources, e.g. from financial reports).

When absolutely no data are available even in IFATS, a possible way to estimate Section K is using the supply-use tables. However, these tables offer no breakdown for the foreign-controlled part of Section K, so a correction for this should also be applied (for example by applying the ratio implied in other Sections, between IFATS and SBS turnover). Finally, information from mirror OFATS data reported by the partner countries can also help to estimate missing IFATS values. Further details will be provided in the second edition of this guide.

If none of these methods can be used, then Section K must be estimated on a best effort basis, based on available information, until full data become available under the EBS regulation.

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. 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, taking into account the full turnover (of production value) of the affiliates may be 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 (see also MSITS 2010, par. 5.8).

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 is resident).

If the FATS exports variable by goods/services cannot be compiled, then in order 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([162]) can be used to provide an estimate for the turnover 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.

As noted in the MSITS 2010, 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. Identification of such overlaps will be tackled in the second edition of the guide.

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 Human 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.

([162]) 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.

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([163]), run in 2020 among 30 countries.

Examples for IFATS:

In the mode 3 stocktaking questionnaire, Austria, Poland and Spain indicated using **production value** 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.

([163]) 'International Supply of Services by Modes of Supply – data availability in the FATS'. 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.

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.

9.5.4. Distribution services in mode 3

In mode 3, distribution services are effectively derived as the production value 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 production value should be used rather than the turnover value. For OFATS the production value 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.

One 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 taken into account 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 taken into account 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 production value 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 considered to be '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.

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 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 realized 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 realized 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([164]), they are included in W/120, which is used in GATS negotiations (MSITS 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, 3.250).

Total trade-related transactions = Trade-related services (EBOPS 2010 SJ34) + Distribution services

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([165]). 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.

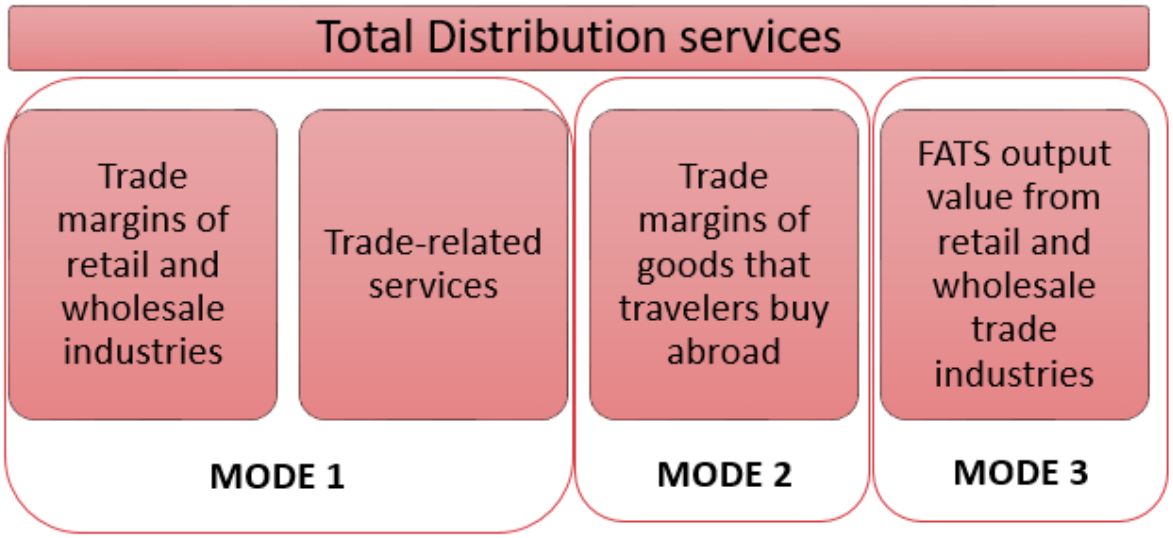
However, for goods, like BPM6, MSITS 2010 identifies the pricing level as free on board (f.o.b.) at the border of the exporting country. In general, the f.o.b. price will not necessarily be the same as the purchaser's price because the f.o.b. price may include separately invoiced distribution costs (wholesale 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 (output or production value of the wholesalers and retailers, NACE G) and are incorporated into mode 3, together with the rest of the mode 3 services.

([164]) BPM6 and Regulation 184/2005 for the EU Member States.
([165]) 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**



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.([166]) 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. As a consequence, 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 in the sub-items '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 transactions relating to the distribution of goods and services, i.e. both the trade-related services (already

([166]) Free on board.

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

Output at basic prices
+
imports
+
trade margins
+
transport margins
+
taxes on products
-
subsidies on products

=

Intermediate consumption (expressed at purchasers' prices)
+
final consumption (expressed at purchasers' prices)
+
capital formation (expressed at purchasers' prices)
+
exports.

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).

(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 trade activities (NACE activity G). From the SBS dataset, the following output variables are used: ‘turnover’, ‘gross margins on goods for resale’, ‘production value’ and ‘value added at factor cost’. The shares of those variables divided by the turnover could be used as the predictors for trade margins of the wholesalers and retailers in merchandise trade.

For example the share:

[gross margins on goods for resale] / [turnover]

from available data in SBS statistics can be used as indicator of the share of distribution services in the total trade value. This share can be multiplied with amount of trade value from ITGS or TEC statistics.

The limitations of this approach are:

(1) TEC (like ITGS) includes also the value of goods under processing, which is not the case for the other services in mode 1 (from resident to non-resident trade). This can be solved if the value from BOP Goods is used.

(2) Ideally, the statistics should be linked on a micro level to ensure better quality of the results. That would mean linking SBS and TEC variables at enterprise level, then extracting the distribution service for each enterprise (or, at least, for large enterprises only), and finally adding up.

10.3. Distribution services under mode 2

There are distribution services also in mode 2: that is, the distribution services linked to the goods that travellers buy. As already noted, according to SNA2008, the distribution services are associated with the sale of goods. Therefore, distribution services are also present in mode 2 in the case of shopping (e.g., goods purchased by travellers).

As described in 8.3, if possible, compilers should estimate and leave in Mode 2 part of the goods value that corresponds to the associated trade margins (distribution services); the net value of goods should then be removed from travel.

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, an official modes of supply data collection will start in 2024-2025 (for reference year 2023) as specified in the European Business Statistics regulation (Regulation (EU) 2019/2152 of the European Parliament and of the Council and Commission Implementing Regulation (EU) 2020/1197).

To implement the requirements of the regulation, further detailed technical specifications will be drafted (including a Data Structure Definition (DSD), validation rules, etc.). Until the full technical specifications are agreed, EU and EFTA countries are encouraged to produce and disseminate voluntary MoS data based on the table suggested in this chapter.

11.2. Dissemination strategy

Table 11.1 presents the 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;
- non-EU countries (i.e. extra-EU area; this partner is mainly relevant for EU and EFTA countries).

Compilers are also encouraged to compile MoS statistics for further partner countries, focusing on the most 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.

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 disseminating Modes of Supply statistics

Reporting country:					Reference Year:	
FLOW: Imports / Exports						
PARTNER: [World / EU / 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. If this is not currently possible for a compiler, a metadata note should accompany the data.

Table 11.1 can be seen as a simplification of the presentation in the full compilation tables of the Eurostat-WTO model. The aim is to deliver enough detail to the user for a useful analysis/understanding of the supply by mode. Furthermore, publishing statistics using a similar presentation by all countries across the world would promote international comparability.

The goods values contained in some items (such as in Travel, Construction, etc) will also 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, it is recommended that the values of the goods are not disseminated together with MoS data (even though they should be collected/estimated, for the purposes mentioned above).

The table provides three tiers (priorities) for a breakdown by type of service:

- As a first step, MoS data may be produced for total international supply of services, with no further breakdown by type of service. This total includes distribution services, excludes goods where relevant (e.g. from travel, etc.), and includes services supplied via all four modes.
- As a second step, countries may break down the total supply of services by the 12 main categories of EBOPS and 'distribution services'.
- The third and fourth tiers further break down certain EBOPS items, such as transport, telecommunications, computer and information services, and other business services.

This approach should ensure a gradual introduction of detailed statistical requirements, facilitating compilers with no previous experience in MoS production. Obviously, countries with some experience in producing MoS data may directly compile data at least by the tier 2 breakdown. The EBS regulation uses a similar gradual introduction of the data requirements.

EU Member States and EFTA countries may use these tables to transmit MoS data to Eurostat on a voluntary basis, before the official transmissions under the regulation (in parallel, Eurostat is working on the technical transmission format for the EBS regulation, which will be used for the official transmissions). Several countries have already provided MoS data to Eurostat on a voluntary basis.

11.3. Validation

It is recommended that compilers validate the MoS data by comparing it to ITSS and FATS sources, as well as checking internal consistency (e.g. that totals agree with components; world = EU countries + non-EU countries; EBOPS 2 and 3 digit levels are adding up to the higher levels).

For each EBOPS item, the sum of mode 1, 2 and 4 should correspond to the EBOPS items in ITSS/BOP. Obviously, a correction for goods values should be made for those items that contain goods values in the BOP framework, like *travel* and *construction*.

The sum of the four modes should correspond 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 should be provided. 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 should be used),
    - It should also be noted that 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, e.g. from the International trade in goods statistics (ITGS).

12 Part D Possible directions for future research

Future work and challenges

This chapter's focus 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), 'manufacturing services', etc.

These issues will be the main focus of the second edition of this guide.

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.

The issues will be tackled in the second edition of this guide, planned to be published by the end of 2023.

The revised second edition of the Guide will further expand on the methods recommended to be used for estimating modes of supply, excluding goods values, and including distribution services, using all available sources, and modelling techniques.

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:

- 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, in trade policy, and recent health-related travel restrictions.

- Reviewing the allocation of specific EBOPS items to two or more modes in the Eurostat-WTO model.
- Developing a method for modifying the shares allocated to the modes in the standard model over time.
- Developing recommendations on how the allocation of shares should 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).
- Developing recommendations for singling out the value of goods for the EBOPS item *maintenance and repair*.
- Separately identifying services in transactor-based items (in particular *travel*) (see also the discussion in the context of the revision of BPM6).
- Further developing the recommendations for the *construction* item.

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
- Distinguishing sales from the secondary activities of an enterprise in data sourcing from the FATS domain in order 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 taken into account in mode 3 estimation.
- Improve the recommendations on how to estimate missing data in Section K (Financial sector).
- Resolving cases of overlap between FATS and ITSS data.
- 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 setup 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.

Finally, 13.4 presents some national practices for comprehensive MoS data compilation.

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 13.1.1.1 shows an extract from the survey questionnaire). The respondents were not told about Eurostat's model([167]) 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 services								
263	Computer services								
.....									

Source: Hungarian Central Statistical Office

([167]) At that time, this guide was not yet available. Countries were using the so-called 'Eurostat simplified model' as a reference. However, the differences between that model and the Eurostat/WTO model presented in this guide are minimal.

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 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 sub-item	BOP item name	SHARES BASED ON HUNGARIAN SURVEY			
		Mode(s)	Mode 1 (%)	Mode 2 (%)	Mode 4 (%)
IMPORT					
SB	**Maintenance and repair services n.i.e.**	2;4		95	5
SC3G	**Other supporting and auxiliary transport services**	1;2	50	50	
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 sub-item	Bop item name	EUROSTAT MODEL			
		Mode(s)	Mode 1 (%)	Mode 2 (%)	Mode 4 (%)
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([168]) 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 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.

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

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 13.1.2.1), 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
Licenses for the use of outcomes of research and development	SH2
Licenses to reproduce and/or distribute computer software	SH3
Licenses to reproduce and/or distribute audiovisual products	SH41
Licenses 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 13.1.2.1 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([169])) 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([170]):

- high-technology industries
  - pharmaceuticals
  - office, accounting and computing machinery
  - radio, TV and communication equipment

([169]) 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.

([170]) This listing uses OECD definitions.

    - medical, precision and optical instruments
- medium-high-technology industries
    - electrical machinery and apparatus, n.e.c.([171])
    - 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([172]) 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([173]).

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 – 2020 edition* in Annex I).

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

([171]) 'n.e.c.' stands for 'not elsewhere classified'.
([172]) The TSA tables are presented in detail in Chapter 4 of the Tourism Satellite Account: Recommended Methodological Framework 2008.
([173]) The Bank of Italy international tourism survey questionnaire can be found in Annex 8.III.

Satellite Account (TSA)[174] 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 following table presents estimations of the Statistics Netherlands([175]) (CBS) for splitting the travel item into its constituent sub-items. 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 sub-item 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

([174]) The TSA tables are presented in detail in Chapter 4 of the Tourism Satellite Account: Recommended Methodological Framework 2008.

([175]) Author: Loek Maassen (CBS Statistical Analyst Travel Statistics); Topic: Rough estimation of percentage of goods of total expenditures; Date 14-04-2021.

workers. For seasonal workers, there is an estimation of total expenditures within the Netherlands of their 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 traveling 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)([176]). 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([177])** (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)([178]) 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.

([176]) 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.

([177]) 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.

([178]) 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.).

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 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-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([179]) of goods and services from EGATUR and ETR (alternative presentation) (%)

	2019		2018		2017	
TOTAL TRAVEL	**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**
	2019		**2018**		**2017**	
TOTAL TRAVEL SERVICES	**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.

([179]) 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.

Table 13.6: MCC levels

MCC	Class	MCC code
Sports/riding apparel shops	Goods	5655
Shoe shops	Goods	5661
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 are quiet 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([180]), 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 residents host country should be included.

([180]) 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 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).

- 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)([181]) 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([182]).

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([183], 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.

([181]) 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).

([182]) The concept of the ultimate controlling institution unit (UCI) – see Chapter 4.

([183]) 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.

13.3.3. Spain

Spain does not produce FATS mode 3 data yet. Mode 3 data are in a preliminary planning phase where some possible approaches are being assessed but no final decision has been made yet.

Data collection needed to estimate mode 3 mainly depends on the variables available in FATS. These differ very much from IFATS to OFATS. The estimation procedure is based on two differentiated steps for IFATS and OFATS:

1. estimation of domestic sales of services by main NACE code, since FATS are only compiled by economic activity;
2. conversion of domestic sales of services by main NACE code into EBOPS categories.

I. Inward FATS (IFATS) – foreign-owned affiliates in Spain

IFATS data are compiled in two different ways depending on affiliates' main economic activity. On the one hand, data on industry, trade and non-financial services are compiled by the INE at microdata level. On the other, 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 the Central Bank of Spain, respectively, and only information at macrodata level is available for the INE.

IFATS on industry, trade and non-financial services

IFATS data on these sectors are directly obtained from SBS by the 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 in these sectors, is exhaustively included in the SBS sample, so the entire IFATS population is surveyed every year. However, not all the information necessary to properly estimate mode 3 is directly available from SBS questionnaires. For example, SBS questionnaires do not cover domestic or local sales of services. This means that some estimation work is necessary.

Table 13.7: The most useful variables in SBS / IFATS questionnaires for mode 3 purposes

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. Their availability depends on the type of SBS questionnaire they are surveyed with. Conversly, TUR_S is not always synchronised with the percentage rato of turnover for services by NACE codes to total net turnover included in the questionnaire (see below).
Net turnover from services sales (TUR_S)	
TURNOVER BY GEOGRAPHICAL DESTINATION OF SALES:	
%Total net turnover generated in Spain (%TUR_ES)	This breakdown by geographical destination of sales gives the share of domestic/local sales compared 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 in question, information on the NACE codes (at 4-digit level) and their share of total net turnover is collected for up to for 12 potential secondary/auxiliary activities of foreign affiliates. This is very useful for estimating the share of sales of services of 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)	
...	
%Total net turnover generated by twelfth secondary activity (%TUR_S12)	
PRODUCTION VALUE:	
Production value (PV)	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.
	In IFATS, PV replaces TUR in K64.

Source: Spanish National Statistical Institute (INE)

Using this information, the percentage ratio of sales of services to total net turnover by main NACE code is estimated by taking into account not only the total net turnover generated by main economic activity, but also all secondary and auxiliary activities (%TUR_S1,…., %TUR_S12) in the service sector. In brief, to estimate domestic sales of services by main NACE code:

Domestic sales of services = (% sales of services) * (%TUR_ES) * TUR

Assumption: (%TUR_ES) is also applicable to sales of services.

To convert domestic sales of services by main NACE code into EBOPS categories, there are several possibilities.

- Use Eurostat's NACE-EBOPS bridge table for IFATS based on intuitive logic and the experience of some countries.
- Use the services trade by enterprises characteristics (STEC) table that links NACE to EBOPS. Although the table refers to exports of services (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 this approach is that the table structure changes over time (yearly). A possible way of refining the bridge table would be to incorporate the ownership dimension of STEC, and adjust the STEC bridge table NACE-EBOPS restricted to foreign-owned enterprises in order to bring it more into line with the IFATS framework. An additional way of refining this approach could be to use MDL techniques to link IFATS units to ITSS units.
    - For matching units, take EBOPS data directly from ITSS in order to distribute domestic sales of services by EBOPS item according to the EBOPS structure in ITSS, at microdata level.
    - For non-matching units, use the generic STEC bridge table NACE-EBOPS mentioned above.

IFATS on construction, insurance and pensions and financial services

For these sectors, IFATS is compiled by the above-mentioned institutions and sent to the INE following the final data structure for IFATS files required by the EU FATS Regulation (macrodata). As the national FATS coordinator, the INE is in charge of adding these data to those compiled for industry, trade and non-financial services, in order to obtain final data for the total economy.

For this IFATS information coming from other institutions, we only have total net turnover aggregated data by main NACE code, without no information either on sales destiny or secondary activities or goods/services.

Due to that 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 and insurance and pension activities) of NACE rev.2 is only generated by domestic sales. Then we can 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) – Spanish-owned affiliates abroad

OFATS is obtained from two administrative sources linked to outward FDI. The main one is the Foreign Investments Register (FIR) kept by the Ministry of Industry, Tourism and Trade for FDI purposes. The FIR is made up of administrative forms that all resident investors investing in foreign companies whose net worth is over EUR 1.5 million have to fill out on a mandatory basis. This information is then sent to the INE at microdata level in accordance with an inter-institutional agreement between the INE and the Ministry. This is in turn used for compiling OFATS for all economic activities, except those in Section K. For Section K, microdata-level information is received from the Central Bank of Spain.

Up to now, for OFATS, only total net turnover data for Spanish-owned affiliates abroad by main NACE code has been available. This makes it much more difficult to properly estimate domestic sales of services by main NACE code for the OFATS than for the FATS population. However, the INE-Ministry Agreement was

renewed in 2020, to include the new variable (Total net turnover from domestic sales) as of 2021. This will make it possible to at least estimate affiliates' domestic sales.

Table 13.8: The most useful FIR (administrative form)/OFATS variables for mode 3 purposes are:

FIR/OFATS variables for mode 3	Observations
TURNOVER:	
Total net turnover (TUR)	
%Total net turnover from domestic sales (%TUR_DO)	As of 2021, this new variable will be added to the administrative form that feeds FIR, at the INE's request, for mode 3 purposes. There is currently no distinction made between domestic sales of goods and services in order not to impose an excessive reporting burden on investors.

Source: Spanish National Statistical Institute (INE)

Given the paucity of this information, the greater availability of which would make it possible to achieve the objective of estimating domestic sales by main NACE code by multiplying total net turnover by total net turnover from domestic sales, domestic sales of services by main NACE code could be estimated using the IFATS percentage ratio of sales of services to total net turnover by NACE.

Domestic sales of services = (%TUR_DO) * (%sales of services for IFATS) * TUR

The assumption here is that the percentage ratio of sales of services to total net turnover for OFATS affiliates equals the one for IFATS affiliates, by main NACE code.

To convert domestic sales of services by main NACE code into EBOPS categories, both NACE-EBOPS bridge tables for IFATS could be used.

III. Distribution services in mode 3

The following methods are used to estimate distribution services in mode 3:

- for IFATS – Distribution services in mode 3 = IFATS Production value (Section G) = IFATS Gross margin trade realised on goods purchased for resale;
- for OFATS – starting from the only variable available in OFATS, Total net turnover by NACE and host country, multiplying this variable for section G by the ratio production value (Section G)/net turnover (Section G)) estimated on the basis of IFATS.

Distribution services mode 3 = OFATS Gross margin trade realised on goods purchased for resale = (IFATS production value (Section G)/IFATS net turnover (Section G)) x OFATS Total net turnover (Section G).

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*((184)).

As explained in the paper, the estimates for services supplied through mode 3 by type of service rely on a bridge table(185) between BEA FATS, classified by the type of industry corresponding to the reporter's

(184) https://www.bea.gov/system/files/papers/WP2019-7_2.pdf

(185) 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.

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)((186)). 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

The French experience of estimating trade in services by MoS is fully described in the *Banque de France Bulletin* article by Cezar, R. and Fegar, G. (2018), 'French international trade in services by mode of supply'(187).

The French way of compiling data for modes 1, 2 and 4 is 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.

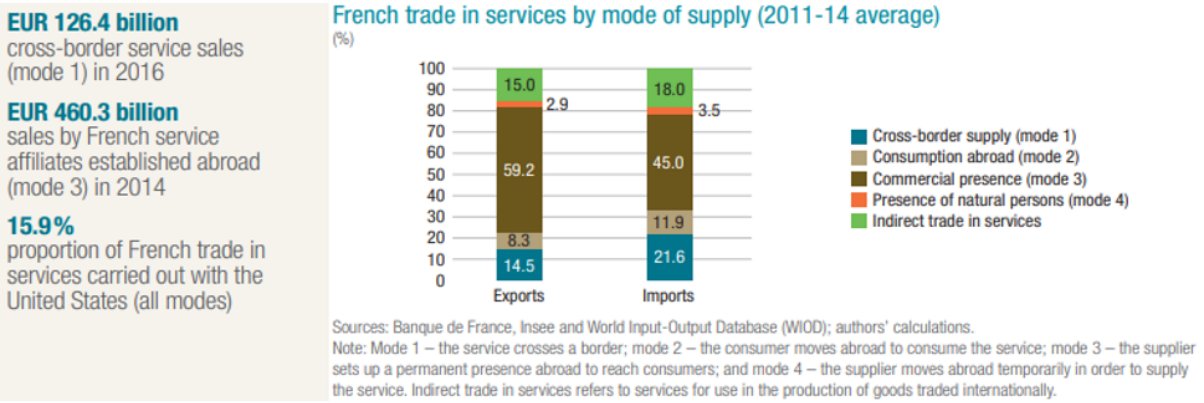
Each share was re-examined in the light of qualitative information supplied by a selection of enterprises that take part in *Banque de France*'s surveys on international trade in services. As a result, the shares can be tailored to the specific characteristics of France's international trade. They can be calculated at a more disaggregated level for 59 service categories in order 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 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.

(186) BEA surveys of the activities of MNEs 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' implicitly charged services. 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.

(187) https://publications.banque-france.fr/sites/default/files/medias/documents/818046_qsa49_web.pdf#page=25

Figure 13.1: French trade in services by mode of supply (2011-2014 average)



Source: Banque de France([188])

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 BOP transactions and positions (excluding external trade in goods). Data were then transmitted to Statistics Estonia for the compilation of ITSS data by STEC and MoS.

Statistics Estonia compiled ITSS data by MoS using the Eurostat model with minor modifications in 2019 and 2020 (for reference years 2015–2018). Data from the Statistical Business Register, Trade by Enterprise Characteristics and Structural Business Statistics were used as additional data sources.

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([189]). A new classification of foreign trade in services was developed([190]): the service transaction code, 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. A Manual for Foreign Trade in Services for data providers was developed as a guide to filling in the questionnaire([191]).

Data providers must indicate the main mode of supply of their service. This data field is mandatory. The questionnaire collects data for modes 1, 2 and 4 (data for mode 3 are obtained from other statistical surveys). It is also possible to choose the share of the main mode of service supply. In this case, the respondent should determine the percentage of the pre-selected main mode of supply. This data field is optional.

Statistics Estonia does not plan to ask respondents for MoS data each year. In 2022 it will be collected data on a voluntary basis and developed a national model for compiling MoS data. Based on the efficiency of this model and voluntarily reported data, it will be decided if to resume mandatory data collection in 2023.

([188]) See: https://publications.banque-france.fr/sites/default/files/medias/documents/818046_qsa49_web.pdf#page=25
([189]) Foreign trade in services 2021. Questionnaire for printing (in PDF format)
([190]) Classification of foreign trade in services 2020
([191]) Manual for Foreign Trade in Services (in PDF format). Statistics Estonia 2020.

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.

The following sections explain how the Dutch study was put together([192]), 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)([193]) was used to create an overall framework for these units. Mode 3 imports were taken from foreign-owned

([192]) 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.

([193]) 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.

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.

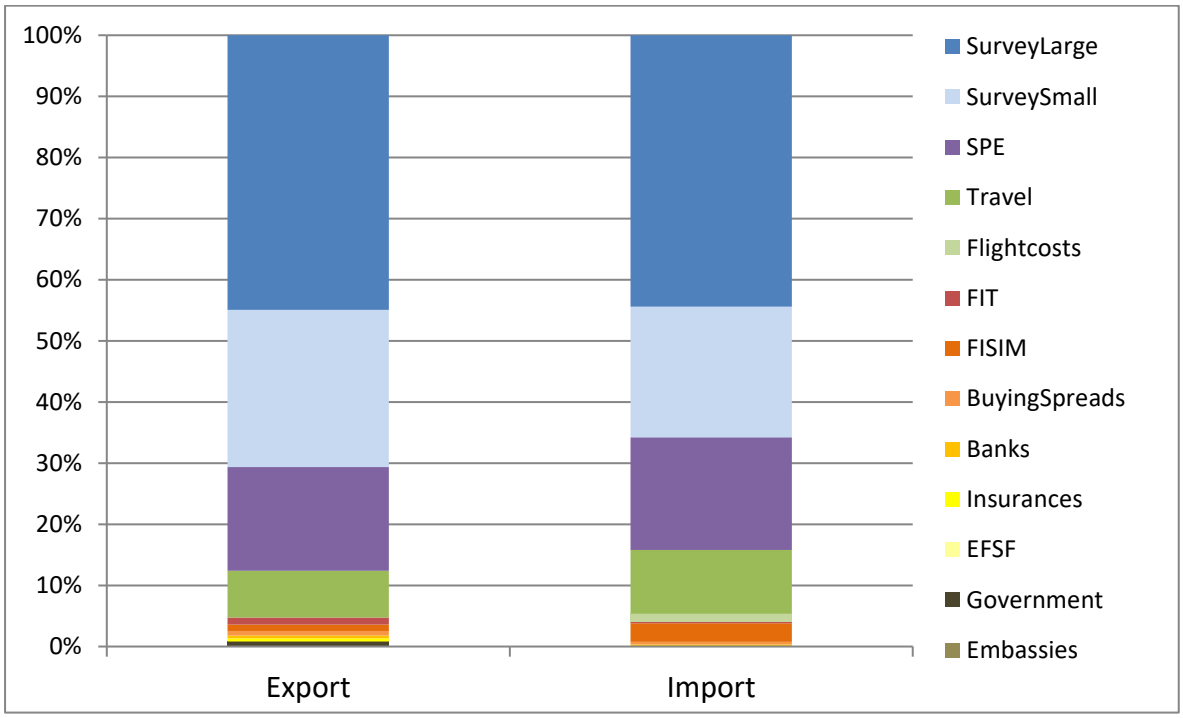
The large enterprises identified were then further examined.

Estimating modes 1, 2 and 4 (ITSS-related)

Primary and secondary ITSS data sources

The Dutch ITSS data collection system distinguishes primary([194]) (see Annex III) from secondary data sources. For this research, additional MoS information was collected only from primary data sources. For secondary data sources, the mode of supply was presumed without further investigation.

Figure. 13.2: Dutch ITSS per source (2017)



Source: Statistics Netherlands

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.

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([195]).

([194]) These sources are considered primary because Statistics Netherlands directly collects the data for these enterprises.
([195]) Modelled data cannot be measured/collected directly at enterprise or other transactor level.

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.

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 13.9: 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([196]).

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

([196]) The assumption being that it would be easier for the enterprise to answer the questionnaire.

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)

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 13.10 and 13.11. 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 13.10: 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 13.11: Import and export grossed up MoS coefficients

	Intra EU						Extra EU					
	Export			Import			Export			Import		
	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 13.12 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 13.12: The Dutch ITSS model, total services

Flow	Geo	Value mln. €	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 spit 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 13.13.
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 13.13: 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 13.15.

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 13.16 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 13.14: 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 13.15.

Table 13.15: Mode 3 estimates for the Netherlands, reference year 2017

Flow	GEO	Service	Mode 3
Import	Intra-EU	SA	1.646.949
Import	Intra-EU	SB	965.143
Import	Intra-EU	SC1	345.679
Import	Intra-EU	SC2	383.794
Import	Intra-EU	SC3	1.459.685
Import	Intra-EU	SD	0
Import	Intra-EU	SE	4.928.579
Import	Intra-EU	SF	1.850.000
Import	Intra-EU	SG	1.766.998
Import	Intra-EU	SH	3.753.972
Import	Intra-EU	SI	12.419.236
Import	Intra-EU	SJ1	599.709
Import	Intra-EU	SJ2	2.467.862
Import	Intra-EU	SJ3	29.896.371
Import	Intra-EU	SK	2.725.423
Import	Intra-EU	SL	0
Import	**Intra-EU**	**S**	**65.209.400**
Import	Extra-EU	SA	745.372
Import	Extra-EU	SB	825.828
Import	Extra-EU	SC1	222.255
Import	Extra-EU	SC2	80.853
Import	Extra-EU	SC3	710.401
Import	Extra-EU	SD	0
Import	Extra-EU	SE	2.883.910
Import	Extra-EU	SF	550.000
Import	Extra-EU	SG	3.842.589
Import	Extra-EU	SH	1.779.334
Import	Extra-EU	SI	4.018.174
Import	Extra-EU	SJ1	247.753
Import	Extra-EU	SJ2	1.627.987
Import	Extra-EU	SJ3	27.125.528
Import	Extra-EU	SK	610.849
Import	Extra-EU	SL	0
Import	**Extra-EU**	**S**	**45.270.832**

Flow	EU/nEU	Service	Mode 3
Export	Intra-EU	SA	1.740.857
Export	Intra-EU	SB	368.168
Export	Intra-EU	SC1	2.164.983
Export	Intra-EU	SC2	1.424.843
Export	Intra-EU	SC3	6.901.437
Export	Intra-EU	SD	0
Export	Intra-EU	SE	2.899.476
Export	Intra-EU	SF	9.121.099
Export	Intra-EU	SG	8.230.730
Export	Intra-EU	SH	13.250.103
Export	Intra-EU	SI	19.080.460
Export	Intra-EU	SJ1	1.021.158
Export	Intra-EU	SJ2	5.657.288
Export	Intra-EU	SJ3	42.564.119
Export	Intra-EU	SK	1.961.064
Export	Intra-EU	SL	0
Export	**Intra-EU**	**S**	**116.385.785**
Export	Extra-EU	SA	1.455.655
Export	Extra-EU	SB	542.408
Export	Extra-EU	SC1	813.749
Export	Extra-EU	SC2	381.128
Export	Extra-EU	SC3	2.005.847
Export	Extra-EU	SD	0
Export	Extra-EU	SE	704.078
Export	Extra-EU	SF	17.091.875
Export	Extra-EU	SG	15.079.445
Export	Extra-EU	SH	3.824.309
Export	Extra-EU	SI	5.596.865
Export	Extra-EU	SJ1	688.872
Export	Extra-EU	SJ2	7.641.838
Export	Extra-EU	SJ3	15.632.734
Export	Extra-EU	SK	543.999
Export	Extra-EU	SL	0
Export	**Extra-EU**	**S**	**72.002.801**

Source: Statistics Netherlands

Aggregated results for all modes

The four modes of supply are presented in Table 13.16.

Table 13.16: 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 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.

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).*

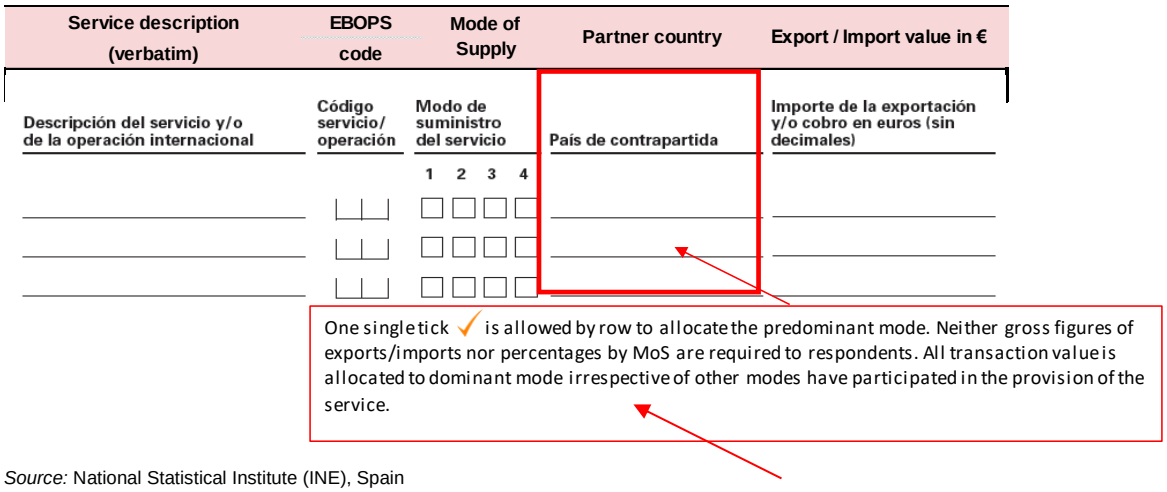
The potential drawback to assign the total export/import value to a single mode (the predominant) when two (or more) modes could intervene in the provision of a service, might be overtaken somehow by the fact that:

- 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;
- 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 1 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



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 QUESTIONNAIRE INSTRUCTIONS

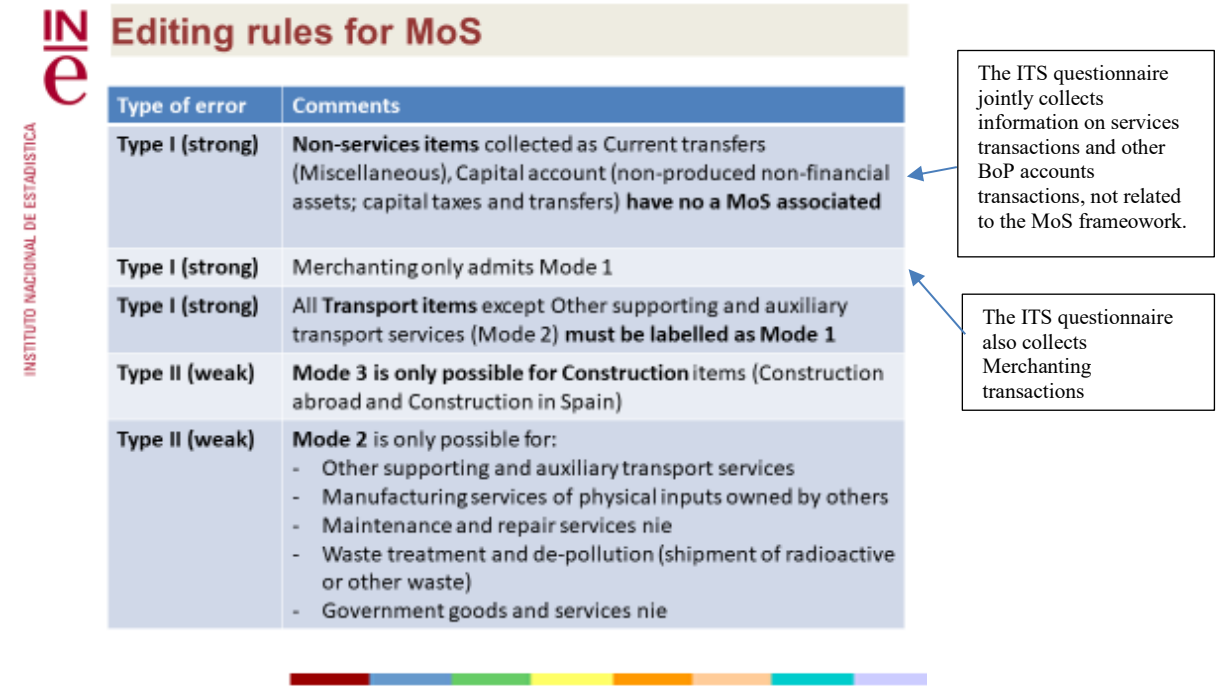
MoS	Exports	Imports
1	**Cross-border supply to abroad:** -Most common -Merchanting sales	**Cross-border supply to Spain:** -Most common -Merchanting purchases
2	**Consumption in Spain:** -Manufacturing services (inward processing) -Maintenance & Repair (inward) -Supporting & Auxiliary transport services (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:** -Out of scope, except: local office in construction abroad or sales desks	**Commercial presence in Spain:** -Out of scope, 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

3. 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



Source: National Statistical Institute (INE), Spain

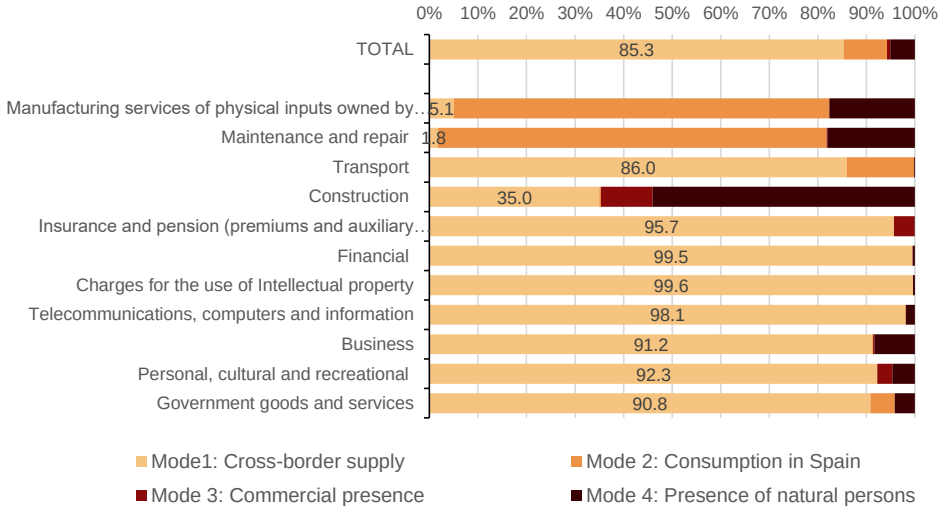
A new editing rule as **Type II (weak)** has been added recently:

Mode 1 is not possible for Manufacturing services of physical inputs owned by others and Maintenance and repair.

4. Results by MoS

The main results by MoS are presented in the following figures, for reference year 2019:

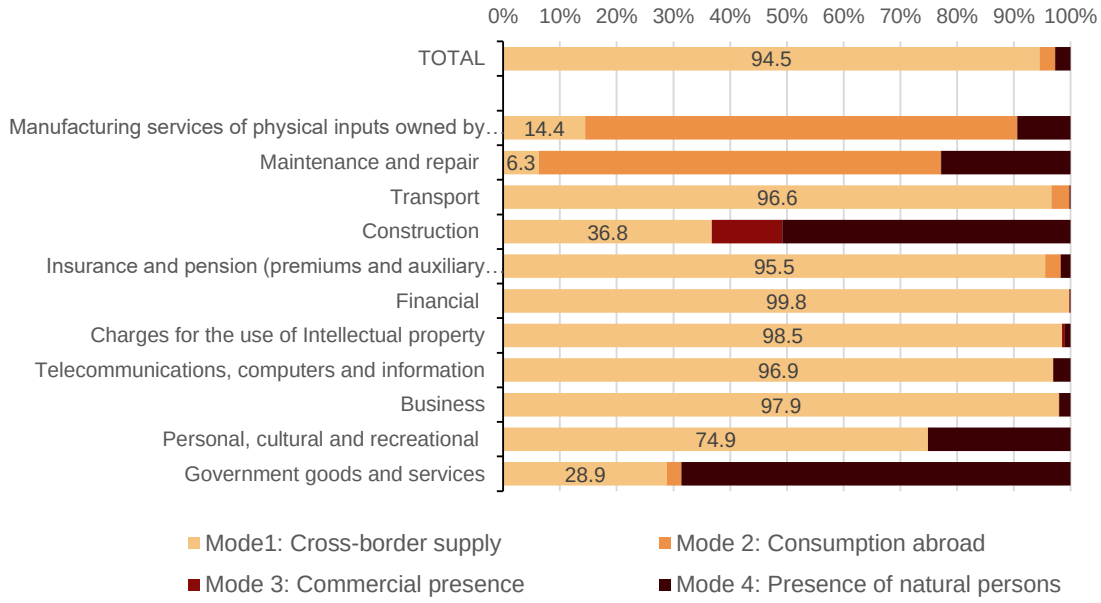
Figure 13.6: Exports of services by MoS AND main EBOPS item (2019) (in %)



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 (2019) (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.([197]) 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. The design of this survey is discussed in more detail in Chapter 5 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

([197]) Michael Mann, "Measuring Trade in Services by Mode of Supply" BEA Working Paper, Washington, D.C., August 2019.

method outlined in chapter V of the MSITS and the associated MSITS 2010 Compilers Guide whereby 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([198]). 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 are 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 percent 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([199]) from BEA's BOP accounts.

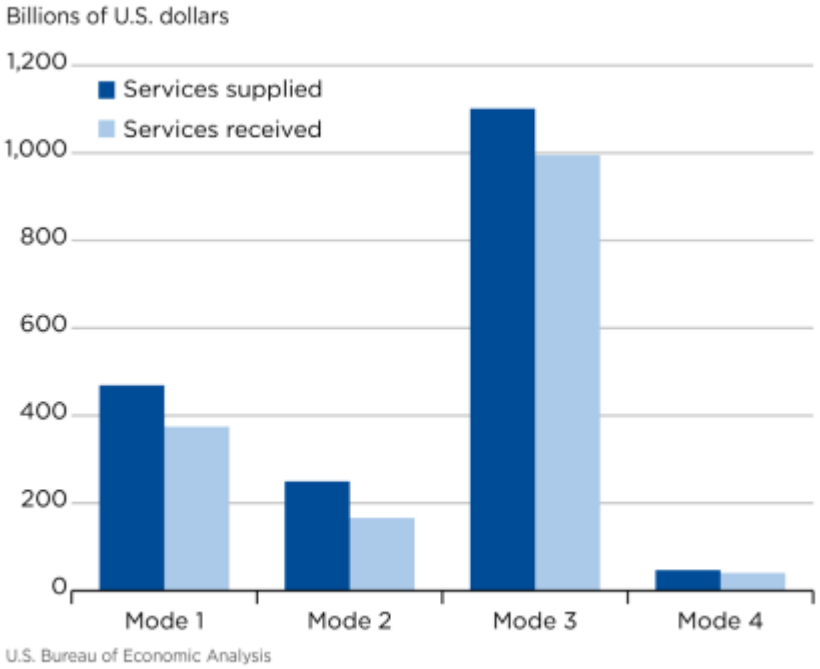
BEA's trade in services by modes of supply estimates indicate that mode 3 is the predominant mode of supply for both services provided and services received, exceeding the value of the other three modes combined. Mode 1 is next largest for both services provided([200]) and services received, followed by mode 2, then mode 4.

([198]) 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.

([199]) Mining is treated similarly to construction in that it is presumed to be split between modes 3 and 4.

([200]) 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 to design and user-test a questionnaire. 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([201]) with one exception: the maritime transport industry. Below is a table listing up some characteristics of the recruited enterprises.

([201]) The Norwegian ITSS survey asks respondents to report services trade by CPA.

Table 13.17: 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 5 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 we were two 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([202]). 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 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 7 selected respondents, then based on

([202]) 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.

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 3 respondents. The questionnaire is presented in Annex IV.

4. Findings

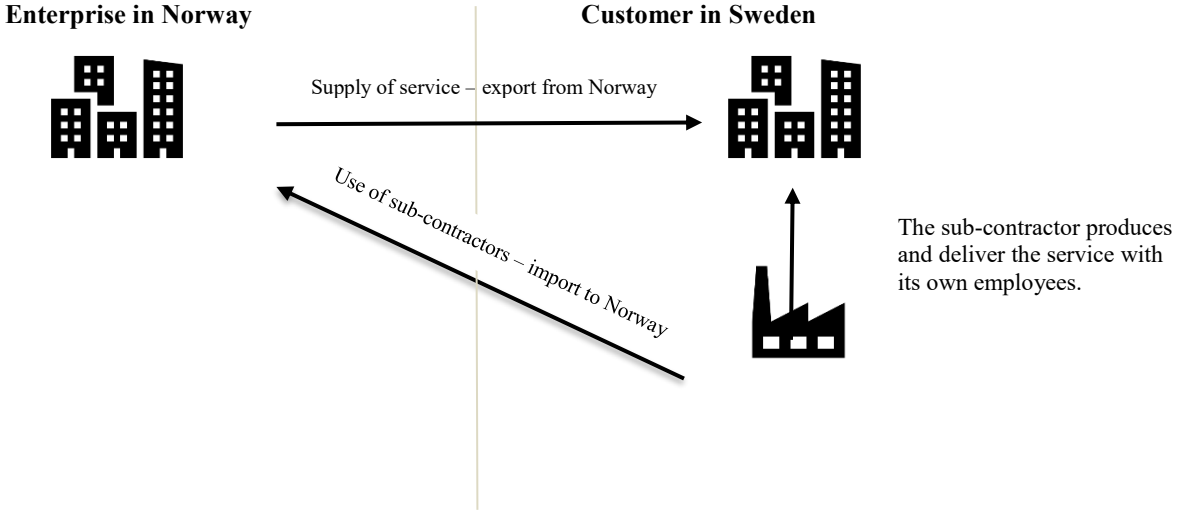
4.1. Trade in services by mode of supply

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 2 parts, one for export and one for import. The majority if 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([203]). 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 13.18 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	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	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 2 respondents were able to deliver precise figures which was mainly based on their own knowledge of 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

([203]) 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.

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 – Survey on international tourism in Italy – 2020 edition

The following tables present the part of the Italian international tourism survey that focuses on the type of expenditure incurred by the tourists.

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

12a. **Was your trip "inclusive", i.e. an organized trip or package tour which covered expenses for two or more of the following services: travel, accommodation, meals, other services?**

- Yes 1
- No ..... 2 →Q13a.

12b. **Quali dei seguenti servizi erano inclusi nel pacchetto che lei ha acquistato?**

- Travel between Italy and other countries 1
- Travel in your home country and between/in other countries 2
- Travel in Italy 3
- Accommodation with or without meals in the facilities you stayed in 4
- Restaurants, cafes (and any other meals non eaten in the facilities where you stayed in)..... 5
- Other services (museums, events, entertainment, guided tours car rentals etc)..... 6

12c. **What channel did you use to book your accommodation?**

- Through a tour operator/travel agency of my residency city, company,associations, social groups..... 1
- Through an online travel agency or an online hotel booking portal..... 2
- Through the portal of the tourist destination 3
- Other (specify)_____ __ 4

12d. **How much was spent on this organized trip?**

|__|__| |__|__|__| |__|__|__|

12e. **In which currency?** |_____|

12f. **Does the amount you paid for the package (indicated in q. 12d above) also refer to visits to other countries besides Italy**

- Yes, the trip includes nights I spent and/or will spend in other countries..... 1
- No, no other country is included in the package .....2 → Q. 12h.

12g. **How many nights did you and/or will you spend in the other countries included in the trip? N° Nights** |___|___|___|

12h. **Do you have other expenses for this trip?**

- Yes 1
- No ..... 2 → Q.16a.

←

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		
• ***Travel outside Italy*** - Tickets for journeys between Italy and other countries (return tickets)... - Tickets if any, forr journeys in your home country and other countries.....	1 1	2 2			
• ***Travel in Italy*** - Travel if any, in Italy including fuel purchases in Italy.....	1	2			
• ***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.)	1	2			
• ***Restaurants and cafés in Italy*** (and other meals not eaten in the facilities you stayed in).....	1	2			
• ***Shopping in Italy***: SOUVENIRS, GIFTS, CLOTHING, FOOD AND DRINK etc., for personal use	1	2			
• ***Other services in Italy***: MUSEUMS, EVENTS, ENTERTAINMENT, GUIDED TOURS, CAR RENTAL, LANGUAGE COURSES etc.	1	2			
14a. TOTAL OTHER EXPENSES (13c)				AMOUNT	CURRENCY
14b. TOTAL EXPENDITURE **PAYMENTS FOR "INCLUSIVE" TRIP + OTHER EXPENSES (12d + 13c)**				AMOUNT	CURRENCY

Annex II – Eurostat survey on FATS sources

Results of the Eurostat survey on mode 3 - FATS data sources and methods

IFATS data collection requested by regulation / law

Country	Survey	Exhaustive sample	Administrative sources	Modelling/estimation	Specific questions are included in surveys from another domain
Austria			x		x
Belgium	x				
Bulgaria		x			x
Croatia			x		
Cyprus	x				x
Czechia	x		x	x	
Denmark			x	x	
Estonia			x		x
Finland			x		
France	x		x		
Germany	x		x	x	
Greece	x		x		x
Hungary			x		x
Ireland					x
Italy	x		x		
Latvia	x		x		
Lithuania					x
Luxembourg	x		x		
Malta			x		x
Netherlands			x	x	x
Norway	x		x		
Poland	x				x
Portugal			x		
Romania		x	x		x
Slovak Republic	x	x	x		x
Slovenia			x		
Spain		x			x
Sweden			x		
Switzerland			x		
United States	x			x	
Total	13	4	22	5	14

OFATS data collection requested by regulation / law

Country	Survey	Exhaustive sample	Administrative sources	Modelling/ estimation	Specific questions are included in surveys from another domain
Austria					x
Belgium	x				
Bulgaria					x
Croatia	x				
Cyprus	x				
Czechia			x		x
Denmark	x				
Estonia	x				
Finland	x	x			
France	x		x		
Germany					x
Greece	x				
Hungary			x		
Ireland	x	x			
Italy	x				
Latvia		x	x		
Lithuania					x
Luxembourg					x
Malta		x			
Netherlands	x			x	
Norway	x				
Poland	x		x		
Portugal			x		
Romania	x	x			
Slovak Republic	x	x	x		x
Slovenia	x				
Spain			x	x	
Sweden	x		x		
Switzerland	x				
United States	x			x	
Total	19	6	9	3	7

Annex III – 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).

Table III.1: International Trade in Services, survey type by total export and import and share in 2014

SU	Survey type	Grossing-up	Export (in billion euros)	Share (%)	Import (in billion euros)	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 (***LE****s*), 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 ***SME****s* (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.

Table III.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
Export	SA	40%
Export	SB	40%
Export	SI1	52%
Export	SI2X	16%
Export	SI31	53%
Export	SI32	80%
Export	SJ111	40%
Export	SJ12	80%
Export	SJ211	62%
Export	SJ212	27%
Export	SJ213	34%
Export	SJ22	53%
Export	SJ311	69%
Export	SJ312	7%
Export	SJ313	65%
Export	SJ321	54%
Export	SJ322	34%
Export	SJ323	11%
Export	SJ33	55%
Export	SJ34	44%
Export	SJ35	76%
Export	SK1X	83%
Export	SK21	32%
Export	SK22	38%
Export	SK24	24%

Flow	Service	Weighted coverage by the MoS reporting enterprises
Import	SA	43%
Import	SB	44%
Import	SI1	40%
Import	SI2X	25%
Import	SI31	10%
Import	SI32	7%
Import	SJ111	63%
Import	SJ12	69%
Import	SJ211	67%
Import	SJ212	27%
Import	SJ213	47%
Import	SJ22	70%
Import	SJ311	47%
Import	SJ312	6%
Import	SJ313	75%
Import	SJ321	57%
Import	SJ322	33%
Import	SJ323	17%
Import	SJ33	50%
Import	SJ34	58%
Import	SJ35	42%
Import	SK1X	85%
Import	SK21	9%
Import	SK22	20%
Import	SK23	10%
Import	SK24	21%

Source: Statistics Netherlands

Table III.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 IV – Final MoS questionnaire and interview guide – Norway

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.

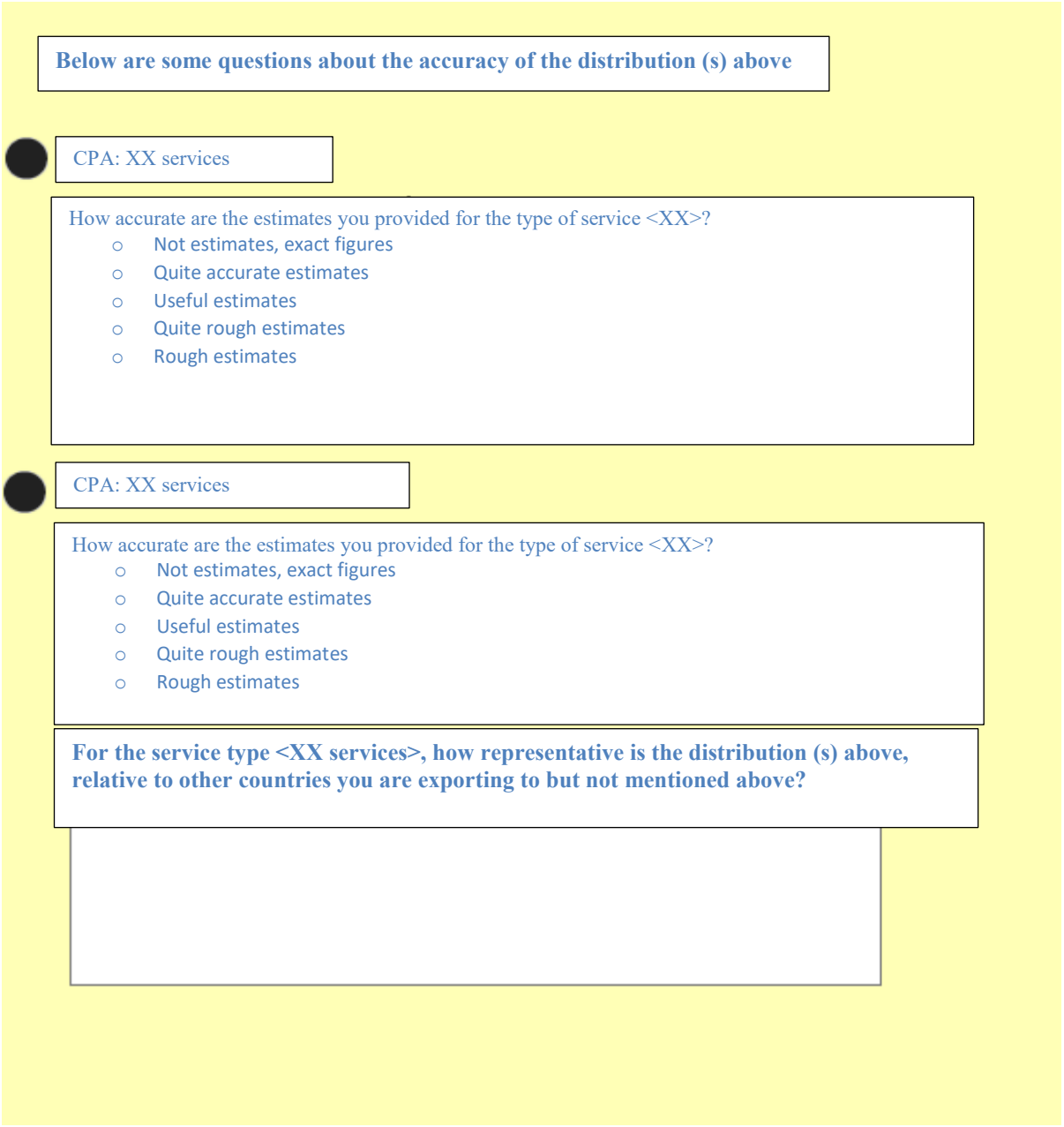
For each service type, please give a percentage estimate of how export revenue (from the country in question) is distributed between the four delivery methods below.

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 4	TOTAL
Technical testing and analysis				
Technical testing and analysis to US TNOK 24 000 in 2018	%	%	%	0 %
Technical testing and analysis to Sweden TNOK 12 000 in 2018 NOKT 12 052 kr i 2018	%	%	%	% 0
Technical testing and analysis to China TNOK 10 000 in 2018	%	%	%	0 %
Technical testing and analysis to Canada TNOK 8 000 in 2018 NOKT 8 572 kr i 2018	%	%	%	0 %
Waste treatment and environmental services				
Waste treatment and environmental services to Canada TNOK 8 000 in 2018	%	%	%	0 %



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 QUESTIONNARE

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, nonfinancial 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 categorize 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 utilized 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 ***N****omenclature statistique des* ***a****ctivités économiques dans la* ***C****ommunauté* ***e****uropéenne*.

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 policy-making.

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 Organization (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 Co-operation and Development
OeNB	National bank of Austria
OFATS	Outward foreign affiliates statistics
ONS	The United Kingdom's Office for National Statistics
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
https://ec.europa.eu/eurostat/

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