Compilers Guide for statistics on Services Trade by Enterprise Characteristics (STEC)

2017 edition

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Contents

Acknowledgements

1 | Introduction to Services Trade by Enterprise Characteristics

1.1. Why Statistics on Services Trade by Enterprise Characteristics

Conventional international trade statistics offer a picture of trade flows between countries, broken down by types of goods and services. While this is an important input for trade analyses, these data do not offer insights into the actors, or the types of enterprises, that are actually engaged in cross-border trade. However, this type of information is in high and growing demand by academics and policy makers. This demand is partly driven by the increasingly important role that services play in international trade. The share of services of total trade flows is increasing, and the blurring lines between goods and services, as well as the fragmentation of global value chains, means that many manufacturing products are paired with services trade, or contain important services value added content. At the same time, academic research that since the mid-1990s has started to provide strong evidence that enterprise-level factors such as enterprise size class or foreign ownership are important determinants of the propensity of enterprises to engage in trade, of their trade intensity, and their productivity [1], has resulted in increased demands for more detailed and timely statistics on the types of enterprises are engaged in international trade.

The Services Trade by Enterprise Characteristics (STEC) data aim to answer to these demands, by breaking down traditional services trade statistics by enterprise size class, enterprise ownership and enterprise industry, and by identifying the export and import intensity of enterprises engaged in services trade. STEC data thereby provide insights [2] into, for example, the extent to which large enterprises dominate international services trade and on the role that Small and Medium sized Enterprises (SMEs) play in the international provision of services. STEC statistics also highlight which industries export and import the different types of services, bridging thereby the traditional trade in services breakdown by Extended Balance of Payments Services (EBOPS) classification and the industry classifications used in business statistics and national accounts. Such data show how enterprises in different industries purchase and supply services and how this relates to their primary activity - which may also be the production of goods. By identifying the ownership (foreign or domestic) of the enterprises involved in trade, the role of multinational enterprises in shaping globalisation, and the relationship between trade and investment, is explicitly addressed.

All this information about which enterprises are involved in international trade in services is a vital component to improve our understanding of the drivers and consequences of trade in services – and globalisation more generally – and it allows for better informed and more tailored trade policies.   STEC statistics thereby contribute to the larger statistical agenda on measuring globalisation and Global Value Chains (GVCs).

High quality STEC statistics also help national statistical offices to improve the allocation of services exports and imports to industries in the development of national Supply and Use tables and Input-Output tables. These tables in turn form a key requirement for the development of the Global Supply and Use and Input-Output table that underpins the OECD-WTO Trade in Value Added (TiVA) indicators [3] as well as the Eurostat Figaro [4] initiative. Furthermore, by refining the assumptions about services traders, the STEC data are essential for accounting for enterprise heterogeneity in GVCs by facilitating the extension

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[1] See e.g. and Bernard and Jensen (1995), 'Exporters, Jobs, and Wages in U.S. Manufacturing: 1976-87', Brookings Papers on Economic Activity, 67- 112; and Melitz (2003), 'The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity', Econometrica, 71(6): 1695-1725.

[2] Services trade by enterprise characteristics – STEC, Eurostat, Statistics Explained http://ec.europa.eu/eurostat/statistics-explained/index.php/Services_trade_by_enterprise_characteristics_-_STEC

[3] See http://oe.cd/tiva and http://oe.cd/tiva-nowcast

[4] The FIGARO (Full International and Global Accounts for Research in Input-Output Analysis) project aims at establishing an annual production of EU Inter-country Input-Output Tables and five-yearly production of EU Inter-country Supply, Use and Input-Output Tables (EU-IC-SUIOTs).

of Supply and Use Tables. This provides insights into the role of SMEs, but also on how multinational enterprises (MNEs) shape individual countries' and industries' involvement in GVCs. For example, similar exercises in the area of merchandise trade statistics, namely TEC statistics, have highlighted that SMEs generally have an indirect role in GVCs by serving as upstream suppliers to larger enterprises that subsequently export. STEC data enable the extension of these analyses to trade in services as well.

1.2. Advantages of micro data linking

An important advantage of the STEC data is that all these insights can be derived with no additional response burden on enterprises, as these statistics are not separately collected via surveys but compiled by existing official data sources that are already collected in each country. Specifically, STEC data result from linking trade in services micro data with the characteristics of the businesses involved. Statistics collected as part of the International Trade in Services Statistics (ITSS) program, part of compiling the Balance of Payments, currently provide information regarding the monetary value of trade in services, broken down by service category (for example, computer services or legal services) and by partner country. Linking those data on trade in services with other data profiling the businesses by using a common identifier from the business register has allowed for new cross-classifications, presenting familiar statistical series in innovative ways and generating new value from existing data. While challenging, it is clear from the efforts by several European Union countries, stimulated and supported by Eurostat and OECD, that the results shed new light on services traders and incite additional, more nuanced and sophisticated questions on services trade.

1.3. Relationship between STEC and TEC statistics

STEC statistics build upon earlier, similar initiatives in the area of trade in goods, called Trade by Enterprise Characteristics (TEC). TEC data provide annual trade in goods data broken down by different categories of enterprises, such as foreign ownership, industry and size class. [5] This development of TEC was initiated jointly by Eurostat and OECD in response to policy questions on the nature of the actual enterprises engaged in (merchandise) trade. The principle of reusing data that already exist was adopted as a strategy to ensure more value was extracted from collected data without any burden increase for enterprises and with rather limited costs for data compilers, and the first collection of data started in 2006.

Since enterprises organize their international activities through a fluid mix of trade in goods and services, STEC and TEC complement each other in providing a complete overview of enterprises engaged in trade in goods or services. Building on the extensive experiences in compiling TEC statistics, the TEC methodology was introduced to the area of trade and services, and in May 2012, the development of Services Trade by Enterprise Characteristics (STEC) was endorsed by the European Statistical System Committee (ESSC).

1.4. STEC in relation to other international methodological standards

As explained in more detail in this Compilers Guide, the services trade values included in STEC are defined according to Balance of Payments Manual (BPM6) and the EC BoP regulation 555/2012, as well as according to the most recent version of the Manual on Statistics of International Trade in Services (MSITS 2010) developed by the inter-agency task force on statistics of international trade in services. MSITS 2010, noting that developments in linking international merchandise trade and business registers had resulted in significant additions to statistical information at a microeconomic level in the area of merchandise trade, already

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[5] For additional information on Trade by Enterprise Characteristics (TEC), see OECD (2016) "Statistical Insights: Who's Who in International Trade: A Spotlight on OECD Trade by Enterprise Characteristics data", available at http://oecdinsights.org/2016/04/25/statistical-insights-whos-who-in-international-trade-a-spotlight-on-oecd-trade-by-enterprise-characteristics-data/ and Eurostat, 2012, "International trade by enterprise characteristics", available at http://ec.europa.eu/eurostat/statistics-explained/index.php/International_trade_by_enterprise_characteristics.

highlighted the potential for services trade. It also indicated that such microdata linking would improve the compatibility of trade and business statistics ([6]).

Similar principles were expressed in the field of business statistics. For example, the Eurostat's 2014 Riga memorandum ([7]) outlined the principles for developing global business statistics, and emphasised the importance of services sector statistics, as well as the benefits of efficiently re-using existing statistical information through data integration methodologies in order to produce valuable insights on international sourcing and international trade by enterprise characteristics. The business register statistics used in STEC follow Eurostat's business registers recommendations manual. Currently, STEC tables are requested by Eurostat on voluntary basis.

1.5. About the STEC Compilers Guide

This Compilers Guide provides methodological guidance on services trade by enterprise characteristics. It is designed to be a key resource for STEC compilers in national statistical offices and central banks but can also be used by data users in order to further their understanding of the linkage exercise as well as the disseminated product. The STEC Compilers Guide is the result of the work undertaken by European Union countries, Eurostat and OECD with respect to linking existing international trade in services and business statistics at the micro level, with the purpose to create new policy-relevant statistics. The Compilers Guide builds upon the insights derived from the first EU pilot study on STEC, which was carried out in 2013, at which time several European countries compiled their first STEC tables, as well as upon those of the second pilot study carried out in 2015-2016.

The STEC Compilers Guide provides definitions and technical guidance in order to facilitate compilation of STEC statistics. It identifies the principle challenges experienced during the pilot studies of matching services trade and business registers, and the solutions to those challenges based on many practical compilation examples from countries' experiences.

The chapters of this STEC Compilers Guide are organised as follows. First, in **Chapter 2**, the scope and definition of STEC are presented. Subsequently, **Chapter 3** explains how STEC statistics relate to other statistics, including Balance of Payments (BoP), Foreign Affiliate Statistics (FATS), and Structural Business Statistics (SBS). **Chapter 4** is dedicated to the process of linking, at the micro level, the various statistical sources that are needed to compile STEC statistics. These sources generally involve trade in services surveys and the business register, but depending on the national context may involve various other sources as well. Attention is given to issues related to the statistical unit (enterprise versus the legal unit) as well as to those shares of international trade in services that cannot be attributed to individual enterprises, due to methodological or substantive reasons.

Chapter 5 discusses specific cases, involved in linking data, highlighting issues related to large and complex units and the treatment of non-response. The exact layout of the STEC tables, as they are currently requested by Eurostat on voluntary basis, is described in **Chapter 6**. The templates for the full STEC tables as well as for the simplified STEC tables are available from Eurostat.

The provision of more granular data, such as services trade broken down by enterprise characteristics, often implies that more cells in a table become unpublishable due to confidentiality constraints (e.g. when there are not insufficient numbers of observations in a cell). **Chapter 7** provides guidelines on this issue with specific attention on the treatment and the preferred prioritisation of secondary confidentiality; this was discussed with several of the main users of the STEC data. **Chapter 8** provides EU countries with information on data transmission, and **Chapter 9** provides a rich source of existing country experiences regarding the compilation of STEC statistics.

([6]) MSITS 2010, p.142, para 5.112

([7]) Eurostat, Riga Memorandum "Towards better measurement of the globalised world", September 24-26, 2014, available at http://ec.europa.eu/eurostat/web/ess/-/riga-memorandum-towards-global-business-statistics-

2

STEC – Scope and Definitions

This chapter provides an overview of the scope of the STEC Tables, and defines their main dimensions and variables, in order to ensure consistency and comparability of the STEC Tables across countries.

2.1. Scope

The STEC initiative covers services trade as defined in quarterly BoP and annual ITSS and the services values included in STEC should be compiled according to the Balance of Payments Manual, 6th edition, the EU regulation No. 555/2012 amending Regulation (EC) No. 184/2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment and the ECB Guideline ECB/2011/23. Both intra- and extra-EU flows are included.

The STEC compilation focuses on breaking down services trade by specific enterprise characteristics, including enterprise size class, activity (NACE) and ownership. In addition, information on total enterprise turnover and purchases is integrated to calculate measures of export and import intensity. These particular enterprise characteristics are important as: (i) they provide information regarding the nature of services´ traders in the European Union, (ii) they clear a path for integrating service trade data into the analysis of global value chains and (iii) they allow for more sophisticated economic analyses around trade in services (shedding light on issues such as services employment growth in large enterprises vs SMEs, for instance), which could be the basis for more focused and effective services-related economic policies.

While STEC in principle covers all EBOPS 2010 services items, not all services items can be broken down by enterprise characteristics due to their specific nature. These limitations mainly concern travel, parts of financial services, and government services that cannot be ascribed to single enterprises or activity sectors.

2.2. Definitions

2.2.1. Trade value

The trade value is the value of services traded between residents and non-residents at market prices. Market prices refer to the current exchange value, that is, the values at which services are exchanged or else could be exchanged for cash taking into account any rebates, refunds or other adjustments. In cases where market prices are not available (barter transactions, provision of services without a charge) or where actual exchange values may not represent market prices, market-equivalent values should be used. Also, the exchange of services between affiliated enterprises may have no market value, unlike transactions in services that take place between independent parties. In such cases the trade value should be estimated based on the costs incurred or any other values assigned by the enterprise (BPM6, 3.78).

Transactions in services are recorded on accrual basis (BPM6, 3.47); that means at the time when the services are provided, as opposed to when payments are made. This is particularly relevant for services that are supplied on a continuous basis, for example construction services, which should then also be recorded continuously for the period in which they are provided.

Also, in cases of advance payments, like for example in insurance, services should be recorded when they are rendered (not when payments are made).

In the Eurostat STEC Tables, the trade value should be expressed in thousand EUR, with one decimal.

2.2.2. Counterpart areas

Eurostat STEC data should be broken down into transactions with the following counterpart areas:

• Intra-EU (for STEC Tables 1,2,3,4)

• Extra-EU (for STEC Tables 1,2,3,4)

• World (for STEC Tables 5,6)

The distinction between Intra- and Extra-EU services flows is based on single partner country information according to the two-digit ISO-Code. Services to or from EU institutions and other international organisations are included as well.

The classification of the partner country is based on:

• the country to which services have been delivered in the accounting period (services exports), and

• the country from which services have been procured (services imports).

Because of the globalisation of business locations, the residency 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 has to be recognised.

2.2.3. Flow

The flows of imports and exports of services are requested for all STEC Tables.

2.2.4. Activity of enterprises

The following (**Table 1**) NACE Rev.2 [8] aggregations are used in STEC tables to classify the economic activity of services traders:

Table 1: NACE aggregations used in STEC Tables

NACE Divisions/Groups	Description
A-B (01-09)	Agriculture, forestry and fishing, mining and quarrying
C (10-33)	Manufacturing
D-E (35-39)	Electricity, gas, steam and air conditioning supply, water supply; sewerage, waste management and remediation activities
F (41-43)	Construction
G (45-47)	Wholesale and retail trade; repair of motor vehicles and motorcycles
H (49-53)	Transportation and storage
J (58-63)	Publishing activities, motion picture, video and television programme production, sound recording and music publishing activities, programming and broadcasting activities, telecommunications, computer programming
K (64-66)	Financial and insurance activities
M (69-75)	Legal and accounting activities, activities of head offices; management consultancy activities, architectural and engineering activities; technical testing and analysis, scientific research and development

[8] http://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

NACE Divisions/Groups	Description
N (77-82)	Administrative and support service activities
Other (I,L,O,P,Q,R,S,T,U)	This residual category includes: I-accommodation and food service activities, L-real estate activities, O-public administration and defence; compulsory social security, P-education, Q-human health and social work activities, R-arts, entertainment and recreation, S-other service activities, T-activities of households as employers, U-activities of extraterritorial organisations and bodies
Non-attributed activity	
Total	

An enterprise's activity is any activity consisting 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 [9].

2.2.5. Enterprise size class

In STEC tables, the size of an enterprise is measured in number of employees. For that purpose, the following classification shall be used (**Table 2**):

Table 2: Classification of the size of the enterprise used in STEC tables

Size category	Number of employees
Small [10]**:**	0 _49
	0_9
	10_49
Medium:	50_249
Large:	250 or more
Non-attributed size	
Total	

The number of employees is defined as the number of persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind (business register recommendation manual, p.313). A worker is considered to be a wage or salary earner of a particular unit if he/she receives a wage or salary from the unit regardless of where the work is done (in or outside the production unit).

The number of employees is a mandatory variable in the business register for each enterprise (variable 3.9a) and local unit (variable 2.10a) for EU countries. According to the European business register regulation, the intention is to use the employment situation at the end of year. However, as the end date approach is not harmonised and as the annual average gives a more precise picture of the actual employment during the whole business year, the latter indicator should be used as reference.

As the STEC statistical unit is the single enterprise (usually legal unit), it is the number of employees for each enterprise that should be reported. In the case of enterprise groups, each enterprise of the group has to be treated separately.

2.2.6. Services categories

STEC Tables break down services according to the EBOPS 2010 classification (see Table 3). In addition to the 12 main EBOPS 2010 categories, the three main sub-categories of "Other business services" (SJ) are also included in the STEC tables, namely:

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[9] This is discussed further in the Eurostat business registers recommendation manual, 2010, available at http://ec.europa.eu/eurostat/ramon/statmanuals/files/KS-32-10-216-EN-C-EN.pdf

[10] *Further additional breakdown into 0_9 and 10_49 employees is also proposed when possible*

(i) "Research and development services", (ii) "Professional and management consulting services" and (iii) "Technical, trade related and other business services".

Table 3: Services breakdown according to EBOPS 2010 used in STEC tables

EBOPS	Code	Services Items
1	SA	Manufacturing services on physical inputs owned by others
2	SB	Maintenance and repair services not included elsewhere
3	SC	Transport
4	SD	Travel
5	SE	Construction
6	SF	Insurance and pension services
7	SG	Financial services
8	SH	Charges for the use of intellectual property n.i.e.
9	SI	Telecommunications, computer, and information services
10	SJ	Other business services
10.1	*SJ1*	Research and development services
10.2	*SJ2*	Professional and management consulting services
10.3	*SJ3*	Technical, trade related and other business services
11	SK	Personal, cultural and recreational services
12	SL	Government goods and services, n.i.e.
		Non-attributed services
	TOT	Total

2.2.7. Type of ownership

As presented below in **Table 4** the STEC Tables also break down trade in services by the type of ownership of an enterprise, identifying foreign-controlled and domestically-controlled enterprises, with a (further additional) breakdown of the latter into domestic indigenous enterprises (enterprises without foreign affiliates) and domestic multinationals (enterprises with foreign affiliates).

Table 4: Types of ownership used in STEC tables

Type of ownership	Control percentages
1. Domestic	Enterprises for which foreign control is less than 50%
1.1. Domestic indigenous	Domestically controlled enterprises without foreign affiliates
1.2. Domestic multinational	Domestically controlled enterprises with at least one foreign affiliate (more than 50% control)
2. Foreign controlled MNE	Enterprises where foreign control is more than 50%
Non-attributed ownership	
Total	

A distinction of enterprises into domestically and foreign controlled enterprises is of particular interest in order to understand the role of foreign affiliates by industry by country. Furthermore, if domestically controlled enterprises with own affiliates

abroad are further distinguished from all domestically controlled enterprises; the population of multinational enterprises can be identified.

To ensure consistency across statistical domains, the categorisation of enterprises by type of ownership follows the definitions of the FATS statistics. In the FATS regulation and recommendations manual ([11]), a foreign affiliate is defined as an enterprise resident in a country which is under the control of an institutional unit not resident in the same country. Control is determined according to the concept of the 'ultimate controlling institutional unit' (UCI). The UCI is the institutional unit, proceeding up a foreign affiliate's chain of control, which is not controlled by another institutional unit.

2.2.8. Services export intensity and services import intensity

In addition to the trade in services values broken down by the different dimensions explained above, two additional variables are included in the STEC tables to enhance their analytical use and the insights that they provide on the role of different types of enterprises in the provision of services: the services export intensity and the services import intensity.

The exports intensity categorises enterprises according to the importance of foreign markets in their sales. By comparing the ratio of services exports to turnover for the same sample of enterprises' in the industry, these enterprises' engagement in selling service-based products abroad is highlighted.

Services export intensity is measured as the share of services exports in turnover. It should be calculated for each 2-digit NACE activities, 1-digit NACE activities and the Total. It is the ratio of exporters (and two-way traders' exports) to their turnover value. The calculation is made for counterpart World, with no further breakdown to Extra- and Intra-EU partners.

$$\text{Exports intensity} = \frac{\text{Exports of sample i}}{\text{Turnover of sample i}}$$

Should the export value be greater than the turnover value, the compilers are strongly encouraged to review and if necessary correct the underlying microdata to ensure that any inconsistencies in the data are removed as much as possible. If the problems remain the export intensity should be considered as 100%.

Imports intensity categorises enterprises according to the role of services sourced abroad in their procurement, offering an indication of the role of engagement in GVCs through services trade.

Import intensity refers to the ratio of services imports value to importers' (including two-way traders') purchases intensity ([12]). It should be calculated across the two-digit NACE activities, 1-digit NACE activity and Total. Again, this ratio is based on the World geography (with no further breakdown to Extra- and Intra-EU).

$$\text{Imports intensity} = \frac{\text{Imports (sample j)}}{\text{Purchases (sample j)}}$$

Should the import value be greater than the purchases value, then compilers are strongly encouraged to review and if necessary correct the underlying microdata to ensure that any inconsistencies in the data are removed as much as possible. If the problems remain the import intensity should be considered as 100%.

([11]) The FATS recommendation manual can be found on Eurostat website: http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-RA-12-016
([12]) In 2017, this indicator is reported on additional voluntary basis.

3

STEC in relation to other statistics

STEC statistics form an important part of the broader statistical agenda on measuring globalisation and GVCs. By combining data and information from various sources, STEC data are strongly related to other statistical areas in this field. This chapter describes these other statistics, including Balance of Payments, other business statistics and trade statistics, identifying the relationships between STEC and these areas and the need for consistency and complementarity of the various sources.

3.1. Annual International Trade in Service Statistics (ITSS) under the BoP framework

Annual International Trade in Service Statistics are collected under the framework of the balance of payments [13]. Balance of payments is a statistical statement that summarizes transactions of residents of an economy with non-residents during a given period, involving also those connected with the provision of services. General reference material and the legal basis for the statistical reporting requirements in the field of balance of payments at European level, international investment position and international reserves template are currently laid down in Regulation (EC) No 184/2005 of the European Parliament and of the Council, which establishes a common framework for reporting balance of payments, international trade in services and foreign direct investment data; the referred regulation has been amended in line with the new international standards (BPM6), by Commission Regulation (EU) No 555/2012, and the ECB Guideline ECB/2011/23 as amended. For trade in services between residents and non-residents, practical guidance is provided by the IMF BPM6 Compilation Guide released in 2014.

Moreover, the Manual on Statistics of International Trade in Services (MSITS 2010) sets out the statistics on international trade in services. It covers trade in services in the conventional sense of transactions (exports and imports) between residents and non-residents. In addition, it covers services delivered through enterprises that are locally established but foreign-controlled [14]. Finally, it covers also the delivery of services by individuals temporarily present abroad for the purpose of supplying a service. The definitions of residence, valuation and time of recording, and the principles of accrual accounting recommended in MSITS 2010, are the same as those in both IMF Balance of Payments and International Investment Position Manual, 6th edition (BPM6). However, the level of detail recommended in MSITS 2010 (chapter III) is greater than that of BPM6.

The detailed classification of services delivered through conventional trade between residents and non-residents is based on the Extended Balance of Payments Services (EBOPS 2010) classification which has been revised in line with existing statistical frameworks. The statistical concepts of international trade in services according to EBOPS 2010 are a very useful tool for measurement of steady rapid growth of services industries and, at the same time, provide a better overview for economic analysis, development, policy-makers decisions and trade negotiations.

In order to maximize the consistency and comparability between the annual ITSS and the STEC statistics, the STEC tables are compiled by identifying all 12 main EBOPS categories, even if it is not possible to break down all these services categories by business characteristics, due to the collection and compilation methods. For example, travel services are recorded through surveying persons, not enterprises, and as a result, it is not possible to compile characteristics of the enterprises involved as they

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[13] Please note that data on services trade are also collected on quarterly basis according to the BoP accounting framework (Regulation (EC) No 184/2005 of the European Parliament and of the Council).

[14] Services delivered through majority-owned foreign affiliates are covered by Foreign Affiliates Statistics (FATS).

remain unknown. Similarly, statistics on international trade in certain financial services (notably FISIM and margins on buying and selling transactions) are based on macro-level estimations and not directly collected from enterprises.

While the relationship between BoP and STEC is clear, with respect to the trade in services component of the BOP, it is worth noting that BoP offers a wider framework as it includes also Trade in Goods data – derived from and hence related to the STEC 'sister statistic' of merchandise TEC (see section 3.3) and also FDI (see section 3.7).

3.2. Trade by enterprise characteristics (TEC)

Trade by Enterprise Characteristics (TEC) describes the trade in goods between countries from the viewpoint of the enterprises. The main objective of TEC is to bridge two major statistical domains which have traditionally been compiled and used separately: merchandise trade statistics, which detail export and import flows of goods, and business statistics, which detail the characteristics of enterprises. It aims to complement the traditional international trade statistics by changing the viewpoint from products to traders and applying the concepts and definitions of business statistics. The aim of this new domain is to provide a view on how international merchandise trade is accounted for by enterprises involved in different kinds of business activities, of different size (small, medium, large) and different forms of ownership (foreign vs domestic, enterprises with and without foreign affiliates).

The derived statistical information benefits: a) the users of trade statistics by providing new information on traders' profile and b) the users of business statistics by providing complementary information on the trade of the enterprises. The new information is used to carry out more sophisticated kind of analysis, for instance to evaluate the role of European companies in the context of globalisation, to assess the impact of international trade on employment, production and value added, and it can be used also in combination with Trade in Value Added (TiVA) estimates to further break down the analysis of global value chains by the types of enterprises that are mostly involved and affected by globalisation. STEC and TEC are clearly related as they both describe the business and trade characteristics of traders in services and traders in goods, and are developed using similar microdata linking techniques. It is important also that by using the business register, both sources are (or should be) also consistent in their attribution of enterprise characteristics such as industry, enterprise size class and ownership to the enterprises concerned. Hence, an important future direction of work could be the development of a unique dataset that includes both goods and services traders, to obtain a full picture of enterprises involved in international trade.

3.3. Foreign Affiliate Trade Statistics (FATS)

An important element of STEC statistics is the breakdown of services trade by ownership (i.e. the identification of foreign affiliates versus domestically owned enterprises) and by the control of foreign affiliates abroad (separating domestically owned enterprises into those that are MNEs themselves, and those that are confined only to a domestic presence). This information is derived from the foreign affiliates statistics (FATS), resulting that the attribution of foreign ownership within STEC is fully consistent with FATS.

The legal basis for FATS in the EU is the European Parliament and Council Regulation (EC) No 716/2007. FATS are distinguished into "inward statistics on foreign affiliates" and "outward statistics on foreign affiliates". The former describe the activity of foreign affiliates resident in the compiling country, while the latter describe the activity of foreign affiliates abroad controlled by the compiling economy.

Inward FATS aim to assess the impact of foreign-controlled enterprises on the European economy and in particular, to measure the impact of foreign control on employment, wages and productivity. Outward FATS measure the commercial presence through affiliates in foreign markets. In particular, outward FATS data measure the turnover, number of persons employed and number of foreign affiliates controlled by EU member states.

Practical guidance is provided in the Eurostat Foreign Affiliates Statistics (FATS) Recommendations Manual. Data on inwards FATS is collected from statistical surveys, the business register and administrative sources, while data on outward FATS is collected by surveying resident enterprises.

3.4. Structural Business Statistics (SBS)

Another statistical source that is used in the development of STEC statistics, notably by providing information on turnover and purchases for the calculation of services export and import intensity, is the Structural Business Statistics (SBS). The SBS data contain also size class definitions that are also used when STEC data are compiled, ensuring that information on e.g. services trade by SMEs can be compared to other economic variables on this set of enterprises. The SBS describe the structure and evolution of the activities of businesses. SBS can be used to address various questions related to the creation of new jobs within a specific economic activity sector, the identification of a structural change, for example, a shift from industrial to services sector, the estimation of the average wage of an employee in a specific activity sector and the calculation of the productivity in a specific sector of the economy and the amount it accounts for in total profitability.

Data on SBS are collected through the business register, statistical surveys or administrative sources, and classified according to the NACE Rev 2 breakdown of economic activities. Based on Council Regulation (EC, EURATOM) No. 58/97, SBS cover the 'business economy' sector which includes industry, construction and services, while statistics on agriculture, forestry and fishing, public administration and (largely) non-market services such as education and health are not included.

On 11 March 2008, the original regulation was recast by the Regulation (EC) No. 295/2008 of the European Parliament and of the Council and the implementing Commission Regulation (EC) No. 250/2009.

The SBS Regulation consists of a number of modules including:

i)   Annual structural statistics (Annex I), specific surveys for structural statistics for enterprises in selected NACE industries or enterprises (e.g. industry, trade, and insurance, Annexes II to IX)

ii) A flexible module for the conduct of specific and limited ad hoc data collection of enterprise characteristics along with a flexible module for the conduct of specific and limited ad hoc data collection of enterprise characteristics

SBS are compiled annually for a large number of variables, such as turnover, production value, value added, wages and salaries, total purchases of goods and services, and number of employees. These statistics are broken down according to economic activity and in some cases also by enterprise size classes for each group of economic activity.

3.5. National Accounts (NA) Statistics, Supply and Use tables and TiVA

The System of National Account Statistics (2008 SNA) is an integrated system of accounts related to the economic activities and sectors of the economy of a country. It provides a definition of services and distinguishes transformation services from margin services such as transport and distribution (wholesale and retail). To capture the transactions between an economy and all others, the 2008 SNA provides what it refers to as the "rest of the world account", which it also refers to as the "external transactions account". Within this account there is an "external account of goods and services", in which trade in goods and services are separately recorded, which is fully consistent with the BoP according to BPM6. Hence, the total trade in services values that are broken down by enterprise characteristics in STEC should be also consistent with those values reported in the National Accounts.

Within the SNA, Supply and Use Tables (SUTs) provide the main framework for integrating and balancing the national supply and use of products (goods and services) by industries (intermediate use) and final use categories (consumption, gross capital formation, exports). Symmetric Input-Output tables are an analytical transformation of SUTs, and should ideally be broken down, like the Use table, into a domestic use and import use component. STEC data can be an important additional source for the compilation of national SUTs by providing insights, at the micro level, into the enterprises and industries involved in international trade in services.

National SUTs and Input-Output tables have recently obtained renewed attention in the context of measuring globalisation. Together with balanced international trade in goods and services statistics, they form the primary input for the developments of the OECD-WTO Inter-Country Input-Output table (ICIO) from which Trade in Value Added indicators are derived. These indicators measure the involvement and position of countries and industries in Global Value Chains, by breaking down the value added created by each country and industry in the production of goods and services that are traded and consumed worldwide. In collaboration with the OECD-WTO TiVA initiative, several regional organisations, including Eurostat (in its FIGARO project), Asia-Pacific Economic Cooperation (APEC) and North American Free Trade Agreement (NAFTA), are currently developing similar datasets consistent with TiVA.

By bringing together national accounts statistics and international trade (in goods and services) statistics in an international integrative framework, these efforts to better measure globalisation internationally, have also re-emphasized the need for consistency in classifications and methodologies across the various national data sources. The STEC methodology described in this Compilers Guide has been developed with the need for this consistency in mind, by ensuring that the characterisation of enterprises (such as by size, industry or foreign ownership) is the same as used across other business statistics, and by ensuring that the total trade in services values and EBOPS classifications are consistent with the BoP accounting framework (even if, for methodological reasons, this value cannot be fully attributed to individual enterprises but remains 'unknown').

In addition to contributing to 'breaking down the stovepipes' across the various national statistical outputs, STEC statistics are also an essential input for the analysis of the role of different types of enterprises (for example, SMEs and MNEs) in Global Value Chains, and for the creation of the Extended Supply and Uses Tables (ESUTs) that are necessary for such analyses. Globalisation has rapidly changed long-standing assumptions about the relative homogeneity of the production functions (expressed through Input-Output technical coefficients) of units classified to a given industrial activity. It is now clear that within an industry, enterprises of different sizes or ownership configurations differ importantly with respect to their export and import intensity, sourcing strategies, value added-to-output ratios and productivity, and hence their overall involvement in GVCs. Current industry level input-output based indicators do not adequately account for these differences, but the increased need of policy makers and analysts to better understand their country's role in GVCs means that accounting for enterprise heterogeneity in GVCs is now receiving considerable attention, as evident in the European Union via the Eurostat FIGARO initiative as well as elsewhere, by the OECD's Expert Group on Extended Supply and Use Tables.

By providing information on the role of different types of enterprises, within industries, in international trade in services, STEC statistics directly contribute to the feasibility of constructing such ESUTs, and can also be used in combination with national SUTs to provide crude estimates in those cases where national ESUTs are not (yet) available. They thereby form a foundation for improving upon the homogeneity assumptions intrinsic in national Supply-Use tables and introducing new insights into the heterogeneity of services traders.

It is important to note that enterprise heterogeneity is not the only issue that is tackled through Extended Supply and Use tables. By adding additional information on property income flows, ESUTS also allow for better accounting of the role of FDI in host economies (providing scope to address spill-over effects from foreign direct investment, and also extensions that move us from a value-added to an income view of the world). Similarly, industry level data on employment (including breakdowns by skills), business functions, Green House Gas (GHG) emissions, and capital investments, consistent with the national accounts, allows for the analysis of the impact of globalisation and GVCs on all these dimensions, including productivity. This framework of Extended SUTs essentially forms a globalisation satellite accounts, and forms the main ingredient for the development of the integrated international economic accounting framework of which the outlines are currently being developed (see e.g. the Handbook on this subject that is currently being developed by the United Nations (UN) Expert Group on International Trade and Economic Globalisation).

3.6. Foreign Direct Investment (FDI) Statistics

Foreign Direct Investment (FDI) Statistics have assumed a crucial role in the measurement of the internationalisation of economic activities. OECD Benchmark Definition of Foreign Direct Investment, Fourth Edition 2008 (BD4) provides operational guidance, within the framework of the concepts of BPM6 and as an elaboration thereof, on how FDI data should be compiled to meet internationally agreed standards.

FDI statistics are not immediately and directly related to trade in services statistics (and therefore not to STEC). However, at the same time, due to the process of globalisation and the activities of multinational enterprises, the statistical line between trade in services and FDI income is becoming increasing blurred, which distorts current measures of value added across enterprises and industries, and hampers comparability of data (see Mehigan, Borga and Fortanier, 2016 ([15]). This is most prominent in intra-MNE transactions in intangible assets (intellectual property products). The use of intangible assets of parents by affiliates should be recorded as imports of services included in the affiliate's intermediate consumption and, thus, enable the accurate measurement of the affiliate's value added. If instead, however, these flows are recorded implicitly under FDI income payments, the affiliate's value added is overstated in comparison. As such, two relatively comparable situations may result, because of their statistical treatment, in different perspectives on the scale and mechanisms of a country's or industry's integration in GVC, and the benefits that accrue from that integration. In particular, STEC statistics that break down services trade by enterprise ownership provide a first step towards better and more consistently describing the nexus between services trade, foreign investment and production.

([15]) Mehigan, Borga and Fortanier (2016) 'Integration of FDI Statistics in TiVA: Results and Data Challenges' OECD: Paris (COM/STD/WPTGS/DAF/WGIIS(2016))

4 | Data linking

This chapter outlines how ITSS statistics collected via enterprise surveys can be linked to the Statistical business register and other business statistics (or other sources for general enterprise statistics). Since the ITSS survey data generally do not contain all the necessary information needed to produce STEC statistics, such data linking is a prerequisite for developing STEC statistics in many countries.

The Statistical business register forms the main framework for data linking as it holds the information on the administrative (legal) units and on how these combine into individual enterprises.

Data is typically linked on either the legal unit or enterprise unit level, and can be very straightforward, based on either one single ID number in the different source datasets or different ID numbers but with one-to-one bridge between them. However, data linking may become more problematic if no unique or common identifier is available, if complicated enterprise structures are involved, or if the linkage exercise does not provide the expected outcomes.

This chapter concentrates primarily on cases where a unique identifier is available on both ITSS and other business statistics. However, several recommendations on how to deal with instances in which no direct linkage seems initially possible are provided in sections 4.4 and 4.5 of the chapter.

4.1. Identifying enterprises

4.1.1. Enterprises and legal units

An enterprise is defined as the smallest combination of legal units that is an organisational unit producing goods or services. An enterprise benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. It carries out one or more activities at one or more locations. [16]

As stated in the business registers recommendations manual, business registers include all enterprises engaged in economic activities contributing to the GDP and the legal units of which those enterprises consist. [17] In most cases, an enterprise is a sole legal unit, but more complex enterprises, where several legal units constitute the statistical enterprise unit, do exist up to the extremely complicated enterprise structures (see Figure 1) [18]. Statistical enterprise units are normally constructed in business registers. The method to construct enterprises from legal units varies between member states.

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[16] For further information on Enterprise definitions, refer to Council Regulation (EEC) No 696/93 available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31993R0696:EN:HTML.
[17] Business Registers recommendations manual, available: http://ec.europa.eu/eurostat/documents/3859598/5915609/KS-32-10-216-EN.PDF/398ebf46-64b6-4204-b209-f29357a341d4?version=1.0, p 11
[18] Council Regulation (EEC) No 696/93
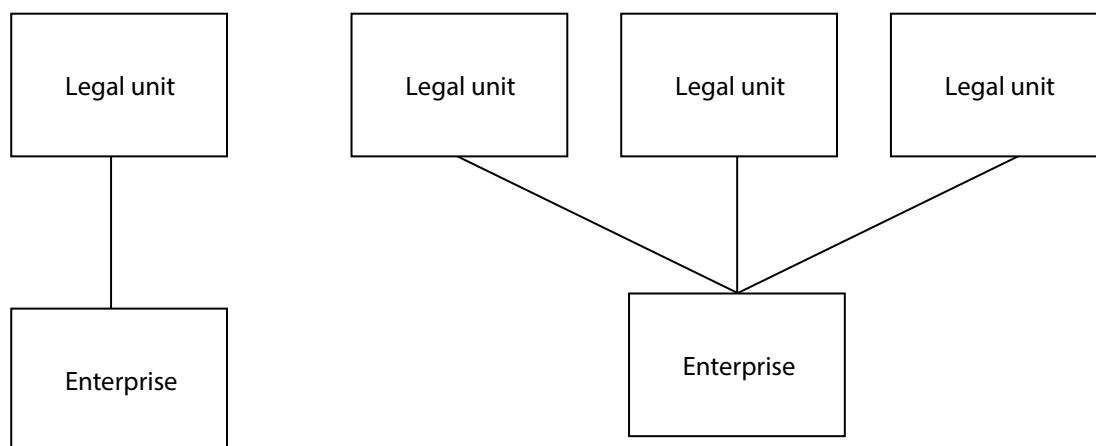
Usually business statistics are collected on the legal unit. Typically, enterprises cannot be liable to report statistics to authorities as they are not legal entities. Nevertheless, in some member states, plans exist to add reporting liability at the enterprise level. The enterprise is not only the statistical unit in the business register, but also for Structural Business statistics (SBS) and Foreign Affiliates Statistics (FATS).

In STEC, the ITSS data should be presented by enterprise characteristics, which creates the connection from ITSS to legal units as enterprises. To obtain STEC statistics, figures that are reported on a legal unit level, have to be derived to the enterprise.

4.1.2. The central role of the business register in data linking

Business registers cover as much domestic economic activity in terms of GDP proportion as possible. High quality business registers improve the efficiency of the national statistical system and help to reduce the burden on enterprises. The business register should be an authoritative source for data on business populations and demography. This implies the use of a business register as a sampling frame for all business surveys and also in other domains within the national statistical system.

In addition, business registers create a link between statistical units and administrative (legal) units and serve as a tool to integrate statistical data from different statistical authorities. The business register can therefore be regarded as the `backbone' to which other datasets can be linked, and it may serve as a population frame. All datasets containing the enterprise ID can be linked to the business register. Therefore, in addition to its traditional role as a sampling frame, the business register is expanding to also form a core support for microdata linking and analysis.

Business registers contain information which relates to the following variables ([19]):

• Identification characteristics (identity number, name, address, value added tax etc.)

• Demographic characteristics (date of commencing and cessation of activities)

• Economic/stratification characteristics (economic activity, number of employees, number of persons employed, turnover etc.)

• Characteristics associated with the control and ownership relations between units (identity number of resident legal unit, country of registration, VAT number of non-register legal unit etc.)

• Links with other registers (reference to the register of intra-Community operators, references to the balance of payments register etc.)

([19]) Compilers Guide for trade by enterprise characteristics 2014

Figure 2: The linkage of other data sources to business register
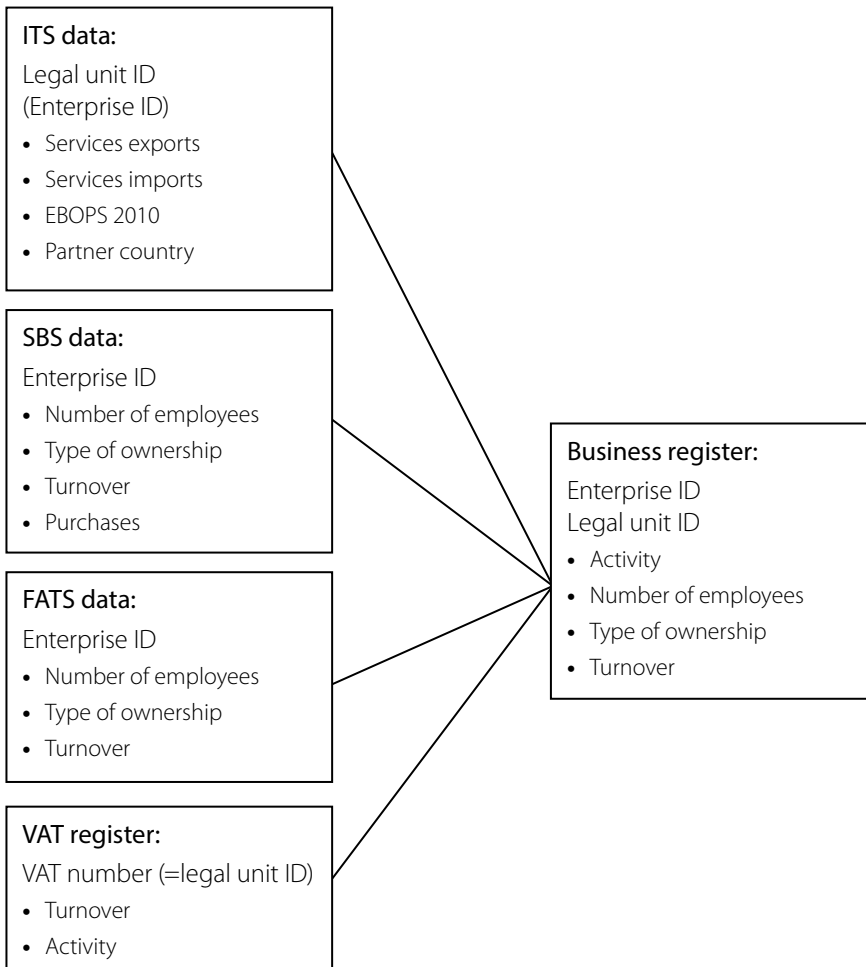
4.1.3. Preferred data sources for enterprise characteristics variables

Given its central role in statistical systems, the business register is the preferred source for several of the enterprise characteristics variables needed to produce the STEC tables, including enterprise activity and enterprise size. However, there may be individual cases where the required information is not available and secondary sources may have to be used.

For enterprise activity, VAT data may be used when this information is not available in the business register. For enterprise size class (number of employees), SBS statistics or FATS statistics may be alternative sources of information. FATS statistics are the main source for information on type of ownership, but if those data are not available, the business register may provide an alternative source.

SBS data can be considered the best quality data for turnover and purchases. If no SBS data is available for a given enterprise, then turnover from the business register should be used. If an enterprise is missing from the business register or if data is not available, then VAT data should be used instead.

There are no other identified sources for purchases than SBS. As both SBS and ITSS are typically based on sample studies, this can lead into a situation in which purchases data has many missing values.

Figure 3: STEC sources [20]
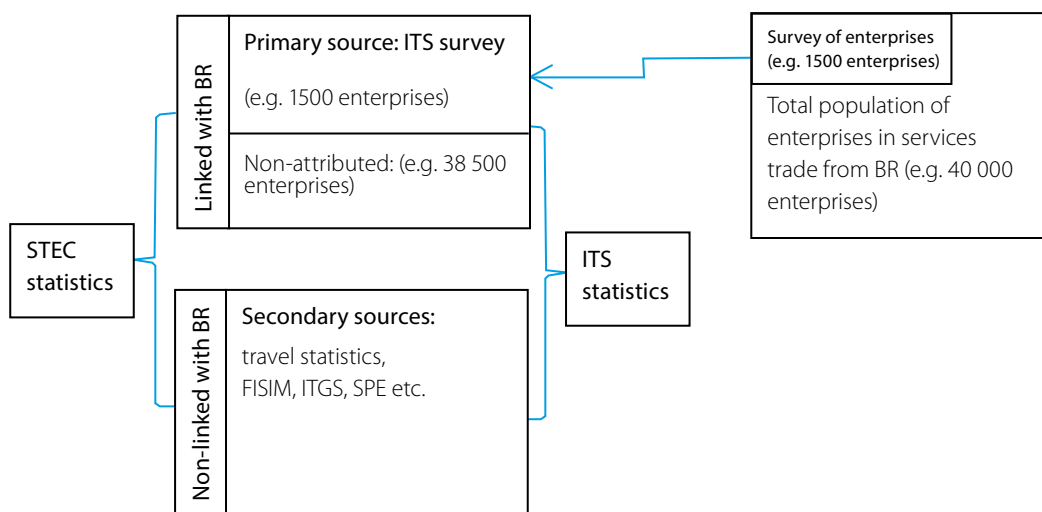
Source: Denmark, Burman, S. adjusted by Eurostat

4.2. Linking services trade collected at the enterprise level

Since the exact method of data collection for international trade in services statistics is not regulated at the EU level, but only its output, countries' data collection and compilation practices differ. It is therefore not possible to provide detailed step-by-step guidelines on how services trade statistics should be linked at the enterprise level. However, some generic pointers can be provided. This section discusses both data collected via enterprise surveys as well as via ITRS. The treatment of transactions that are not measured directly at the enterprise level (i.e. travel, FISIM) are described in detail in chapter 4.4.

4.2.1. Linking the ITSS survey

Since a country's foreign trade in services takes primarily place by resident enterprises, enterprise surveys are an important data source for statistics on this topic. The business register should include all enterprises in the economy, and it therefore should be straightforward to match the enterprises reporting to ITSS surveys with the enterprises characteristics found in the business register and in other enterprise statistics.

Several challenges may however be present within this process. First of all, mismatch may still occur between the enterprises included in ITSS surveys and in the business register. In these cases, the services trade value should be included in the non-attributed dimension for the enterprise characteristics, ensuring that the totals are consistent.

Secondly, since ITSS questionnaires traditionally [21] survey a representative sample of enterprises and then gross up the reported values to the total trade value, the share of trade that is estimated using this statistical method cannot be attributed directly to (characteristics of) the enterprises that are involved. Smart sample designs may partly mitigate this problem, for example by using stratified samples. However, including the three STEC dimensions - activity, size and type of ownership -, in addition to the existing dimensions of EBOPS 2010 and partner geographical breakdown as further stratifiers may result in a very high number of sample strata - with relatively small numbers of enterprises per cell. The larger sample sizes that would be needed may

[20] This figure presents merely one aspect of the STEC data sources landscape and although it might adequately describe the situation in some countries, it does not necessarily reflect all national approaches towards STEC data sources.

[21] Note that the exact population, sample and nature of the questions – including on geographical details – may differ across countries

not always be feasible within the given resources. In general, when planning the sample design, it is good practice to ensure that ITSS can be provided by EBOPS and by trading partner country, as these dimensions remain the key for ITSS statistics and balance of payments purposes. But ex post grossing up methods may be used for STEC purposes, as explained in more detail in chapter 4.3.

Thirdly, as in other business statistics, the enterprises that report to the ITSS survey may reflect legal units, which is not necessarily equal to the enterprise unit. This could potentially lead to partial reporting, especially for complex enterprises, when some of the legal units that are part of the enterprise group are absent in the representative sample. Compilers should assess this problem on a case-by-case basis when producing STEC tables, and could even consider to assign reported and linked trade in services values to the 'non-attributed' dimension, if a very significant share of trade is missing for a certain enterprise group, to avoid bias in the STEC tables [22].

A fourth challenge occurs in countries where cut-off sampling instead of representative (stratified) sampling is used. This leads to a situation where an ITSS survey is a census and no grossing up is performed. However, the trade for the enterprises that are below the cut-off threshold has to be estimated, and the method for doing this is not necessarily done for each enterprise, leading to the same problems as with the sample survey.

In both cases - non-linkable data due to grossing up methods or due to cut-off samples - compilers should consider using additional data sources, such as VAT data, which may provide information on turnover, trade within the EU, as well as potentially enterprise size class or industry of activity, to complement the main sources.

4.2.2. International Transactions Reporting System

The International Transactions Reporting System (ITRS) was originally an administrative system, used as a part of a foreign exchange control system. Commercial banks reported trade on behalf of their clients for statistical purposes. However, as restrictions on foreign exchange were lifted or eased, the use of ITRS was reduced.

The ITRS is fundamentally different from the survey approach to collecting trade in services data and faces important limitations in its use for statistical purposes, as explained in the Manual on Statistics on International Trade in Services 2010. For example, ITRS records the monetary flows (and not the value of the services provided), and classification errors (of the type of transaction and type of service) occur when banks report trade flows on behalf of their clients.

In addition, countries often apply a (high) reporting threshold to ease the burden on the banks requiring substantive subsequent estimations for below-threshold values. Structural misclassification of partner country information occurs for example when the nationality of the bank is used instead of the actual nationality of the trade partner involved [23].

4.3. Recommendations on the use of grossed up figures from ITSS survey

The trade in services, which is not directly reported by enterprises as mentioned in chapter 4.3 but calculated from grossing up methods, should, as a standard, be treated as non-attributed data for the compilation of the STEC tables, in line with other areas that cannot be directly linked with enterprise characteristics described in chapter 4.4.

If the grossed up trade is not included in the non-attributed dimensions, the method used to distribute the trade should be explained in the methodological section of the STEC questionnaire (see chapter 6).

However, **should the stratification of the representative sample be comparable with the dimensions of the STEC tables, it is recommended that the grossed up trade should be distributed on the comparable dimension.** The reason for this, is that the grossed up trade for a given strata represents the total trade for all the enterprises that are not a part of the sample in that strata.

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[22] In most countries conducting surveys using stratified or cut-off sample surveys, the largest enterprises of large enterprise groups will very likely be always included, so this option will likely only be used occasionally.

[23] See more about the advantages and disadvantages of ITRS for balance of payments statistics in the BPM6 compilation guide from IMF, chapter 4.69 to 4.78

Likewise, if in the production of regular trade in services statistics, grossed up figures (e.g. from VAT sources) are distributed using established methodologies (e.g. across EBOPS categories using the ITSS sample), it is recommended that these same methodologies be applied to the extent possible in the production of STEC, to ensure full comparability between STEC and ITSS.

To illustrate this last recommendation, Figure 4 provides an example of a stratification that is comparable with the dimensions in table 1 in the STEC template. In this case, the directly reported trade *and* the grossed up trade for each stratum can be identified and included in STEC Table 1.

Figure 4: Stratification example

Size	Activity			
	A	B	C	D -->
0_9	Strata1	Strata1	Strata1	...
10_49	Strata2	Strata2	Strata2	...
50_249	Strata3	Strata3	Strata3	...
250 +	Strata4	Strata4	Strata4	...

However, when the STEC dimensions do not complement the stratification (which, in the above example, may be the case for example for ownership or export intensity), it is recommended that the trade is included in the non-attributed column or row.

If the sample stratification does not complement the dimensions in the STEC tables, compilers should be very careful to distribute grossed up trade. The problem with distributing trade to enterprises, that have not reported any trade, is the lack of a perfect estimator, which is correlated with the trade in services without being correlated with the other variables used in STEC (i.e. employees, geography, ownership, activity and turnover), since the variance in the service trade would be inherited from the estimator. This is a problem, since STEC is relevant to analysing the variance in enterprises engaged in international trade in services.

The best candidate for an unbiased estimator is the international trade in services information found in the administrative data source for VAT. The VAT data give some indication of whether or not an enterprise has been engaged in international trade in services, even if the methodological differences between the definition of international trade in services in VAT and ITSS can be quite substantial.

4.4. Potentially un-linkable service trade flows

The main principle of STEC is to fully break down a country's foreign trade in services by enterprise characteristics, as described in paragraph 4.2 and 4.3. However, due to the nature of some services categories, and the way in which trade in services statistics are compiled, not all parts of services trade can be linked to the business register to provide such breakdowns. One example is *Travel,* which is based on a survey of persons and discussed further in Section 4.4.1. In addition, for certain Financial services categories, part of the total services value is based on estimations that cannot be allocated to individual enterprises (elaborated in section 4.4.2). Also trade by Special Purpose Entities (SPEs) is sometimes difficult to link to the business register (see section 4.5.3).

Finally, there are also practical reasons (for example, a mismatch between the entities in the business register and in the trade in services survey) that imply that the value of international trade in services cannot be attributed to an enterprise with certain characteristics.

In constructing STEC tables, all of these part of services trade that is not directly linkable should be included in the non-attributed or non-linked dimension for the enterprise characteristics, to ensure that the totals are 100 % consistent with national Balance of Payments data.

If the discrepancy is based on the trade values that are collected directly from the enterprises, then it should be in the non-attributed trade, but if it is estimated based on other sources, it should be under non-linked services (other). The distinction between whether it should be recorded as non-linked or non-attributed is explained in more detail in the following sections.

4.4.1. Travel services

The statistical unit for which travel services are collected are individual consumers or households, and not enterprises. For example, in the Netherlands, the import value of travel (namely, the expenditure of Dutch residents abroad) is based on the results of the Continuous Holiday Survey (CVO) conducted by NBTC-NIPO Research. The export value of travel (= spending's by foreign travellers who visit the Netherlands) is based on sample data from Accommodation Statistics (SLA) and price indices regarding the consumption of foreigners in the Netherlands. Also for "travel for health or education purposes services" household surveys are often used.

The task force on STEC recommends that travel services should be reported as non-linked trade (travel) for all the tables that does not have EBOPS2010 as a dimension. For the tables that have the EBOPS 2010 dimension, the travel services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of travel services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.2. Financial services (FISIM)

To compile data on trade in financial services, in addition to the data obtained from the observed sources, also data based on specific calculations are used. This applies to buying and selling spreads, and FISIM (Financial Intermediation Services Indirectly Measured). Because these are based on macro level estimations and not on directly reported data, these statistics cannot be linked to individual enterprises and can therefore also not be broken down by enterprise characteristics.

The task force on STEC agreed that FISIM services should be reported as non-linked trade (financial) for all tables that do not include the EBOPS 2010 classification. For the tables that include the EBOPS 2010 dimension, the FISIM services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of FISIM services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.3. Special purpose entities (SPE)

Special Purpose Entities (SPEs) are mainly financial holding companies, foreign-owned, and principally engaged in cross border financial transactions, with no or negligible local activity in the country of residence. Due to the nature and purpose of the SPE activities, it is not informative to try to identify patterns in specific enterprise characteristics of SPEs. They tend to show large volumes of cross-border (financial) transactions, have no or only a few employees and also tend to be foreign owned. In the case of the Netherlands, for example, Statistics Netherlands receives data on SPEs through the Dutch Central Bank and there is a formal agreement not to include SPEs in the business register (even if there is a register of SPEs at the Dutch Central Bank).

The task force on STEC agreed that SPE services should be reported as non-linked trade (other) under for all tables that do not have EBOPS2010 as a dimension. For the tables that have the EBOPS2010 dimension, the SPE services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of SPE services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.4. The CIF/FOB adjustment of freight transport services

Often, International Merchandise Trade Statistics (more particular, the CIF-FOB margin) are used to estimate international freight transport statistics and freight insurance. The method of deriving the freight transport adjustment varies between the member states, but a common problem is a lack of information in the statistics on international merchandise trade on the type of enterprise responsible for the provision of the distribution services. This means that these estimates cannot be broken down by individual types of enterprises.

The task force on STEC agreed that the CIF/FOB adjustment of transport services should be reported as non-linked trade (other) for all the tables that do not includes the EBOPS 2010 classification. For the tables that include the EBOPS 2010 dimension, the CIF/FOB adjustment of transport services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of the CIF/FOB adjustment of transport services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.5. Government services

Statistics on "Government goods and services, not included elsewhere" are generally compiled from data from government institutions and supplemented with information from secondary sources regarding transactions of international organisations, embassies, consulates, military units and defence agencies. They are classified according to the transactor involved (government) and cannot be attributed to individual enterprises in the business register. It should be noted that this category does not include international trade in services by government-owned enterprises (that are included in the business register).

The task force on STEC agreed that for compiling figures on government services, n.i.e. inter alia, should be reported as non-linked trade (other) for all the tables that do not include the EBOPS 2010 classification. For the tables that include the EBOPS 2010 dimension, the government services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of government services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.6. Trade by households

With the exception of travel services, which are collected via household statistics (see 4.4.1), all other trade involving households should be listed under Trade by Households. Services trade could also be described as being of a "Business to Consumer" (B2C) nature. Again the statistical unit is the individual and not the enterprise. For all EBOPS 2010 items (excluding travel) the figures for households are missing (especially direct imports of services by internet). Also features of the international 'sharing economy' could be listed here, such as AirBnB, home exchange, and car- and other equipment share schemes. The total value may still be small, but it is expected that this will continue to grow in the future (as travel did over the past 50 years). In the near future, countries' statistical offices may have primary or secondary data of individuals buying and selling services by means of cross-border internet enterprises or cloud services.

The task force on STEC agreed that for compiling figures on B2C, international trade in services should be reported as non-linked trade (other) under for all the tables that does not include the EBOPS 2010 classification. For the tables that include the EBOPS 2010 dimension, the B2C services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment of B2C services, they should explain the method used in the methodological sheet of the STEC Tables.

4.4.7. Illegal, non-market and non-observed transactions

The import and export of services can take different forms: market and non-market; observed and non-observed; legal and illegal. According to the international standards, it is recommended that hidden and illegal productive service activities should be accounted for in the BoP. An increasing number of countries are able to compile estimates of illegal activities, but again, it is difficult to attribute this to a relevant statistical unit.

The task force on STEC agreed that for compiling figures on non-market, non-observed, and illegal international services, these should be reported as non-linked trade (other) for all the tables that does not include EBOPS2010 classification. For the tables that include the EBOPS 2010 dimension, the relevant services should be reported as non-attributed trade for the other dimensions.

If a member state deviates from the recommended treatment, they should explain the method used in the methodological sheet of the STEC template.

4.4.8. Other non-linkable services

If other non-linkable services trade transactions are encountered by compilers, it is recommended that the reason for non-linking is explained in the methodological sheet of the STEC template, and that the values of the non-linkable trade transactions are included under non-linked trade (other) for all the tables.

5 Strategies for selected common challenges

In the compilation of STEC statistics, several challenges commonly occur, such as dealing with large and complex businesses, or with missing data. This chapter provides strategies to handling these, and thereby helps to ensure that STEC figures are consistent across the countries. It is anticipated that as the STEC compilation experience among countries grows, additional challenges (and solutions) will be identified, which can be addressed in updated editions of this Compilers Guide.

5.1. Large and complex businesses and demographic events

Large and complex business enterprises can be difficult to manage and maintain in business registers. In many cases, single enterprises may consist of multiple legal units, while enterprise groups, in turn, consist of multiple enterprises [24]. Large enterprise groups tend to have complex legal structures and they need to be systematically monitored in order to keep track of changes in the statistical units of which they consist, as a result of enterprise births, deaths or closures, changes within an enterprise group, mergers, acquisitions/take-overs, break-ups and split-offs. Published information for the group or direct contact with the group head or decision centre can be useful sources of information for this purpose.

Some treatments to address these changes are outlined below:

- An enterprise birth is represented by creating a new identity number and a death by marking the enterprise as dead or inactive.

- Changes within an enterprise group may be due to a change of group head (controlling unit) or other types of group restructuring.

- In the event of a merger, all the identity numbers of the enterprise group existing prior to the event are ceased and new identity numbers are created for the emerging enterprise group.

- In the event of an acquisition\takeover, the enterprise group that takes over the other group(s) retains its identity number, so no creation takes place. The enterprise groups that have been taken over are marked as ceased.

- In the event of a break-up, identity numbers are created for all the enterprise groups existing after the event and the identity number of the original group is marked as ceased.

- In the event of a split-off, a new identity number is assigned to the split-off enterprise group(s).

It is vital for compiling STEC statistics that the correct enterprise characteristics are attributed to services trade transactions. To avoid errors and inconsistencies, it is good practice to ensure that structural changes are recorded simultaneously in both the business register and in the ITSS survey samples.

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[24] This term is defined in the statistical units Regulation, Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community.

5.2. Administrative units versus statistical units

While often a very useful and exhaustive source of information, administrative data, including for example VAT data in the case of trade in services, corresponds to information that is not primarily collected for statistical purposes. The units covered in these sources may therefore not correspond with the legal, let alone statistical, units that are recorded in the Statistical business registers. In such circumstances, it may be difficult to match the two sources and to assign enterprise characteristics from the SBR to the administrative sources of services transactions.

In particular differences in the timeliness and updating procedures of administrative data, survey data, and the business register can lead to coverage issues and data quality problems. For example, there is generally some lag between the occurrence of (e.g. demographic) an event and its recording in administrative source. Similarly, it takes time before administrative data become available for inclusion in the business register.

5.3. Consolidated returns

Enterprise groups and their enterprises are usually managed separately in both the trade in services survey and the Statistical business register. However in some instances, Trade in Services surveys are returned – even when sent out explicitly to an individual enterprise – with results provided in a consolidated format for an enterprise group. The linking of such consolidated enterprise group data to a single enterprise unit can cause important measurement errors, in particular with respect to the attribution of enterprise size class and of industry classifications. It is therefore important that such cases are identified and adjusted accordingly.

5.4. Missing statistical business register data

The required information relating to employment (to characterize enterprise size class) or turnover (to calculate export intensity) may not always be available on the statistical business register. This means that, even if the linking procedure between Trade in Services surveys and the statistical business register is successful, some of the required data may be missing. In such cases it is good practice to investigate additional alternative data sources to complete the information.

5.5. Treatment of non-response and non-coverage data

Data estimates for non-response (pure estimation) and non-coverage (due to survey) which are entered directly at an enterprise level can be used like the real collected data. By using enterprise identifiers, the registers can successfully link to these estimates. However, if the non-response or non-coverage estimates are not allocated directly to an enterprise, they will be un-linkable and should therefore be classified as unknown or not attributed.

6 The STEC tables

This chapter describes the STEC data collection template in detail, and provides guidelines on how to fill out the survey correctly. [25]

6.1. Overview of the STEC tables

The STEC questionnaire is developed in Excel and consists of six tables which provide information on trade in services according to predetermined breakdowns, i.e. each table refers to certain enterprise characteristics (e.g. activity, size and ownership). All STEC tables refer to the trade value broken down by the different classifications, in thousands of EUR.

6.1.1. Methodological page

The first sheet in the Excel file forms the **methodological page** of the STEC questionnaire contains space for compilers to detail the methodological process that was followed to compile the STEC data and to fill out the questionnaire.

In the methodological page, the population frame and sample design of the trade in services survey should be described in both numbers of enterprises and services trade value, as depicted below in Table 5.

Table 5: Population frame and sample design description in methodological page of STEC questionnaire

	number of enterprises	value, 1000EUR
population of services' traders		
sample size for the survey		
coverage in %		

Moreover, the sampling method that is used in the ITSS survey (and hence for STEC) should be further described (Table 6).

Table 6: Sampling method in methodological page of STEC questionnaire

stratified
systematic
quota
cluster
Bernoulli sampling
Poisson sampling

---

[25] The other option to compile the STEC data is using the STEC simplified approach methodology, which excludes travel, FISIM and other non-linked part from the STEC data tables. There, the STEC data includes only the services values, without the accounting element in services trade. Simplified Approach STEC table templates are available in Eurostat.

Finally, the sample design should be further specified by enterprise size class. For example if the stratified sample has been used, compilers should specify how many enterprises have been included in the subpopulations or stratas. This could be for example (Table 7):

Table 7: Stratified sample design specification in terms of enterprise size class in the methodological page of STEC questionnaire

large	*90% included in the sample*
medium	*60% included in the sample*
small	*20% included in the sample*

Importantly, any deviations from the agreed methodological approach as described in the present STEC Compilers Guide should be also reported in the methodological page of the STEC questionnaire.

6.1.2. STEC Table 1 ([26]) – Enterprise size class and NACE activity

STEC Table 1 classifies trade in services by **enterprise size class** (number of employees) **and NACE activity**. This table aims to show the contribution of the various economic activities to total trade and the importance of the size of an enterprise (in terms of number of employees) in cross-border trade in services. The information can be used to analyse the importance of small and medium-sized enterprises in international trade. In addition to world totals, details are asked about Intra-EU and Extra-EU trade flows.

If either the number of employees or the activity code is missing, the associated trade values should be included in the non-attributed size category or non-attributed activity category.

Non-linked travel, financial and other services should be included with a separate 'total' cells in non-EBOPS tables.

6.1.3. STEC Table 2 ([27]) – Service item and NACE activity

STEC Table 2 classifies trade in services by service item and NACE activity. The presentation comprises of the main service categories according to EBOPS 2010 classification which are also captured in the quarterly Balance of Payments. It allocates service exports and imports to the activity of the trading enterprise.

The table aims to show which sectors of the economy were involved in the trade of each service item. In addition to world totals, compilers are asked to provide details for Intra-EU and Extra-EU trade flows.

If the EBOPS 2010 code or the activity code are missing, the associated trade values should be included in the non-attributed services category or non-attributed activity category.

6.1.4. STEC Table 3 ([28]) – NACE activity and type of ownership

Table 3 classifies trade in services by enterprise's **main NACE activity and type of ownership**. This table aims to show the contribution of economic activities as well as the different types of ownership to total trade. It can be used to analyse the impact of globalisation on international trade in services and to estimate the importance of multinational enterprises for total trade.

In addition to World Totals, details are asked about Intra-EU and Extra-EU trade flows. If either the type of ownership or the activity code is missing, the associated trade valued should be included in the non-attributed ownership category or non-attributed activity category.

Non-linked travel, financial and other services should be included with separate total cells.

([26]) STEC Table 1 includes sub-tables 1.1 to 1.6, imports and exports of services with intra- and extra- EU and world totals respectively

([27]) STEC Table 2 includes sub-tables 2.1 to 2.6, imports and exports of services with intra-, extra-EU and world totals respectively

([28]) STEC Table 3 includes sub-tables 3.1 to 3.6, imports and exports of services with intra- and extra- EU and world totals respectively

6.1.5. STEC Table 4 (²⁹) – NACE activity and exports and imports intensity

Table 4 classifies total trade in services by **detailed main activity** (NACE 2-digit codes) and includes an estimation of **exports and imports intensity** for world totals (see section "Exports intensity" and "Imports intensity").

This table shows the importance of foreign markets, measured in terms of ratio of exports with turnover. It gives insights in the heterogeneity of enterprises by categorising all trading enterprises into more foreign market oriented (with high exports intensity) and more domestic market intensive (with lower exports intensity). For total export and import values also a presentation by Intra- and Extra-EU is included.

If the activity code is missing, the associated trade values should be included in the non-attributed activity category. Non-linked travel, financial and other services should be included with separate total cells.

6.1.6. STEC Table 5 (³⁰) – Service item and enterprise size class

Table 5 classifies trade in services by service item and enterprise size class (number of employees) and thereby shows the importance of the role of enterprise size (in terms of number of employees) for exports and imports of the various services items according to the main categories laid down in EBOPS 2010.

If either the EBOPS 2010 code or the number of employees is missing, the associated trade value should be included in non-attributed services category or non-attributed size category.

6.1.7. STEC Table 6 (³¹) – Service item and type of ownership

Table 6 classifies trade in services by service item and type of ownership. This table aims to show the contribution the different types of enterprises as characterised by the type of ownership to cross-border trade in different services categories, and thereby illustrates the role of MNEs in trade of different services categories. If the EBOPS 2010 code or the type of ownership is missing, the associated trade values should be included in non-attributed services category or non-attributed ownership category.

6.2. Additional remarks for filling out the STEC tables

6.2.1. Cells with zero trade

Cells with zero trade should be recorded as "0".

6.2.2. Confidential cells

Cells with confidential trade should be recorded as "empty cell".

(²⁹) STEC Table 4 includes sub-tables 4.1 to 4.6, imports and exports of services with intra- and extra- EU and world totals respectively

(³⁰) STEC Table 5 includes sub-tables 5.5 and 5.6, imports and exports of services with world totals respectively

(³¹) STEC Table 6 includes sub-tables 6.5 and 6.6, imports and exports of services with world totals respectively

6.3. STEC Data reporting

6.3.1. Excel template for STEC Tables

An Excel template is available, where each table with one counterpart is represented on a separate sheet. In addition, there is the Excel flat file, where each table with all counterparts is on the same sheet.

6.3.2. SAS database solution

Eurostat treats all the STEC tables' data by SAS Enterprise Guide. The flat file has been downloaded from SAS, so the names of the variables are of database format.

6.4. STEC data validation

6.4.1. STEC Data validation at national level

Standard data validation should be performed by the country, in order to secure consistency within and among the tables.

6.4.2. STEC data validation at Eurostat

The integrity rules for validation have been applied to the Excel-format tables by Eurostat. After the transmission of the national STEC datasets to Eurostat, the following steps are followed in order to check for data coherence.

- All STEC tables in Excel format are checked firstly with the applied validation rules, (there are no validation rules in the flat file, so the final validation for flat files is done by Eurostat).

- The result of the checking between tables is shown in the separate sheet of the Excel template, named as "Validation sheet". If any of the validation rules is violated, an error message is shown.

- Total trade values are compared to those of Eurostat's annual ITSS reference database to check consistency with the annual services trade total values.

- There is no cross-checking validation across the geographical breakdown. If errors or inconsistencies are detected, Eurostat contacts the countries for clarifications or modifications.

7 Confidentiality

Regulation (EC) No 223/2009 of the European Parliament and of the Council stipulates the main principles and provisions for receiving, processing and disseminating the confidential data. According to article 3 of this Regulation, confidential data is defined as "data which allow statistical units to be identified, either directly or indirectly, thereby disclosing individual information. To determine whether a statistical unit is identifiable, account shall be taken of all relevant means that might reasonably be used by a third party to identify the statistical unit".

Article 2 of the same Regulation refers to the "statistical confidentiality" as the protection of confidential data related to single statistical units which are obtained directly for statistical purposes or indirectly from administrative or other sources and implying the prohibition of use for non-statistical purposes of the data obtained and of their unlawful disclosure.

The legal provisions define only the principle to be applied. The application of **confidentiality in practice is under the responsibility of the country**. Each country should establish the rules to define confidential data.

7.1. Primary confidentiality rules

Among the STEC task force members, three different types of primary confidentiality rules were applied:

- The frequency rule (less than three or for enterprises in one cell)

- The dominance rule (one enterprise with no more of 80% of the value, or two enterprises that have 85-90% of the value)

- The percentage rule (not further described)

It is the member states' responsibility to mark their data as confidential before their transmission of data. As mentioned in chapter 6, confidential data should be clearly marked. In the data inserted into data collection Template (excel or flat file), confidential cells should be recorded as empty cells.

7.2. Data priority when performing secondary confidentiality

The application of secondary confidentiality ensures that confidential data are not unintentionally revealed, for example when only a single cell under an aggregate value is marked as confidential. At the same time, care should be taken in the application of secondary confidentiality to minimise the loss of information and thereby also the usefulness of the statistics overall.

Member states should therefore follow a number of **practical recommendations** in order to ensure a minimum loss of information due to secondary confidentiality when disclosing data:

1. Cells with a value of zero should not be flagged as confidential

2. The value of the flagged cells should be as low as possible

3. Unknown (non-linked/non-attributed) cells should not be flagged as confidential

4. Cells with aggregates/sums should only be flagged as confidential to secure the disclosure of another aggregates/sums

5. When unintentional disclosure of information in one STEC table is made possible with the help of other STEC tables, the priority of tables has been decided to be as following:

   a. Tables with geographical distributed figures should be flagged before figures with total trade (i.e. Table 2.5 and 2.6 have priority over 2.1, 2-2, 2.3 and 2.4)

   b. Tables with detailed information on activity should be flagged before tables with aggregate activity dimensions (i.e. table 1 to 3 have priority over table 4).

7.2.1. Applying confidentiality in the STEC tables – some examples

To illustrate how the practical recommendations provided above work in practice, several numerical examples are provided below.

Recommendation 1

Recommendation 1 indicates that countries should only flag an aggregate/sum in order to secure the disclosure of another aggregate/sum flagged by the primary confidentiality procedure. This means that countries should flag detailed cells instead of aggregates, even though this may lead to more flagged cells, as illustrated in figure 5 for STEC Table 2.1.

Figure 5: Example of confidentiality for STEC Table 2.1

Table 2.1: Trade value by service item and activity sector															
Exports (Intra EU Trade)			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity	Non-attributed activity	TOT
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SA	Manuf serv on physical inputs owned by others	10	35	30	40	50	60	70	80	90	100	0	0	565
	SB	Maintenance and repair service n.i.e.	10	5	30	120	50	60	70	80	90	100	0	0	615
	SC	Transport	20	0	60	40	100	120	0	160	180	200	0	0	880
	SD	Travel	10	0	30	40	50	60	0	80	90	100	0	0	460
	SE	Construction	10	0	30	40	50	60	60	80	90	100	0	0	520
	SF	Insurance and pension services	10	10	30	40	50	60	0	80	90	100	0	0	510
	SG	Financial services	20	150	60	80	100	120	500	160	180	200	20	0	1510
	SH	Charges for the use of intellectual property n.i.e.	10	0	30	0	50	60	0	80	90	100	1180	0	1640
	TOT	TOTAL *	100	200	300	400	500	600	700	800	900	1000	1200	0	6700
		Primary confidentiality													
		Secondary confidentiality with the lease cells flagged													
		Recomended secondary confidentiality in order to avoid flagging aggregates													

(EBOPS 2010)

Recommendation 2

Recommendation 2 indicates that countries should flag data in the tables with geographical details before confidentialising statistics related to total trade. This means that the tables with trade with partner World, (i.e. tables 2.5 and 2.6) should be avoided when performing secondary confidentiality if the flagging can be done on the geographical distributed tables (i.e. table 2.1, 2.2, 2.3 and 2.4). In the simplified example in Figure 6, the secondary confidentiality should therefore be applied to the value '100' in table 2.1 and not tot the total of '120' in table 2.5.

Figure 6: Example of confidentiality for STEC Tables 2.1, 2.2 and 2.3

Table 2.1: Trade value by service item and activity sector

EBOPI		Exports (Intra EU Trade)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.						100,00							

Table 2.3: Trade value by service item and activity sector

EBOPI		Exports (Extra EU)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.						20,00							

Table 2.5: Trade value by service item and activity sector

EBOPI		Exports (Intra+Extra EU)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.						120,00							

The tables should therefore be transmitted as depicted in Figure 8.

Figure 7: Example of confidentiality for STEC Tables 2.1, 2.2 and 2.3

Table 2.1: Trade value by service item and activity sector

EBOPI		Exports (Intra EU Trade)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.													

Table 2.3: Trade value by service item and activity sector

EBOPI		Exports (Extra EU)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.													

Table 2.5: Trade value by service item and activity sector

EBOPI		Exports (Intra+Extra EU)		NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SH	Charges for the use of intellectual property n.i.e.						120,00							

Recommendation 3

Recommendation 3 indicates that countries should flag STEC Table 4 with the detailed information on activity before Tables 1 to 3, which have a more aggregated activity dimension. For example, assuming that in STEC Table 4.5 the value of NACE industry 38 is confidential and the other values under NACE chapters D and E are as indicated in figure 10, the combination of Table 4.5 with Table 2.5 could result in unintentional disclosure of the confidential cell.

Figure 8: Example of confidentiality for STEC Table 4.5

Table 4.5: Trade value by service item and activity sector			
Total Exports (Intra + Extra)			
	NACE Rev. 2	**Trade value**	**Exports intensity (exports ratio to turnover; based on sample linked with turnover), %**
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply	50,00	
E	**WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES**		
36	Water collection, treatment and supply	0,00	
37	Sewerage	0,00	
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services	0,00	

Figure 9: Example of confidentiality for STEC Table 2.5

Table 2.5: Trade value by service item and activity sector														
Exports (Intra+Extra EU)				**NACE activity**									**Non-attributed activity**	**TOT**
			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	**ITEM**	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
	SA	Manuf serv on physical inputs owned by others													
	SB	Maintenance and repair service n.i.e.													
	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
EBOPS 2010	**SH**	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information serv													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	Professional and management consulting services													
	SJ3	Technical, trade related and other business services			60,00											
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	**TOTAL ***			60,00											

In such cases, the STEC task force recommends that the cells in STEC Table 4.5 for NACE Code 35 is marked as confidential, to keep the information on total trade by service item.

The final tables to be transmitted should therefore be as given in Figure 10 and Figure 11.

Figure 10: Example of confidentiality for STEC Table 4.5

Table 4.5: Trade value by service item and activity sector Total Exports (Intra + Extra)		Trade value	Exports intensity (exports ratio to turnover; based on sample linked with turnover), %
	NACE Rev. 2	**Trade value**	**Exports intensity (exports ratio to turnover; based on sample linked with turnover), %**
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply		
E	**WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES**		
36	Water collection, treatment and supply	0,00	
37	Sewerage	0,00	
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services	0,00	

Figure 11: Example of confidentiality for table 2.6

Table 2.5: Trade value by service item and activity sector			NACE activity										Non-attributed activity	TOT
Exports (Intra+Extra EU)			A-B	C	D-E	F	G	H	J	K	M	N	OTH Activity		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
EBOPS 2010	SA	Manuf serv on physical inputs owned by others													
	SB	Maintenance and repair service n.i.e.													
	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information serv													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	Professional and management consulting services													
	SJ3	Technical, trade related and other business services			60,00										
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL *			60,00										

8 Data transmission to Eurostat, treatment and dissemination

8.1. Transmission

Member states are requested to provide data either by using the excel templates Eurostat or the SAS flat files provided by Eurostat.( ) Eurostat encourages member states to use the SAS flat file format.

8.2. STEC data treatment

Data should be harmonised, as much as possible, with the established rules. This guarantees the dissemination of comparable statistics.

8.3. STEC data dissemination

STEC statistics are disseminated by Eurostat by means of presentations, analytical articles and papers, and, upon prior agreement with the member states, by sharing the indicators with stakeholders involved (DG Trade, OECD and Eurostat).

Member states should remove the confidential cells before sending the STEC tables to Eurostat.

On the Eurostat webpage, a special STEC domain has been created under International Trade in Services Statistics (International trade/ International trade in services statistics). This STEC Compilers Guide is also available on this page.

Other examples of recent STEC dissemination activities by Eurostat involve the publication of a Wiki-type "Statistics Explained" article entitled "Services trade by enterprise characteristics - STEC", based on a pilot survey involving several EU countries Eurostat consulted the participating countries before disseminating the results publicly.

Eurostat continues to publish the STEC data as experimental data, thereby supporting a variety of economic analyses (input-output tables, TIVA analysis, global value chains, globalisation indicators).

8.3.1. Analysing STEC data: issue of the non-matching data

An important challenge in disseminating the STEC data relates to the 'non-matching' part of trade in services. As illustrated in Figure 12, this can be substantial, ranging from 15% in Denmark to 70% in Luxembourg (for 2011) and it clearly hinders the comparability of data across countries.

Figure 12: Total services exports by enterprise size class, by countries, 2011
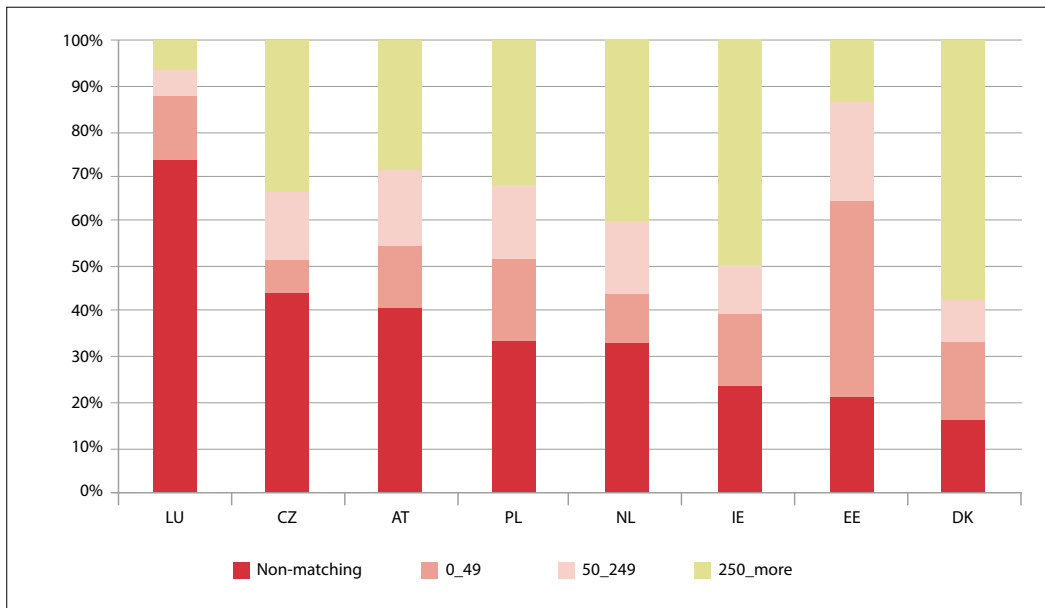
Users may have different preferences regarding the best way to deal with non-matching data - either by fully removing the non-linked data, or by proportionally distributing it across other categories, depending on their analytical needs.

Clearly, reducing the amount of non-matched trade as much as possible should be an important priority for compilers. But in the dissemination of STEC data it should be made clear that due to methodological reasons, not all services trade can be characterised by the type of enterprise involved. The STEC questionnaire is designed to make this more explicit by differentiating between the inherently non-linked part due to travel or FISIM, and non-linked data due to the absence of data/sources.

9 | Country experiences

(Texts below have been provided by the countries. Notice that strong attempts have not been made for harmonising terminology, expressions or concepts in Chapter 9 which therefore may vary between the countries and from the other chapters.)

9.1. Austria

9.1.1. Data Sources

International trade in services survey

In Austria, the Oesterreichische Nationalbank (OeNB) is responsible for compiling and disseminating information on trade in services between residents and non-residents. Since 2006, trade in services statistics have been compiled by taking samples from enterprises, institutional investors and banks (not including households). To keep the costs of data collection low and make utmost use of existing data, the OeNB works in close cooperation with Statistics Austria such that the OeNB concentrates on the financial sector while Statistics Austria focuses on the real economy. Besides methodology, the OeNB remains responsible for consolidating the different reports and disseminating trade in services data. The reporting obligation is laid down in the Foreign Exchange Law 2004. It gives the OeNB the right to access other statistical data (e.g. foreign trade statistics, structural business survey) as well as administrative data sources (e.g. registers, tax records). Detailed reporting requirements may be published by the OeNB in the form of regulations.

On behalf of the OeNB, Statistics Austria compiles quarterly data on services exports and imports from non-financial corporations classified under sections B to J, L to N, P to S, as well as group 64.2 and division 66 of the Austrian Statistical Classification of Economic Activities (ÖNACE 2008), excluding agriculture, forestry, banks, insurance companies, the public sector and non-profit organisations. The survey covers information on single partner countries and all business activities according to the Extended Balance of Payments Services Classification (EBOPS), except for travel. According to the implicit Mode of Supply (Mode 2), travel is captured separately, making use of different primary and secondary data sources. The definitions of the individual services are specified in the Appendix to the present Regulation are contained in Annex II of Regulation (EU) No. 555/2012 amending Regulation (EC) No. 184/2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment. Corresponding definitions are also included in the ECB's Guideline of 9 December 2011 on the statistical reporting requirements of the European Central Bank in the field of external statistics (ECB/2011/23).

The survey design for the nonfinancial sector is a stratified corporate sample within the scope of the Structural Business Survey (SBS). For the first time in 2003 - and afterwards every 5 years -, Statistics Austria extended the SBS on commission of the OeNB to perform a survey on services exports and imports in the enterprise sector with the aim to identify the total population of enterprises engaged in Trade in Services. In 2003, the SBS covered approximately 32,000 out of 266,000 business units in Austria according to their size of turnover and number of employees, excluding financial corporations, public and private services. Former settlement data were used for unit-non-response while estimates of remaining reporting deficits and values below survey thresholds were imputed. To this end, service exports and imports were stratified by industries and size according to turnover. The so calculated median values were applied to non-reporting enterprises. Robust regression was used to estimate service exports and imports at values below thresholds, calculating exports and imports as a function of turnover.

Conducting a distribution analysis of the basic survey results with the aim to establish the data precision and the quality of the regular enterprise survey, the OeNB decided for a cover rate of at least 90% of service exports and imports in every two-digit division according to ÖNACE. As a consequence, approximately 4,800 non-financial enterprises were selected to be surveyed regularly. The threshold for the reporting obligation was primarily set at EUR 200,000 for both service exports and imports during a given calendar year or EUR 50,000 respectively to reach the coverage of 90% of the concentration sample in every industrial sector. In 2012, the reporting threshold was raised to EUR 500,000 after administrative data sources have become available within the European Union (Value added Tax Information Exchange System according to Council Directive 2008/8/EC of 12 February 2008 amending Directive 2006/112/EC as regards the place of supply of services). Estimation for unit-non response and business units below thresholds follows the principles described above.

Besides information from public institutions on cross-border government services (Austrian Development Agency, Federal Ministry of Finance, Austrian Foreign Ministry, Austrian Chamber of Commerce) the general enterprise survey is supplemented by a separate compilation among 120 non-profit organisations. Information is gathered on aid deliveries (goods) and aid payments (current transfers) as well as international aid services such as education and health services. Further on data on cross-border agricultural and forestry services in the business sector are gained from annual wood harvest statistics.

The OeNB conducts the surveys among the financial sector, mainly banks and insurance companies, which relate to divisions 64 and 65 of ÖNACE 2008. The report on service exports and imports by Austrian banks as well as imports by insurance companies mirrors the enterprise report run by Statistics Austria and covers all EBOPS items. In addition, the OeNB makes use of administrative data from the Financial Market Authority (FMA) on insurance service exports in particular. These data are reported for supervisory purposes according to EU Regulation (Commission Regulation (EC) No 1225/1999 of 27 May 1999 concerning the definitions of characteristics for insurance service statistics). Quarterly data are reported to the OeNB on premiums and claims from insurance service exports in all direct insurance divisions as well as from reinsurance. Yearly data include financial claims and liabilities from insurance transactions and insurance technical reserves. Besides direct insurance exports, FMA also gathers mirror data from other EU countries on insurance service imports in Austria. These data become available only with some delay, but they are especially important for the calculation of life insurance imports.

Structural Business (SB) Statistics

The Structural Business (SB) statistics provide important indicators concerning the structure, activities, employment, investment activities and performance of enterprises at the national and regional levels in the breakdown by economic activities in accordance with ÖNACE 2008. Important underlying data is also provided for calculating the gross domestic product in the context of the System of National and Regional Accounts, input-output tables and economic forecasts. The strategy foresees a threshold sample in connection with use of administrative sources and model based estimation for enterprises below thresholds.

The SB statistics has been compiled by Statistics Austria on the grounds of an EU regulation in the manufacturing as well as services sectors of the economy since 1997 on a yearly basis. Since 2002, the statistical concepts have been adapted according to the Austrian Federal Statistics Law 2000 which foresees a relief of reporting burden for economic agents. Therefore the SB statistics has been organised as a concentration survey ever since. Based on primarily reported data, characteristics of enterprises below thresholds are estimated on micro level making use of register- and administrative data. Since the reporting year 2008, the SB statistics has been compiled according to the revised version of the respective EU regulation (regulation (EC) No 295/2008 of the European Parliament and of the Council of 11 March 2008 concerning structural business statistics). The SBS is structured according to NACE Rev. 2 for sections B to N and division 95. Reporting thresholds have been raised to relief small and micro enterprises from reporting burden. In 2014, another draft amendment of the national SBS regulation has entered into force, introducing a flexibilisation of reporting thresholds to take account of the fact that inflationary effects on turnover and economic performance lead to a steady increase of the reporting population.

The yearly primary survey covers 36,000 enterprises on average (approx. 11% of the basic population). The reported data respond to approximately 75% of employees and 90% of turnover. As for reporting year 2013, the basic population consisted of 325,000 enterprises. For capturing the economic sectors „financial services" and „insurance companies and pension funds (except for social security)" data from the OeNB and FMA are used. For estimating the SBS for enterprises below thresholds a model based approach on the basis of administrative data is employed. These data comprise of employment figures from the Main Association of Austrian Social Security Institutions (HV) as well as of VAT and pay slip data from the financial authorities. Further on, data from the HV and the Association of Free Professions in Austria have been introduced to determine self-employed workers. Finally also turnover from the income and corporation tax has been integrated in the SBS.

Foreign Direct investment (FDI) survey

The OeNB in its responsibility to compile Balance of Payments Statistics (BOP) conducts annual surveys ("FDI surveys") in the area of direct investment equity stocks (balance sheet and profit and loss account data). The reporting obligation is laid down in the Foreign Exchange Law 2004. Detailed reporting requirements may be published by the OeNB in the form of regulations. Compilation follows the methodology of the Balance of Payments Manual, 6th edition (BPM6) as well as the recommendations of the OECD's Handbook on Economic Globalisation Indicators. Definitions are specified in Regulation (EU) No. 555/2012 amending Regulation (EC) No. 184/2005 on Community statistics concerning balance of payments, international trade in services and foreign direct investment. Corresponding definitions are also included in the ECB's Guideline of 9 December 2011 on the statistical reporting requirements of the European Central Bank in the field of external statistics (ECB/2011/23). Apart from its incorporation into the International Investment Position, the information is also used to check information on direct investment transactions which are part of the monthly direct reporting. All reports in connection with direct investment (equity and other capital) are broken down by individual counterpart (company-by-company reporting) ensuring both the correct geographical allocation and the correct application of the directional principle in the compilation process. If the counterpart is new to the direct investment register (i.e. first transaction with new parent or subsidiary) then the respondent is required to fill in an additional form with details about the foreign counterpart (i.e. address, country, share of participation, economic activity, motive for investment). In the area of direct investment it is also common practice to use information from various news sources to anticipate and identify direct investment transactions. In addition, the OeNB has acquired access to a commercial database on mergers and acquisitions and uses data from the official business register of the Ministry of Justice to check the completeness of the direct investment reports. Supervisory reports on affiliated enterprises submitted by banks to the Banking Statistics Division of the OeNB are also used to update the register. In contrast to the ITSS, the obligation to report for the FDI survey is not only based on a reporting regulation which generally describes FDI cases and the content of the survey, but on single notifications. Thereby the balance sheet total as well as the registered capital of the affiliates is taken into account. On average, 2,200 companies are surveyed on inward FDI and 1,700 companies on outward FDI on a yearly basis.

Foreign Affiliates Statistics (FATS)

Foreign Affiliates Statistics (FATS) are compiled by Statistics Austria according to EU regulation No 345/2008 on Statistics on the structure and activities of enterprises under foreign control of September 2008. To fulfil the FATS requirements no new statistical reporting was introduced in Austria, but existing statistical data are frequently used, mainly from the SB Statistics and BOP. For Inward FATS, data from the annual FDI survey are used to get information about directly foreign controlled enterprises which from part of total direct investment enterprises. Reporting for direct investment includes information on Ultimate Beneficial Owner (UBO). Information on enterprises below survey threshold is gained from the central company register. Also with register information indirectly foreign controlled enterprises can be detected. These data are linked with the SBS to get hold of the required FATS variables, including imputation for enterprises below thresholds. Every two years data are linked with statistics on research and development. To compile Outward FATS the FDI survey was extended to cover also enterprises under indirect control. Resident direct investors report on all foreign subsidiaries above thresholds. In contrast to Inward FATS no additional administrative sources are available to cover relations below thresholds. Subsidiaries of resident investors under foreign control (regional headquarters of foreign multinational enterprises) are excluded in order to avoid double counting.

9.1.2. Linking ITSS with SBS, FDI and FATS

In principle, STEC statistics are produced by linking the before mentioned statistics on micro level. The linking key is the central business register identifier. As this common identifier can be expressed differently (filling the compulsory seven places with zero or not), the different presentations have to be encrypted to a harmonized format. Due to the fact that master data are aligned between Statistics Austria and the OeNB and that the reporting population for the ITSS survey as well as for FATS are drawn from the business register, the common identifier is available in all statistics. However, as services are reported not only by enterprise units but also by associations and unions, not all reported data can be successfully linked. Some gross figures reported in the ITSS survey have to be amended before linking to account for the service charge concept. This refers mainly to insurance services.

The following variables are gained from the different data sources:

- ITSS

  - Exports and imports of services, nominal values

  - Type of service (EBOPS 2002)

  - Country of destination/origin

- SBS

  - Industry (NACE Rev II)

  - Turnover

  - Employment (yearly average)

- FDI

  - Outward FDI (Majority/Minority/Sisters/None)

- FATS

  - Inward FATS (Yes/No)

9.1.3. Differences to International Trade in Services Statistics (ITSS)

On an aggregated level, STEC and International Trade in Services Statistics (ITSS) sum up to the same totals. But some details of ITSS cannot be expressed by enterprise characteristics as they cannot be attributed to single business units. To some extent, certain assumptions or calculations can be made in order to distribute the data to certain activities:

- Travel

- Estimation of transport and insurance services (CIF/FOB correction)

- Estimation of financial services (FISIM, dealer's margins)

- Other estimates

- Government services

- Grossed up figures from ITSS

Travel

The travel item includes expenditure on all goods and services purchased for personal and business travel. The compilation is aligned with Tourism Statistics and is not based on enterprise statistics but rather on the combination of a variety of data sources, i.e. monthly statistics of overnight stays, guest survey (Tourismus Monitor Austria), quarterly survey of Austrian personal and business travel, mirror data, ATM and credit card information. The calculated figures can therefore not be attributed to single units and cannot be linked with enterprise characteristics. In order to distribute the results roughly by industries, incoming travel can be attributed to NACE Rev II section I. On the other hand outgoing travel can mainly be attributed to households, therefore NACE section T.

CIF/FOB correction

As Foreign Trade Statistics values imports of goods at the border, the value includes freight and insurance components between the border of the exporting country and Austria. This part of goods imports has to be deducted from external trade data and attributed to the respective services items. This adjustment is accomplished by employing the so called "volume freight rate method" for all types of transport. This method covers transport costs (as the product of trade volume, distance and freight rates) and freight insurance. Attributing the costs either to the export or import side of the services account depends on the residency of the carrier: If the goods are imported by a domestic carrier, goods imports and services exports are reduced by the same amount; if the goods are imported by a foreign carrier, services imports are increased by the same amount as goods imports. In both cases the balance of the current account remains unchanged. The information about the nationality of the carrier is derived from freight statistics. Concerning the presentation in STEC, exports reported by enterprises classified under section H of NACE Rev II can be reduced by the amount estimated according to the CIF/FOB correction. On the other hand, the presentation of imports of transport services by NACE categories cannot be extended by the CIF/FOB correction as no information on the importing industry is available.

Estimation of financial services

According to the BPM6, financial services not only include explicit charges but also margins on buying and selling transactions in financial instruments as well as margins between interest payable and the reference rate on loans and deposits (FISIM). The latter are estimated by making use of data on investment income as well as the financial account of the BOP. Also data for supervisory purposes are used (quarterly and monthly balance sheet reports), the mutual funds statistics, outstanding amounts of private sector insurance companies and pension fund statistics. Data on interest rates for financial and nonfinancial corporations as well as households are taken from the Monetary and Interest Rate Statistics (MIR). To calculate dealers' margins, gross transaction volumes reported by Austrian banks are used which are adjusted with security-by-security information. By definition, the delivery of FISIM can only be attributed to banks. Also it is assumed that banks serve as main intermediaries for secondary market trading in Austria with non-residents. Therefore exports of these services should be attributed to NACE Rev II, section K. On the other hand, the calculated imports of these services cannot be attributed to any industry as the domestic counterpart is unknown.

Other estimates

There are also other kinds of services that cannot be directly observed by an enterprise survey. This mainly relates to imports by households, i.e. illegal construction, non-registered housekeeping and prostitution, insurance services. These values are estimated by making use of administrative data, for example construction statistics, the consumer survey, data provided by the police and aid organisations as well as information by the FMA. These data can be attributed to households, therefore NACE section T.

Government services

Government services in Austria comprise of exports of aid services and imports of services by Austrian embassies, consulates and cultural institutes abroad as well as service imports by the offices of the Austrian Economic Chamber abroad. Information is gathered from the Austrian Development Agency, the federal budget account as well as from the Austrian Economic Chamber directly. The data can be attributed to NACE Rev II, section O.

Grossed up figures from ITSS

As described above, the ITSS is a stratified corporate sample within the scope of the SBS. Data for enterprises below thresholds are imputed by stratifying service exports and imports by industries and size according to turnover. Furthermore, since 2012, administrative data sources have become available (Value added Tax Information Exchange System). Until reporting year 2014, these grossed up figures cannot be linked to enterprise characteristics as they are not broken down by business units. This should be the case although from 2015 onwards. Furthermore, the linking exercise for the purpose of STEC will be then be extended to the current statistical business register at Statistics Austria. As a consequence, also exports and imports of units which are not classified in the official business register can then be broken down by enterprise characteristics as they are attributed an identification number.

9.2. The Czech Republic

In the Czech Republic the Czech Statistical Office (CZSO) and the Czech National Bank (CNB) share responsibility in the field of statistics of international trade in services. While the CZSO is in charge of primary data collection for external trade in services as general, the CNB is responsible for collecting data for particular segment of internationally traded services (travel, financial services, FISIM) and also for disseminating and publishing services data as a whole.

9.2.1. The sources used to make STEC

Linking ITSS data to enterprise characteristics has become possible due to the switchover to direct reporting systems in the Czech Republic in 2005, while until than reports of commercial banks on cross-border payments were the main source for compilation of international trade in services statistics in the Czech Republic.

The main sources for STEC are:

The ITSS survey is conducted on a sample basis limited to 5.000 enterprises. Addressed are those businesses that are involved in international trade in services. The sample is updated quarterly. The statutory direct reporting is based on submission of Quarterly report on import and export of services by those respondents who are in the sample. The questionnaire is intended for detailed analysis of services transactions according to value of transaction, appropriate service category, country of non-resident counterpart and currency of transaction.

The core indicators required for developing STEC are included in the business register:

* NACE;

* Size of enterprise (category of number of employees);

* Turnover.

Statistical business register (BR) is a public list maintained by the CZSO in compliance with Article 20 of Act No. 89/1995 Coll., on the State Statistical Service. An entry to the register has a meaning of registration only. Data on businesses, which are legal entities and natural persons with the status of an entrepreneur, are recorded in BR on the basis of the data obtained by the CZSO in compliance with special regulations or the Act on the State Statistical Service. The register is regularly updated; quarterly information on the number of registered businesses according to selected basic classification criteria is available.

The business register is used to generate and maintain ITSS survey sample and therefore it enables straightforward linking STEC variables. All businesses in the Czech Republic are specified by the unique trader identifier and the fundamental feasibility of STEC depends on the availability of this indicator.

The unique trader identifier enables to link data on export and import transactions due to EBOPS service categories with other variables. Grossing-up procedures reflect enterprise characteristics of respondents or analogous respondents and therefore may be linked.

Another statistics used for STEC data linking is FATS that is used to identify the ownership if foreign (foreign ownership more than 50%) or domestic. In some cases the problem may arise in identifying UCP (Ultimate Control Parent) for additional breakdown for domestic companies (indigenous or multinational).

For following services items, aggregate entry data are used for calculation and thus **individual linking to the statistical business register is not possible**. Those items are:

Travel services – data are compiled on the basis of currency exchanges undertaken by banking and non-banking foreign exchange offices, completed by aggregate payment card data. CZSO sources used for BoP compilation are physical travel data (number of travellers, number of overnights) and travellers´ expenditure per person/day and purpose;

The freight transport and insurance element from merchandise trade (CIF/FOB adjustment) - the freight and insurance element is calculated based on aggregate trade data with different terms of delivery;

FISIM – the calculation of export and import is provided by the CNB based on macroeconomic data of different sector external assets and liabilities;

Margins – implicit financial fees charged in trading with securities are calculated as a side-product of structural business statistics database of the CNB.

9.3. Denmark

9.3.1. The sources used to make STEC

The Danish International trade in services statistics (ITSS)

The majority of the ITSS is collected from the Danish ITSS survey and in 2014 it covered around 83 % of the total service import and 89% of the total service export. The rest is collected from other sources, and cannot be directly linked to the enterprises in the business register.

The ITSS survey collects data from 1700 enterprises and the service trade for the remaining population is calculated as a grossing up procedure. Approximately 7% of the trade from the ITSS survey is grossed up figures.

The sources that cannot be linked to the business register are:

• Travel services

• Grossed up figures from ITSS survey

• The freight element derived from merchandise trade (CIF/FOB)

• Government services

• FISIM services

• Enterprise data that for some reason are not collected in the ITSS survey

Statistical business register

The source for the majority of the variables in the Statistical Business Register (SBR) is administrative data from the Danish tax authorities and other public agencies. The variables used in the STEC production are turnover, employees and activity.

Turnover is based on the VAT declaration from the tax authorities. Data are processed by statistics Denmark before they are used in SBR. Since the turnover is based on the VAT declaration from enterprises in Denmark, it is only available for enterprises liable for VAT. Furthermore only turnover which is taxed will be included, and since some services, such as insurance and financial services are VAT exempted, certain activities will be underestimated. Enterprises having a VAT liable activity of less than 50000 DKK a year are also exempted. As national rule in Denmark passenger transport is also exempted from VAT. Some groups of enterprises also take advantage of the possibility to report a joint VAT declaration for several legal units. This problem is treated by statistics Denmark by distributing the turnover via a distribution key based on a survey of the implicated enterprises, but this key is not updated on a regular basis and therefore the quality of the distribution could be low. Furthermore, services traded between affiliated enterprises are not reported on the VAT declaration, since the tax authorities regard trade of services between affiliates as being intracompany trade (which is not the case for goods).

Employees are based on the digital income register from the tax authorities. Data are processed by statistics Denmark before they are used in SBR. The source is primarily based on the income payments reported by the employers to the tax authorities, which are covering all employees that are being paid a monthly salary. The SBR has three definitions for the number of employees in the enterprise:

Full time equivalent:

A calculated concept that shows how many standardized full time workers that have been employed a year by using the number of hours worked. This does not include self-employed that are not paid a monthly salary.

Annual average employees:

Calculated as the average amount of employees that have been working in the enterprise during a year. This does not include self-employed.

End of year employees:

A snapshot of the number of employees at the end of November in a calendar year. This also includes self-employed.

Since all labour income to Danish residents has to be reported to the tax authorities, the coverage of the normal employees is expected to be complete. But for the Full time equivalent and annual average employees, the self-employed without a monthly salary are excluded. External consultants that are invoiced separately are not included in any of the employee concepts.

Activity codes are added when the legal unit is registered in the central business register. This code can be changed by the enterprise itself or by the Danish authorities if it is presumed incorrect. Statistics Denmark can also change the activity code if an inconsistency with the actual activity of the enterprise is discovered.

Furthermore, the SBR has a unique key to the different units used in the Danish administrative registers, making it possible to aggregate data from different sources to the enterprise level.

In the Danish SBR a threshold criterion is applied in order to identify the active companies. This is measured by number of employees including self-employed and the turnover and for each activity a certain combination of employees and turnover defines whether a company is active or not. The users of SBR can force enterprises that would normally be below the threshold into the active enterprises if needed. This means that there can be vintage problems with enterprises that are below the threshold, if populations are drawn from the register at different dates.

Inwards and outwards FATS (IFATS and OFATS)

The sources for inwards FATS (IFATS) is based on the statistics on Foreign Direct Investments (FDI) performed by the National bank. This information is then merged with the general enterprise statistics for information on activity, turnover, and number of employees. For enterprises that are not covered by the statistics on FDI from the National bank, a supplementary commercial data source (Bureau van Dijk) is used. The IFATS population is mainly based on the enterprises that are flagged as above the threshold in the SBR, but due to revision vintage issues and the fact that the FATS also uses general enterprise statistics, some enterprises in the IFATS population can be below the SBR threshold that dictates whether or not an enterprise is active or not.

The statistics on direct investments has geographical information about the direct owner, the ultimate owner, and the share of ownership for the geographical area. The direct owner is the nationality of the agents that owns the share; while the ultimate owner is the nationality of the owner that controls the direct owner. Often the direct owner and the ultimate owner is the same. A company is defined as foreign owned if the majority of the shares are owned by non-Danish residents. If there are more foreign agents involved, the ultimate owner will be the nationality with largest share of ownership; even though they do not have control of the company. Control of a company is defined as having more than 50 pct. of the voting power.

The population for outwards FATS (OFATS) is also based on the statistics on FDI performed by the National bank, and the total population is surveyed by Statistics Denmark. An enterprise is considered to have affiliates abroad if they have direct control, i.e. more than 50 pct. of the voting power, in an enterprise located abroad. This does not taking indirectly owned enterprises abroad, which could be misleading for i.e. holding companies.

Linking the ITSS survey with the SBS statistics (SBR and FATS)

The survey for the ITSS survey is drawn from the SBR which means that the enterprise number used in the SBR and in the ITSS survey is identical. This makes the actual linking between those two sources straightforward. The FATS surveys are also drawn from SBR and are in principle covering the total population, which mean that the actual linking between the enterprises in the FATS surveys and ITSS survey also is straightforward.

However, for some reason not all enterprises in the ITSS survey can be successfully linked with the SBR and the FATS surveys. This is partly because the ITSS survey is drawn at a certain point in time, which means that some of the enterprises in the ITSS survey could have expired and are therefore not in the SBR anymore. For the FATS surveys, the main reason for non-linking is the threshold in the SBR, that defines enterprises in the ITSS survey as non-active enterprises, which means that they will not be in the FATS surveys.

Since the ITSS survey does not cover the full population, the method for grossing up, is designed to produce precise figures for the total trade in services. This means that the enterprises that are surveyed are concentrated in the industries that typically trade with services and by the larger enterprises. For STEC purposes this means that the small and medium enterprises (SME) and certain industries, such as NACE section A (Agriculture, forestry and fishing), D (Electricity, gas, steam, and air conditioning supply), E (Water supply; sewerage; waste management and remediation activities) and L (real estate activities) are underestimated by the enterprises reporting directly to the ITSS survey.

Another issue with linking data is the issue of enterprises with no or few employees or low or zero turnover, but with a large trade in services. This problem is obviously an error which can be attributed to the fact that the figures for employees and turnover is bases on administrative registers, where complex enterprises take advantage of the possibility to i.e. report their number of employees for a group of enterprises under one enterprise. In order to correct this data has to be aggregated to statistical units, but this work in this area is still not finished in Denmark. Until this work is done, additional information from the general enterprise statistics is used to correct the incorrect figures for employment and turnover.

9.3.2. Possible assumptions for data that cannot be linked to SBR

For the services that are not collected in the ITSS survey certain assumptions or calculations can be made in order to distribute the data on either activity or ownership.

FISIM

By definition only banks provide the FISIM services. Therefore export of FISIM services should be put under NACE code "K64.1.9 - Other monetary intermediation". Import of FISIM services is provided by foreign banks, but the domestic counterpart could be anyone (private, enterprise or public), and therefore it's impossible to say anything further about the characteristics of this transaction without further investigation.

Travel account

In Denmark a part of the travel account is collected in the ITSS survey, namely the expenses that are directly invoiced to an enterprise. This is especially important for health and educational services, but for the rest of travel account the data collected in the ITSS survey is relatively small, since most of the consumption of travelers is paid for directly by the people travelling, and thus not including in the ITSS survey. The rest of the Danish travel account, that are not collected by the ITSS survey, is delivered by external sources which does not include any information on the characteristics of these transactions.

Government services

Government services by definition domestic owned and can be attributed to the NACE section 84. No further about the characteristics is possible in the Danish setup.

The freight element from merchandise trade (CIF/FOB)

Merchandise trade that include a freight element is collected on enterprise level in the ITG survey. In Denmark international trade in goods is delivered to the BoP section on an aggregated level that does not include information on the enterprise behind the trade, and the freight element is calculated on these data. In principle, one could calculate the freight element from merchandise trade on the enterprise level, but the current setup does not allow this in Denmark.

Enterprise data that for some reason are not collected in the ITSS survey

The challenge with enterprises not reporting directly to the ITSS survey is that they often report for a group of enterprises. In some cases a NACE activity and a distinction between domestic or foreign owned can be made for the group as a whole, but it is often difficult to distribute the reported trade to the enterprises in the group, in order to identify the number of employees and the turnover of the enterprises that are trading services.

Grossed up figures from the ITSS survey

Since enterprise characteristics is crucial in STEC, the trade of the smaller enterprises that are grossed up in the ITSS survey is important, and therefore, one could try and distribute the grossed up trade to the enterprises that are not reporting to the ITSS survey. In order to do that, one needs an estimator that is correlated with trade in services, but not correlated with the other variables used in STEC (turnover, number of employees, NACE, ownership). If the number of employees is used to estimate an enterprises trade in services, a strong bias towards the larger enterprises will be introduced, since large enterprises in STEC is identified by their number of employees. Until a better estimator is identified, the underestimation of SMEs and to some degree also industries are a condition for STEC statistics if ITSS is based on a survey.

9.4. Estonia

9.4.1. Trade of services data

The Bank of Estonia collects data about the international trade of services for balance of payments purposes. The Bank of Estonia is responsible for the compilation and dissemination of international trade of services statistics (ITSS). The ITSS data is transmitted to Statistics Estonia for the compilation of STEC datasets. Both Statistics Estonia and the Bank of Estonia are official producers of statistics in Estonia according to the Official Statistics Act. This enables the exchange of detailed data on enterprise level between the two institutions for statistical purposes. The trade of services data is available for Statistics Estonia from the year 2007.

The trade of services data contains the following indicators: (i) reference year, (ii) registration code of the trader (ID), (iii) name of the trader, (iv) Balance of payments code (BPM), (v) Balance of payments description, (vi) partner country, (vii) value of exports and (viii) value of imports.

9.4.2. Linking trade of services data with business register

The Statistical business register (SBR) is maintained by Statistics Estonia and contains various indicators about enterprises. The economic activity (NACE code), number of employees, turnover and foreign ownership were needed for the compilation of STEC datasets. Micro linking of services traders with the SBR provided some challenges. It was not possible to link directly entities like tourists and private individuals, non-residents, some government institutions, financial mediation and investment funds with the SBR. Some data was linked manually (for example investment funds were linked with commercial banks who owned them) but if linking was not possible, the indicators were marked as "unknown".

Another problem occurred when the linking of trader was successful but some or all indicators were missing from the SBR for the reference year. If the economic activity or number of employees was missing for the reference year, the same indicator for the previous year was used. If both were missing the current value was used. The turnover was available from different data sources. It was decided that the first preference would be to use the turnover reported to Statistics Estonia in the Structural Business Statistics annual survey. The second preference was the value reported in the Annual Accounts prepared by the enterprises. Further possible data sources were monthly turnover reported to Statistics Estonia or the Tax and Customs Board. For the reference year 2011 it was possible to find the turnover for 91% of the total number of exporters.

The business register contained only basic information about the type of ownership and therefore it was not possible to use this indicator in the compilation of STEC datasets.

9.4.3. Compilation of STEC datasets

STEC datasets were compiled following the EBOPS classification. Therefore it was necessary to convert source data based on BMP classification to EBOPS categories. Correspondence table was used to convert data but sometimes the EBOPS codes were determined manually based on the actual activity of enterprise.

Allocation of trade of services between intra-EU and extra-EU data created some problems because source data contained trade with international organisations that were lacking country code. Such trade was recorded as extra-EU trade but a case by case approach would be a more appropriate solution.

An important issue was the implementation of confidentiality rules. Consultations were carried out with the Bank of Estonia to find best solution for STEC datasets. Data were registered as confidential only if there were less than three enterprises in the single data cell. It was necessary also to apply secondary confidentiality rule if one cell was declared as confidential both in rows and columns. Secondary confidentiality was then applied to the cell with the smallest value to make less value confidential.

9.5. Ireland

9.5.1. STEC sources

Quarterly balance of payments & annual International trade in services

The quarterly balance of payments (BOP) statistics compiled and published for Ireland provide some detail on exports and imports of services along with some regional geographical detail for total services. The International Trade in Services statistics provide on an annual basis greater analysis of the service components and significantly more geographical detail, including a cross-classification of service components according to counterpart country/region. The data are collected and compiled within the BoP framework and as such are designed to comply in so far as possible with the stipulated international methodological standards.

Data collection

The information on service exports and imports is obtained as part of the overall process of collecting BOP-relevant data. Statutory surveys are conducted by the CSO and by the Central Bank of Ireland (CBI). Other data obtained from administrative sources are also used. Since 2008 the data required from licensed banks (credit institutions) and from investment funds (including money market funds) to meet BOP-related data requirements (as well as other statistical demands on both organisations) are being collected quarterly by the CBI under its legislation as well as European legislation. The data are supplied by the CBI to CSO for statistical compilation purposes. The CSO has therefore discontinued its surveys of credit institutions and investment funds but continues to collect the required data from other financial enterprises as well as non-financial enterprises using its ongoing quarterly statutory surveys. These are conducted under the Statistics (Balance of Payments and Financial Accounts) Order, 2010 (S.I. No. 206 of 2010) made under the Statistics Act, 1993.

CSO surveys of financial enterprises aim at exhaustive coverage and are conducted on a quarterly basis. However, in order to reduce reporting burden, companies with low activity volumes may, on approval from the CSO, provide annual data. The relevant CBI surveys of credit institutions and investment funds are conducted quarterly and are directed at all such entities. Overall, both organisations survey about 4,500 financial entities. The surveys cover banking, insurance and pension funding, asset financing, treasury, institutional investment, investment funds (e.g. mutual funds, unit trusts and similar collective investment operations), broking and other financial service provision. Financial enterprises, including those engaged in internationally-traded financial service activities and collectively labelled as IFSC (International Financial Services Centre) enterprises, are required to make returns.

Quarterly detailed returns are provided by about 3,500 entities while about 1,000 smaller activity entities provide the same level of detailed data annually. Quarterly estimates are made by the CSO from the annual returns for a specific year and these are used as preliminary quarterly estimates for the following year.

CSO surveys of manufacturing and non-financial service enterprises are conducted on a quarterly basis also with smaller activity entities reporting annually. Coverage for these entities is on a sample selection basis, those surveyed being selected on the basis of statistical register information concerning their transactions with non-residents. About 500 companies make quarterly or annual returns. Some of the enterprises are Irish owned; others are foreign-owned companies or branches. Both types have trading or investment transactions with non-resident affiliates or with third parties. The returns are predominantly supplied in electronic form.

The BoP register is used as a survey management system and the register is maintained using the CSO's Central business register and using data available to the Central Bank and government departments. Apart from these sources any other information (from newspapers, periodicals, commercial listings, etc.) which becomes available is also used. Company details include contact information, company name, address, revenue number, VAT number, CBR number, the ultimate controlling parent (UCP) geography and the Nace activity code. In addition, survey data collected by the CSO also provide a means of updating the register information.

In making the overall estimates of imports and exports of services by manufacturing and non-financial enterprises, the survey results are grossed (or scaled) up to allow for non-coverage of enterprises and for some survey non-response. The grossing factors used take into account comparisons of data collected from the BoP surveys with data obtained from other CSO sources such as the Annual Services Inquiry and the Census of Industrial Production. Currently, the grossing exercise adds an additional 7% to service export and 3% to service imports.

Apart from survey data, administrative sources also provide information on non-resident service transactions (e.g. the Department of Defence, concerning Ireland's UN military peace-keeping activity; the Department of Foreign Affairs, on expenditure incurred in maintaining Ireland's embassies and consulates abroad). In addition, information on tourism expenditure and receipts is obtained from other CSO inquiries.

Central business register

The CSO central business register (CBR) provides additional variables concerning employment numbers and turnover. These additional variables along with the BoP NACE and Ultimate Control (UC) and Services exports/imports variables provide the building blocks needed to compile STEC. Since 2008 the CBR moved from being a survey based to an administration based register. The main administration data sources are the Irish Revenue Commissioners, the Companies Registration Office (CRO) and the CSO Business surveys which also provide a means of updating the register information. The Irish Revenue Commissioners provide VAT registration details (name, address, birth date, ceased date, revenue NACE code), PREM/P35 employment data, and Income\Corporation Tax registration details (turnover) while the Companies Registration Office (CRO) provide CRO numbers, name, address, legal form etc.

9.5.2. Data linking

The BoP enterprise data is linked to the Central business register (CBR) enterprise data using the CBR number, as well as the company name and the company address. However a portion of BoP data cannot be matched by CBR number using this linking process and therefore will not acquire details of employment and turnover. The unmatched data includes the grossing dummy data, the administrative BoP data provided by Government Departments and embassies, transport and travel data and the FISIM element of financial services. In general the CBR records the details of all enterprises within an enterprise group structure and enterprise and sub entity data are managed independently, however in some instances, the BoP surveys receive consolidated enterprise returns. This causes a many-to-one link and can result in an inaccurate measure of employment and turnover for a specific enterprise group. When identified, CBR employment data can be aggregated to represent the BoP consolidated enterprise treatment. Similarly, administration data reported to the CBR can be problematic when employment data in a group is returned to Revenue against a holding company. In this case, the CBR usually register the employment to the main activity of the group, alternatively the data is altered to match the survey area norm.

9.6. Luxembourg

In Luxembourg, there is a shared competence and responsibility for BCL (national central bank of Luxembourg) and STATEC (national statistical institute) in compiling balance of payments and ITSS.

9.6.1. Different sources for ITSS compilation and their use in STEC

For the compilation of ITSS a hybrid collection system is in place with a multitude of data sources and different treatments. The source data and related processing differ depending on the ITSS item concerned.

Two main surveys are in place:

- **Bank reporting** BoP 1.1 («Breakdown of certain elements from the income statement of credit institutions»): all resident credit institutions, regardless of their legal status, report on a monthly basis to the BCL their cross-border transactions (own account) in services involving a non-resident counterpart following the general requirements

- **The BoP survey** (monthly / annual report on import and export of services) is conducted on a sample basis of about 500 enterprises. Addressed are those enterprises that are involved or assumed to be involved in international trade in services. The sample includes only legal entities: larger enterprises (+-250) have to report monthly, a sample of smaller enterprises (+-250) annually.
  This survey is grossed up with data of VAT declaration (from tax authorities). The grossing-up will not be distributed to the different variables of STEC Tables, but will be treated as non-attributed data.

Direct linking to business register is done by the unique identification numbers of the enterprises.

This survey is grossed up with data of VAT declaration (from tax authorities). The grossing-up will not be distributed to the different variables of STEC Tables, but will be treated as non-attributed data.

Following variables for developing STEC are included in BoP Surveys: (i) reference year, (ii) identification number for trader (iii) nature of economic transactions, (iv) partner country, (v) value of exportations and (vi) value of importations

For financial and insurance services (the most important part of services in Luxembourg), no straightforward data linking is possible. The information for ITSS is mostly taken out of **administrative sources**. For the challenges of data linking of this sources, see below (chapter C.). If the estimations are considered of poor quality, the part of financial services (not FISIM) will be treated as non-attributed data.

As recommended in this Compilers Guide, the following services items (from administrative sources) will appear in non-linked sections of STEC tables: travel services, freight transport and insurance element from merchandise trade (CIF/FOB adjustment), FISIM.

9.6.2. Other sources and their use to compile STEC

The **statistical business register** is maintained by the STATEC and contains various indicators about enterprises. In Luxembourg statistical business register contains information from various administrative sources and is completed by an ad hoc questionnaire to determine the activity (NACE) of each enterprise.

Following variables for developing STEC are included in BR: (i)NACE classification, (ii) unique Identification Number for trader, (iii) size of enterprise (number of employees), (iv) type of ownership (sector classification) and (v) turnover.

Challenges in production of STEC Tables:

For Luxembourg producing STEC Tables is quite challenging, for time being we compile ITSS data on several administrative sources unusable for a straightforward linking; especially the most important part of import / export of services (**financial services**) is taken from an administrative source. Some assumption / estimation work of good quality has to be done:

- FISIM are adjusted with National Accounts figures and compiled and published separately under the item SG2

- Financial services of the banking sector (export/import) are collected in a specific (monthly) bank survey and can be linked with the characteristics of the individual banks.

- Other financial services (export/import) collected through the general survey on international trade in services can be attributed to the different respondents.

  - However, the large majority of international trade in financial services is linked to the resident investment fund industry, which is the largest in Europe and has a large impact on Luxembourg BOP: Luxembourg funds are registered for sale in over 65 countries. Resident investment funds incur expenses for management and administration, payable to a very large extent to resident management companies. These transactions between residents are out of scope of BOP, but, in order to reveal the economic substance, these fees are implicitly charged to (non-resident) investors («management costs taken out of income»). Hence, the expenses implicitly paid for are recognized as a financial service to the investors (credit-export). In theory these assigned management fees, implicitly charged by resident investment funds, (and paid from the resident investment companies to resident management companies) can be linked to the individual investment funds. However, in a general fashion, domestic investment funds have no direct employment and no offices. Hence, a linkage of the management costs taken out of income with the characteristics of the individual investments funds appears as not meaningful in all respects of STEC requirements.

  On the other hand, resident management companies pay financial services to non-resident sub-managers, advisors and distributors or retrocede to non-resident promoters large parts of the fees previously received from resident investment funds (debit-import). Corresponding geographical breakdown is based on the residence of investment managers and advisors. In principle these outflows can be linked with the characteristics of the individual resident management companies. In this event our specific data processing has to be adapted in order to include new STEC requirements in this field.

Different data sources are used to compile **manufacturing services and repairs**: information stemming from the Balance of Payments survey on international trade in services is complemented by information derived from foreign trade statistics. The compilation is done on micro figures and a linkage with enterprise characteristics seems feasible. However, a specific IT development is necessary.

The **CIF/FOB adjustment in transport** can be identified separately. However, the figures are compiled on aggregate information (kind of goods, country, means of transport, value of transport etc.): at this stage a linkage with individual resident units is not possible.

Insurance services for the resident insurance sector are based on data from individual insurance companies, made available by the national supervisory authority. The individual figures allow a global estimation of the service charge by type of insurance. In theory a linkage with individual resident units is possible, but a specific computer program has to be developed. This development is challenging at appears time consuming.

Even if **SBS** can be considered the best quality data for turnover and purchases, Luxembourg is not able for the moment to link BoP Survey and statistical business register data to this source. For data set reference year 2013, export intensity will be calculated, but not yet import intensity. The work will be continued for next transmission of data (reference year 2014).

The Luxembourg is very often confronted with **confidentiality concerns**. Certain actors of international groups are so dominant in the one or the other table. It is very difficult to respect rules of chapter 7 considering secondary confidentiality and links between tables. The best efforts are done to keep us much publishable data then possible, but for both, confidential cells have to be marked manually.

9.7. United Kingdom

9.7.1. Background

In the context of trade in services, The Office for National Statistics (ONS) in the United Kingdom (UK) is the statistical institution responsible for compiling International Trade in Services, Balance of Payments and National Accounts. ONS also the collects and disseminates information on the Structural Business Statistics, FDI, FATS and maintains the business register (IDBR).

In the UK Balance of Payments and National Accounts are fully consistent.

9.7.2. Data Collection

UK trade in services uses data collected from around 40 feeder sources including a variety of survey and administrative sources. The three main survey sources are i) international trade in services survey ii) International Passenger Survey iii) Bank of England survey of Monetary Financial institutions and estimates for financial intermediation services indirectly measured. The main source used for STEC tables is the International Trade in Services (ITS) Survey.

9.7.3. International Trade in Services (ITS) Survey

The ITS survey is conducted on both an annual and quarterly basis with both surveys measuring the value of transactions of UK businesses by country of origin and destination. The quarterly sample is made up of approximately 1,100 businesses and the annual sample made up of approximately 14,500 businesses. The survey data from both the quarterly and annual results are combined to produce the annual ITS estimates and are used as a key data source to compile total trade in service estimates. The ITS survey data contributed approximately 52% and 37% respectively to the total trade in services export and import estimates for the whole of the UK.

The products solely covered by the ITS Survey are: (i) manufacturing on physical inputs owned by others, (ii) maintenance and repair, (iii) construction, (iv) telecommunication, computer and information, (v) intellectual property and (vi) personal, cultural and recreational

The products where some components are covered by the survey are: (i) insurance, (ii) financial and (iii) other business

Link to the questionnaire.

There are two sampling frames used by ITS survey. These are: Inter-Departmental business register (IDBR) - the IDBR covers businesses in all parts of the economy, except those that are not registered for Value Added Tax (VAT) or Pay As You Earn (PAYE) which can include very small businesses, the self-employed, those without employees and those with a low turnover. The IDBR contains over 2 million UK businesses and is updated in real time from administrative data received from HM Customs and Excise. The IDBR is used by other government departments and is the main sampling frame for business surveys. Reference list - the reference list is made up of approximately 5,000 businesses which have been identified as businesses known to conduct trade in services. These businesses are classified on the reference list as either known traders or potential knowns. Businesses are identified through returns they have made on ONS business surveys such as Annual ITS survey and on feeder questions on other ONS surveys that is, ABS.

From 2013, the ITS survey questionnaire incorporates the new EBOPS 2010 classification, with some modified definitions, for example intellectual property.

9.7.4. STEC compilation

Due to the way the ITS survey is sampled and weighted for the whole population the following variables related to business characteristics are taken from the IDBR; Standard Industry Classification (SIC2007) 5-digits and number of employees.

The 52 questions on the survey relate directly to products and are mapped to EBOPS2010 accordingly.

However not information are relevant to trade in services/ STEC so are removed, specifically;

- Merchanting which is still collected via International trade in services but is now reported with trade in goods

- Outright sales/purchases of intellectual property (Trademarks, franchises, brands or design rights, copyrighted literary works, sound recordings, films, television programmes and databases) which are classified as non-produced financial assets.

The employment, industry and then aggregated to the level required for each table.

9.7.5. Confidentiality

STEC tables are produced on a value and count basis using SAS. Counting the number of businesses allows cells with less than 3 businesses to be marked as confidential. Subsequently cells are marked manually for secondary level of disclosure, following the principle that keeping aggregates is preferred to the lowest level of detail.

9.7.6. Other Assumptions

As mentioned the remaining parts of UK trade in services are collected from a range on other sources which have not been linked to the business register to obtain the business characteristics. In order to improve the usefulness of the UK STEC tables assumptions have been made from some of these components:

- Exports of sea transport and air transport services are assigned to equivalent industry.

- Travel services collected from the International Passenger Survey cannot be assigned business characteristics and have a separate entry.

- Government services are excluded.

- Estimates collected from the Bank of England for financial services of Monetary Financial Institutions are solely assigned to the financial industry (64) and large businesses, based on anecdotal evidence.

- Estimates collected on Insurance and reinsurance from administrative data sources have been assigned to insurance industry (65).

- Balancing adjustments can be assumed to be evenly distributed and therefore the proportions remain the same in the STEC tables constructed from ITIS.

9.7.7. STEC tables simplifications

A geographic breakdown of countries exported to/ imported from are also collected via IT IS however the geographic breakdown is processed separately so it is much more difficult to apply the enterprise characteristics at the intra-EU and extra-EU level. This has not been included in the first set of UK STEC tables. Again the ownership is not directly available and has been excluded in the UK STEC tables.

Finally since UK data are compiled in £GBP the annual average exchange rate GBP to Euro used for tables provided to Eurostat.

9.8. The Netherlands

In the Netherlands, the Statistical Office (CBS) has the responsibility of compiling and disseminating international trade in services statistics. While the Statistical Office is in charge of primary data collection for external trade in services, close cooperation with the Dutch Central Bank is necessary in the field of secondary data sources such as financial services and FISIM. From 2014 on, the International Trade in Services (ITIS) questionnaire incorporates the new EBOPS 2010 classification.

9.8.1. The sources used to make STEC

International Trade in Services (ITS) survey – population 1 and 2

The **ITS survey**, a quarterly report on import and export of services, is conducted on a sample basis limited to some 5 thousand enterprises which have been identified as businesses known to conduct trade in services. The survey detail is on 55 services with no country break down. Addressed are those enterprises that are involved or assumed to be involved in international trade in services. The sample is drawn from the business register and it revolves every year. As such, only enterprises (as statistical units) are included. The survey needs grossing-up to represent the entire population. The survey is sampled and weighted for the whole population. Roughly 20% of the total BoP service trade is based on this ITS survey and its grossed up figures.

Next to the revolving sample ITS survey (population 1), an additional survey (again quarterly report on import and export of services) is conducted on a constant (non-revolving) basis of some 400 enterprise groups (population 2). The survey detail is based on all EBOPS2010 services and with a full break down by country. Addressed are those enterprise groups that are very involved and large in terms of value in international trade in services. The sample is drawn from the business register and is slightly updated every year. As such, only enterprise groups (as statistical units) are included. This survey does not need grossing-up. Roughly 40 % of the total BoP service trade is based on this ITS survey of large enterprise groups in terms of trade.

The sources that at time of publication cannot be linked to the business register are:

Travel services – With travel services, the statistical unit is not enterprises but individuals. Data for travel are based on individual information from household surveys and on sample data from Dutch Accommodation Statistics. The import value of travel (= expenditure of Dutch residents who travel abroad) is based on the results of the Continuous Holiday Survey (CVO) conducted by NBTC-NIPO Research. The export value of travel (= spending's by foreign travellers who visit the Netherlands) is based on sample data from Accommodation Statistics and Price indices regarding the consumption of foreigners in the Netherlands. For the figures of healthcare-related and education-related travel external sources are used. The data are from the Care Institute Netherlands and NUFFIC respectively. Roughly 14 % of the total BoP service trade is based on travel services.

Insurance and Financial services - Statistics Netherlands receives, in addition to the enterprise surveys, data of the Dutch Central Bank on international trade in services of Monetary Financial Institutions. As such it is a secondary source. For the composition of figures for financial services, in addition to the data obtained from the observed sources, also data based on specific calculations are used. This applies to buying and selling spreads and FISIM (Financial Intermediation Services Indirectly Measured). In addition, figures for insurance and financial services are made in cooperation with National Accounts and Central Bank.

Special purpose entities (SPE) - due to the nature and purpose of the SPE activities, SPEs are not enrolled into the business register. Statistics Netherlands receives data through the Dutch Central Bank. Roughly 22 % of the total BoP service trade is based on SPE services.

Adjustments on the freight transport and freight insurance (FIT) – it is a secondary data source from statistics on International trade in goods.

The freight transport and insurance derived from merchandise trade (CIF/FOB adjustment) – it is a secondary data source from statistics on International trade in goods. Adjustments made on the figures of the freight transport statistics and freight insurance are based on specific figures of International trade in goods.

Government services – if there are enterprises owned by government and they are embodied in the business register and if they do engage in international trade of services they are NOT included in to this category. Figures on Government goods

and service, n.i.e. are based on data from government institutions and on information from secondary sources regarding transactions of international organisations, embassies, consulates, military units and defence agencies.

Statistical Business Register (BR)

The source of the statistical business register is the Chamber of Commerce. Setting up a business or changing the existing set-up of a business requires an entry at Chamber of Commerce database. There is no threshold. Every day the changes are transmitted to the statistical business register which is updated with the new information. The Business register is set up for statistical purposes and is in line with Regulation (EC) No 177/2008 of the European Parliament and of the Council which act as a common framework for business registers. The daily information is used for the detection and construction of statistical units (1.5 million enterprises). The units used for statistical observation or analysis may represent real economic structures but do not always correspond to legal or administrative units. As such, the role of the business registers is to function as a bridge between administrative and statistical units. As already stated, the business register is used for the preparation and coordination of ITS surveys and for grossing-up survey results. Overall, the business register covers some basic data (economic/stratification characteristics such as number of enterprises, employment, and NACE (5 digits, based on turnover produced in the main market of operation of the statistical unit) for the whole spectrum of the economy. These variable are leading by the construction of the STEC tables. The business register acts as a tool to integrate statistical data from different (statistical) sources. At the business register identification characteristics (such as an identity number) are issued, together with characteristics associated with the control and ownership relations between units (identity number of resident legal unit and fiscal number). Administrative sources such as from the Tax office and Employment / Health administration (coverage: full population) are used to update basic data.

Foreign affiliates statistics (FATS)

To ensure harmonisation across member states, inward FATS is applied in the compilation of the STEC tables. The legal basis for the provision of foreign affiliates statistics (FATS) is the European Parliament and Council Regulation (EC) No 716/2007. FATS are distinguished into "inward statistics on foreign affiliates" and "outward statistics on foreign affiliates". The former describe the activity of foreign affiliates resident in the compiling country, while the latter describe the activity of foreign affiliates abroad controlled by the compiling economy. As such, inward FATS assess the impact of foreign-controlled enterprises on the Dutch economy and in particular, to measure the impact of foreign control on employment, wages and productivity. Data on inwards FATS is collected from statistical surveys, the business register and administrative and public sources. For STEC we use the variable UCI to indicate if an enterprise is domestic or foreign controlled. The UCI is determined on the statistical level of an enterprise group, indicating that all enterprises linked to this group receive the same UCI sign.

Linking the ITS survey with the Business Register (BR)

The survey for the ITS surveys (population 1 and 2) are drawn from the business register which indicating that the enterprise number used in the BR and in the ITS survey is identical. This makes the actual linking between those two sources straightforward. The FATS statistics use the same enterprise identification number, to guarantee that the actual linking between the enterprises in the FATS surveys and ITS survey is also straightforward.

The trade of services data contains the following indicators:

- Reference year

- Quarterly period

- Population source

- Identification code of the enterprise / trader (ENT_ID)

- Identification code of the enterprise group (EG_ID)

- Name of the enterprise

- Balance of payments code (BPM)

- Balance of payments description

- Partner country (only population 2)

- Value of exports

- Value of exports grossing up (only population 1)

- Value of imports

- Value of imports grossing up (only population 1)

- Sample factor (only population 1)

- NACE

- Employee size class

Checks are proceeded to ensure that the value totals of the population 1 and 2 are in line with the disseminated year and corresponds with the overview sources (that is all available sources) by services categories from the statistical unit responsible for international trade in services. The UCI variable is added and NACE and Employment size class variables are checked for missing values and if necessary added. Finally, the STEC NACE breakdown and STEC Employee size class are defined.

STEC datasets compilation

The statistical unit is the enterprise. The Enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. It may also be a sole legal unit. STEC datasets on the year 2013 were compiled following the EBOPS2010 classification. Therefore it was necessary to convert source data based on BMP5 classification to EBOPS2010 categories. A correspondence table was used to convert data.

Figure 13: Structure and population for the ITSS by enterprise characteristics
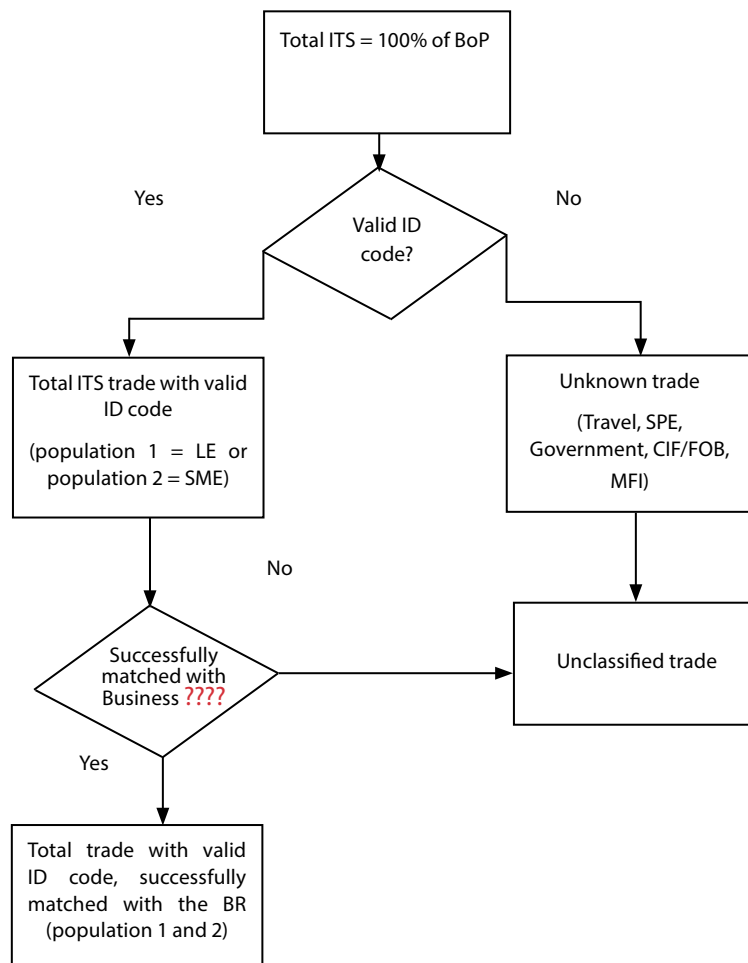
Allocation of trade of services between intra-EU and extra-EU data created a problem for population 1 because source data lack country break down. This trade was allocated using a reference data source from ITSS where already a geographical breakdown had been made between intra – and extra EU based on service categories. To comply with this allocation a proportional spread is done across the STEC datasets. Here the principle of micro data linking could not be used for intra-extra distinction, but a second best solution is chosen. For the world totals the micro data linking principle is applied again.

Since the ITS survey does not cover the full population, the method for grossing up, is designed to produce precise figures for the total trade in services. There may be a bias towards enterprises in the survey that are concentrated in the industries that typically trade with services and by the larger enterprises. For STEC tables this could mean that the small and medium enterprises (SME) and certain industries, such as NACE section A (Agriculture, forestry and fishing), D (Electricity, gas, steam, and air conditioning supply), E (Water supply; sewerage; waste management and remediation activities) and L (real estate activities) are underestimated by the enterprises reporting directly to the ITS survey.

9.8.2. Other Assumptions

Enterprise group is an association of enterprises bound together by legal and/or financial links. A group of enterprises can have more than one decision making centre, especially for policy on production, sales and profit. It may centralise certain aspects of financial management and taxation. It constitutes an economic activity which is empowered to make choices, particularly concerning the units which it comprises. Population 2 is based on enterprise groups. The business register is used to construct a variable on how many enterprises this enterprise group actually consists. This is useful information for later on when confidentiality has to be taken into account.

Cells with zero trade should be recorded as "0". According to all information available there should not be international trade for this cell.

In population 1 (the sampled enterprises linked to BR) there are constraints due to sampling: less precise details than population 2. As a result, there may be year-on-year changes in terms of STEC characteristics that are not 'real', but a grossing-up effect.

Data validation rules are applied at national level to be consistent with BoP and other publications. Data is checked for data inconsistencies within a Table and between Tables as specially for the grossing-up operation. Coherence within a Table is assessed by implementing a number of very precise integrity rules. These rules check whether the breakdown cells add up to the total trade (trade value but NOT number of enterprises). The checking for coherence between Tables is done through a comparison among Tables which share the same trade characteristics. For example, one validation rule is to check for consistency in the trade value of enterprises on intra-EU imports among the tables sharing the same information and so on. If the figures are not equal, further analysing is needed.

9.8.3. Confidentiality

STEC tables are produced on a value and enterprise count basis using SPSS. Counting the number of businesses allows cells with less than 3 businesses to be marked as confidential. Next is the dominance rule. If one (1) enterprise is responsible for more than 80% of the value, or two have enterprises have 85-90% of the value, table cell is confidential. Subsequently cells are marked manually for secondary level of disclosure, following the principle that keeping aggregates is preferred to the lowest level of detail. Values have rounded into thousands of Euro. Cells with confidential trade are recorded as "empty cell".

Annexes

Annex I. Country example of grossing up by using Horwitz-Thompson formula

The objective of survey research is to estimate parameters of the population. As an example, the population for a survey conducted to estimate a country's export sales in 2013 would be all exporters operating in that country in 2013. For example, the parameter being estimated is the export sales. If a valid estimate of a parameter of the population is to be produced, the sample needs to be defined precisely and the sampling method needs to be carefully implemented.

The selection of a sample from the population requires the existence of a sampling frame for that population. The simplest form of sampling frame is a list of the individual population elements, such as a census of exporters.

A simple random sample is a sample design in which every possible sample of size n from the population of N elements has an equal probability of selection. It may be selected by taking random draws from the set of numbers {1, 2, ... , N}.

With a stratified sampling strategy, more criteria should be established to differentiate between sub-populations within the overall population. This sampling strategy requires a representation of each sub-population. For instance, in addition to estimating total export sales accrued by all exporters, it becomes important to estimate export sales by exporters by three size classes. This additional parameter results in large, medium, and small exporters needing to be sampled in a designated manner. [1]

The inclusion probability refers to the probability for a large or a medium-sized exporter or a small exporter to be included in the sample. By continuing with the stratified sampling example noted above, the sample design will specify the share of all large, medium and small exporters that need to be selected to be included in the sample in order to reflect the overall population of exporters.

For example, sample design states that the inclusion probability of large exporters in this example is 0.5, means that 50% of large exporters have been randomly selected to be included in the sample. This can also be interpreted to mean that each sampled large exporter represents 2 large exporters. If the inclusion probability of small exporters is 0.1 (or 10 % of the small size exporters have been randomly selected), means that each sampled small exporter represents 10 small exporters.

The next step is estimation, which in this case is the process of estimating the export value of all large exporters, given the reported export value of the sampled large exporters. This will yield the export value for each sub-population and when grossing up, the export sales of the whole of the exporter population, satisfy all original parameter objectives.

The survey result indicate that sampled large exporters posted export sales of 8 000 (million EUR), sampled Medium-sized exporters of 6 000 (million EUR) and sampled small exporters of 1 000 (million EUR). Total reported export sales by all sampled exporters were therefore 15 000 (million EUR).

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[1] It is worth noting that large, medium and small exporters' export sales could be compiled if a simple random sample was employed if an employment size class variable is present. The stratified sample approach, however, lends control over the sample design to ensure that the sampling of the sub-populations (e.g. the large and small exporters) are not equally likely to be sampled. If large enterprises can better handle additional response burden and if they tend to account for most services revenues within the country (and the expectation is that they will also account for most services export sales), the stratified sample will ensure better response and avoid the downward bias in or under-coverage of export sales that may occur while using a simple random sample.

In order to gross-up (also referred to as re-weighting or extrapolation), inverse inclusion probabilities are employed.

For large exporters, export sales of 8 000 (million EUR) are generated by 50% of the (randomly sampled) large exporter population. Therefore, the estimate of export sales generated by all large exporters is 16 000 million EUR (8 000 million EUR/0.5 =16 000 million EUR).

For medium-sized exporters, export sales of 6 000 (million EUR) are generated by 30% of the Medium-sized exporter population, yielding an estimate of export sales for all Medium-sized exporters of 20 000 million EUR (6 000 million EUR/0.3 = 20 000 million EUR).

For small exporters, export sales of 1 000 (million EUR) are generated by 10% of the Small exporter population, yielding an estimate of export sales for all Small exporters of 10 000 million EUR (1 000 million EUR/0.1 = 10 000 million EUR).

The result is a Horvitz-Thompson estimate of export sales by all exporters in the country in 2013 of 46 000 million EUR.

Prior to grossing up, it seemed that large exporters accounted for 53.3% of export sales (8 000 million EUR out of total sampled export sales of 15 000 million EUR) while medium-sized exporters accounted for 40% of sampled export sales and Small-sized exporters approximately 6.6% of sampled export sales.

Taking into account the stratification aspect of the sample design, by re-weighting in order to gross up, the estimates demonstrate how total export sales is divided between three size groups in the entire population. Specifically, large exporters account for 34.8% (16 000 million EUR out of final estimate of export sales of 46 000 million EUR), medium-sized exporters for 43.5% (20 000 million EUR out of 46 000 million EUR) and small exporters for 21.7% (10 000 million EUR out of 46 000 million EUR).

The calculation

Using the sample values Y1 , … ,Yn , the estimator of the population total is:

$$\widehat{Y} = \sum_{1}^{n} Y_i/p_i$$

where,

 pi is the inclusion probability of unit (exporter) i (obtained from the sample design),

Yi   is the exports volume of sample unit Xi,

n is sample size (the number of exporters in the sample).

This formula is called Horvitz-Thompson estimator and it uses inverse probability weighting of sample values (grossing-up, re-weighting).

In the example described, which has three groups of exporters (large, medium, and small), the grossing-up is done at the group level:

$$\widehat{Y} = \sum_{1}^{3} \text{group value}/p_i$$

$\widehat{Y}$ is the Horvitz-Thompson estimate of the total volume of the entire exporters' population, which is 46 000 million EUR in the example.

Annex II. List of Abbreviations

APEC   Asia-Pacific Economic Cooperation
BoP   Balance of Payments
BPM6   Balance of Payments Manual, 6th Edition
CIF/FOB   Cost Insurance and Freight/Free on Board
EBOPS   Extended Balance of Payments Services Classification
ESS   European Statistical System
ESUTs   Extended Supply Use Tables
FATS   Foreign Affiliate Statistics
FIGARO   Full International and Global Accounts for Research in Input-Output Analysis
FISIM   Financial Intermediation Services Indirectly Measured
FDI   Foreign Direct Investment
GHG   Green House Gas
GVCs   Global Value Chains
ITGS   International Trades in Goods Statistics
ITRS   International Transactions Reporting System
ITSS   International Trade in Services Statistics
MDL   Micro Data Linking
MSITS   Manual on Statistics of International Trade in Services
NACE   Statistical Classification of Economic Activities in the European Communities (Nomenclature statistique des activités économiques dans la Communauté européenne)
NAFTA   North American Free Trade Agreement
OECD   Organisation for Economic Co-operation and Development
SBS   Structural Business Statistics
SPE   Special Purpose Entity
STEC   Services Trade by Enterprise Characteristics
SUIOT   Supply Use Input Output Tables
SUTs   Supply Use Tables
TEC   Trade (in goods) by Enterprise Characteristics
TiVA   Trade in Value Added
UN   United Nations
VAT   Value Added Tax
WTO   World Trade Organization

Annex III. STEC Tables

This part contains the STEC Tables as currently requested by Eurostat in excel format.

This file has been modified in 2015 (for reference year...) incorporating the service categories as requested by Regulation (EC) No 555/2012. The STEC Task Force in 2015-2016 has defined the STEC aggregations.

Contact Information at Eurostat:								
	Administration:		EUROSTAT - G2 - Structural Business Statistics and Global Value Chains					
	Contact:		Name:		Riina Kerner			
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Contact Information in the compiling country (please fill in):								
	Member State:							
	Name:							
	E-mail:							

Instructions						
	Confidential data:		Confidential cells must be left empty			
	Data in values:		All data referring to values must be expressed in thousands of euros. The values must be reported without decimals.			
	Validation rows and columns :		All tables include a validation row and/or validation column which compare whether the total row or column equals the sum of components. An error message is shown if the figures do not match.			
	Validation sheet:		Please check coherence between tables in validation sheet. Trade value should be the same in all datasets for credit and debit respectively			
	Methodological issues:		Data for 201..., in thousand EUR			
	Data transmission:		Data should be transmitted to Eurostat in Excel			
	Methodological explanations:					
	2013 services trade data					
	BPM6 ITSS survey					

		number of enterprises*	value, thous. EUR
1	**What is the number of enterprises and/or trade value in the ITSS survey?**		
	population of services' traders		
	sample size for the survey		
	coverage, in %		
2	**What kind of sampling method has been used?**		
	stratified		
	systematic		
	quota		
	cluster		
	Bernoulli sampling		
	Poisson sampling		
3	**What is the sample design in your ITSS survey?**		
	For example (stratified sample):		
	large	*90% of the number of enterprises included in the sample*	
	medium	*60% of the number of enterprises included in the sample*	
	small	*20% of the number of enterprises included in the sample*	
	Your sampling design:		

Table 1.1: Trade value by activity sector and enterprise size class

Exports (Intra EU)		Activity													Total	Linked data
		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity			
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U				
Number of employees	0_49:															Linked data
	0_9															
	10_49															
	50_249															
	250_M															
	non-attributed size															
	TOT															

		travel		Non-linked services
		financial		
		other		
		Total		Linked+ non-linked

Table 1.2: Trade value by activity sector and enterprise size class

Imports (Intra EU)		Activity													Total	Linked data
		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity			
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U				
Number of employees	0_49:															Linked data
	0_9															
	10_49															
	50_249															
	250_M															
	non-attributed size															
	TOT															

		travel		Non-linked services
		financial		
		other		
		Total		Linked+ non-linked

Table 1.3: Trade value by activity sector and enterprise size class

Exports (Extra EU)		Activity												Total	
		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity		Linked data
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
Number of employees	0_49:														
	0_9														
	10_49														
	50_249														
	250_M														
	non-attributed size														
	TOT														

travel		Non-linked services	
financial			
other			
Total		Linked+ non-linked	

Table 1.4: Trade value by activity sector and enterprise size class

Imports (Extra EU)		Activity												Total	
		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity		Linked data
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
Number of employees	0_49:														
	0_9														
	10_49														
	50_249														
	250_M														
	non-attributed size														
	TOT														

travel		Non-linked services	
financial			
other			
Total		Linked+ non-linked	

Table 1.5: Trade value by activity sector and enterprise size class

Exports (Intra+Extra EU)	Activity															
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total			
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U					

Number of employees		A-B	C	D-E	F	G	H	J	K	M	N	OTHER	non-attr	Total	Linked data
	0_49:														
	0_9														
	10_49														
	50_249														
	250_M														
	non-attributed size														
	TOT														

travel		Non-linked services
financial		
other		
Total		Linked+ non-linked

Table 1.6: Trade value by activity sector and enterprise size class

Imports (Intra+Extra EU)	Activity															
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total			
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U					

Number of employees		A-B	C	D-E	F	G	H	J	K	M	N	OTHER	non-attr	Total	Linked data
	0_49:														
	0_9														
	10_49														
	50_249														
	250_M														
	non-attributed size														
	TOT														

travel		Non-linked services
financial		
other		
Total		Linked+ non-linked

Table 2.1: Trade value by service item and activity sector

Exports (Intra EU trade)			NACE activity										Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
EBOPS 2010	SA	Manuf serv on physical inputs owned by others													
	SB	Maintenance and repair services nie													
	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information services													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	professional and management consulting services													
	SJ3	Technical, trade related and other business services													
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: (Optional): Other business services

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 2.2: Trade value by service item and activity sector

Imports (Intra EU trade)			NACE activity										Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
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	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information services													
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	SJ3	Technical, trade related and other business services													
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: (Optional): Other business services

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 2.3: Trade value by service item and activity sector

Exports (Extra EU trade)			NACE activity										Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
EBOPS 2010	SA	Manuf serv on physical inputs owned by others													
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	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information services													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	professional and management consulting services													
	SJ3	Technical, trade related and other business services													
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: *(Optional): Other business services*

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 2.4: Trade value by service item and activity sector

Imports (Extra EU trade)			NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
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	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
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	SJ	Other business services													
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	SJ2	professional and management consulting services													
	SJ3	Technical, trade related and other business services													
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: (Optional): Other business services

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 2.5: Trade value by service item and activity sector

Exports (Intra + Extra EU trade)			NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
EBOPS 2010	SA	Manuf serv on physical inputs owned by others													
	SB	Maintenance and repair services nie													
	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information services													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	professional and management consulting services													
	SJ3	Technical, trade related and other business services													
	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: (Optional): Other business services

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 2.6: Trade value by service item and activity sector

Imports (Intra + Extra EU trade)			NACE activity											Non-attributed activity	TOT
			A-B	C	D-E	F	G	H	J	K	M	N	OTHER		
	CODE	ITEM	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U		
EBOPS 2010	SA	Manuf serv on physical inputs owned by others													
	SB	Maintenance and repair services nie													
	SC	Transport													
	SD	Travel													
	SE	Construction													
	SF	Insurance and pension services													
	SG	Financial services													
	SH	Charges for the use of intellectual property n.i.e.													
	SI	Telecommunications, computer, information services													
	SJ	Other business services													
	SJ1	Research and development services													
	SJ2	professional and management consulting services													
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	SK	Personal, cultural and recreational services													
	SL	Government goods and services, n.i.e.													
		Non-attributed services													
	TOT	TOTAL*													

Table 2.1.A: (Optional): Other business services

		A-B/D-E	C	F-G-H	J	K	M	N	OTHER*
SJ	**Other business services**								
SJ1	Research and development services								
SJ2	professional and management consulting services								
SJ3	Technical, trade related and other business services								

Table 3.1: Trade value by main economic activity and type of ownership

Exports (Intra EU)	Activity											non-attributed activity	Total	Linked data
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity			
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
1. Domestic, foreign control less 50%														
1.1. Domestic indigenous														
1.2. Domestic multinational														
2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
Non-attributed: ownership														
TOT														

travel		Non-linked services
financial		
other		
Total		Linked+ non-linked

Table 3.1: Trade value by main economic activity and type of ownership

Imports (Intra EU)	Activity											non-attributed activity	Total	Linked data
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity			
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
1. Domestic, foreign control less 50%														
1.1. Domestic indigenous														
1.2. Domestic multinational														
2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
Non-attributed: ownership														
TOT														

travel		Non-linked services
financial		
other		
Total		Linked+ non-linked

Table 3.3: Trade value by main economic activity and type of ownership

Exports (Extra EU)	Activity													
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total	
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
1. Domestic, foreign control less 50%														Linked data
1.1. Domestic indigenous														
1.2. Domestic multinational														
2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
Non-attributed: ownership														
TOT														
											travel		Non-linked services
											financial		
											other		
											Total		Linked+ non-linked

(Type of ownership — row group label)

Table 3.4: Trade value by main economic activity and type of ownership

Imports (Extra EU)	Activity													
	A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total	
	01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
1. Domestic, foreign control less 50%														Linked data
1.1. Domestic indigenous														
1.2. Domestic multinational														
2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
Non-attributed: ownership														
TOT														
											travel		Non-linked services
											financial		
											other		
											Total		Linked+ non-linked

(Type of ownership — row group label)

Table 3.5: Trade value by main economic activity and type of ownership

		Activity													
Exports (Intra + Extra EU)		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total	
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
Type of ownership	1. Domestic, foreign control less 50%														Linked data
	1.1. Domestic indigenous														
	1.2. Domestic multinational														
	2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
	Non-attributed: ownership														
	TOT														
												travel		Non-linked services
												financial		
												other		
												Total		Linked+ non-linked

Table 3.6: Trade value by main economic activity and type of ownership

		Activity													
Imports (Intra + Extra EU)		A-B	C	D-E	F	G	H	J	K	M	N	OTHER activity	non-attributed activity	Total	
		01-09	10-33	35-39	41-43	45-47	49-53	58-63	64-66	69-75	77-82	I,L,O,P,Q,R,S,T,U			
Type of ownership	1. Domestic, foreign control less 50%														Linked data
	1.1. Domestic indigenous														
	1.2. Domestic multinational														
	2. Foreign controlled MNE (control abroad, daughters at home) control more 50%														
	Non-attributed: ownership														
	TOT														
												travel		Non-linked services
												financial		
												other		
												Total		Linked+ non-linked

Table 4.1: Trade value by activity sector

Exports (Intra EU)			
	NACE rev 2	Trade value	Linked data
A	**AGRICULTURE, FORESTRY AND FISHING**		
01	Crop and animal production, hunting and related service activities		
02	Forestry and logging		
03	Fishing and aquaculture		
B	**MINING AND QUARRYING**		
05	Mining of coal and lignite		
06	Extraction of crude petroleum and natural gas		
07	Mining of metal ores		
08	Other mining and quarrying		
09	Mining support service activities		
C	**MANUFACTURING**		
10	Manufacture of food products		
11	Manufacture of beverages		
12	Manufacture of tobacco products		
13	Manufacture of textiles		
14	Manufacture of wearing apparel		
15	Manufacture of leather and related products		
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials		
17	Manufacture of paper and paper products		
18	Printing and reproduction of recorded media		
19	Manufacture of coke and refined petroleum products		
20	Manufacture of chemicals and chemical products		
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations		
22	Manufacture of rubber and plastic products		
23	Manufacture of other non-metallic mineral products		
24	Manufacture of basic metals		
25	Manufacture of fabricated metal products, except machinery and equipment		
26	Manufacture of computer, electronic and optical products		
27	Manufacture of electrical equipment		
28	Manufacture of machinery and equipment n.e.c.		
29	Manufacture of motor vehicles, trailers and semi-trailers		
30	Manufacture of other transport equipment		
31	Manufacture of furniture		
32	Other manufacturing		
33	Repair and installation of machinery and equipment		
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply		

E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES		
36	Water collection, treatment and supply		
37	Sewerage		
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services		
F	CONSTRUCTION		
41	Construction of buildings		
42	Civil engineering		
43	Specialised construction activities		
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES		
45	Wholesale and retail trade and repair of motor vehicles and motorcycles		
46	Wholesale trade, except of motor vehicles and motorcycles		
47	Retail trade, except of motor vehicles and motorcycles		
H	TRANSPORTATION AND STORAGE		
49	Land transport and transport via pipelines		
50	Water transport		
51	Air transport		
52	Warehousing and support activities for transportation		
53	Postal and courier activities		
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES		
55	Accommodation		
56	Food and beverage service activities		
J	INFORMATION AND COMMUNICATION		
58	Publishing activities		
59	Motion picture, video and television programme production, sound recording and music publishing activities		
60	Programming and broadcasting activities		
61	Telecommunications		
62	Computer programming, consultancy and related activities		
63	Information service activities		
K	FINANCIAL AND INSURANCE ACTIVITIES		
64	Financial service activities, except insurance and pension funding		
65	Insurance, reinsurance and pension funding, except compulsory social security		
66	Activities auxiliary to financial services and insurance activities		
L	REAL ESTATE ACTIVITIES		
68	Real estate activities		
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES		
69	Legal and accounting activities		
70	Activities of head offices; management consultancy activities		
71	Architectural and engineering activities; technical testing and analysis		
72	Scientific research and development		
73	Advertising and market research		
74	Other professional, scientific and technical activities		
75	Veterinary activities		

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES		
77	Rental and leasing activities		
78	Employment activities		
79	Travel agency, tour operator and other reservation service and related activities		
80	Security and investigation activities		
81	Services to buildings and landscape activities		
82	Office administrative, office support and other business support activities		
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY		
84	Public administration and defence; compulsory social security		
P	EDUCATION		
85	Education		
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES		
86	Human health activities		
87	Residential care activities		
88	Social work activities without accommodation		
R	ARTS, ENTERTAINMENT AND RECREATION		
90	Creative, arts and entertainment activities		
91	Libraries, archives, museums and other cultural activities		
92	Gambling and betting activities		
93	Sports activities and amusement and recreation activities		
S	OTHER SERVICE ACTIVITIES		
94	Activities of membership organisations		
95	Repair of computers and personal and household goods		
96	Other personal service activities		
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE		
97	Activities of households as employers of domestic personnel		
98	Undifferentiated goods- and services-producing activities of private households for own use		
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES		
99	Activities of extraterritorial organisations and bodies		
	Non-attributed:activity		
	Travel		Non-linked services
	Financial services		
	other		
	Total		Linked and non-linked

Table 4.2: Trade value by activity sector

Imports (Intra EU)			
	NACE rev 2	Trade value	Linked data
A	**AGRICULTURE, FORESTRY AND FISHING**		
01	Crop and animal production, hunting and related service activities		
02	Forestry and logging		
03	Fishing and aquaculture		
B	**MINING AND QUARRYING**		
05	Mining of coal and lignite		
06	Extraction of crude petroleum and natural gas		
07	Mining of metal ores		
08	Other mining and quarrying		
09	Mining support service activities		
C	**MANUFACTURING**		
10	Manufacture of food products		
11	Manufacture of beverages		
12	Manufacture of tobacco products		
13	Manufacture of textiles		
14	Manufacture of wearing apparel		
15	Manufacture of leather and related products		
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials		
17	Manufacture of paper and paper products		
18	Printing and reproduction of recorded media		
19	Manufacture of coke and refined petroleum products		
20	Manufacture of chemicals and chemical products		
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations		
22	Manufacture of rubber and plastic products		
23	Manufacture of other non-metallic mineral products		
24	Manufacture of basic metals		
25	Manufacture of fabricated metal products, except machinery and equipment		
26	Manufacture of computer, electronic and optical products		
27	Manufacture of electrical equipment		
28	Manufacture of machinery and equipment n.e.c.		
29	Manufacture of motor vehicles, trailers and semi-trailers		
30	Manufacture of other transport equipment		
31	Manufacture of furniture		
32	Other manufacturing		
33	Repair and installation of machinery and equipment		
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply		

E	**WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES**		
36	Water collection, treatment and supply		
37	Sewerage		
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services		
F	**CONSTRUCTION**		
41	Construction of buildings		
42	Civil engineering		
43	Specialised construction activities		
G	**WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES**		
45	Wholesale and retail trade and repair of motor vehicles and motorcycles		
46	Wholesale trade, except of motor vehicles and motorcycles		
47	Retail trade, except of motor vehicles and motorcycles		
H	**TRANSPORTATION AND STORAGE**		
49	Land transport and transport via pipelines		
50	Water transport		
51	Air transport		
52	Warehousing and support activities for transportation		
53	Postal and courier activities		
I	**ACCOMMODATION AND FOOD SERVICE ACTIVITIES**		
55	Accommodation		
56	Food and beverage service activities		
J	**INFORMATION AND COMMUNICATION**		
58	Publishing activities		
59	Motion picture, video and television programme production, sound recording and music publishing activities		
60	Programming and broadcasting activities		
61	Telecommunications		
62	Computer programming, consultancy and related activities		
63	Information service activities		
K	**FINANCIAL AND INSURANCE ACTIVITIES**		
64	Financial service activities, except insurance and pension funding		
65	Insurance, reinsurance and pension funding, except compulsory social security		
66	Activities auxiliary to financial services and insurance activities		
L	**REAL ESTATE ACTIVITIES**		
68	Real estate activities		
M	**PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES**		
69	Legal and accounting activities		
70	Activities of head offices; management consultancy activities		
71	Architectural and engineering activities; technical testing and analysis		
72	Scientific research and development		
73	Advertising and market research		
74	Other professional, scientific and technical activities		
75	Veterinary activities		

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES		
77	Rental and leasing activities		
78	Employment activities		
79	Travel agency, tour operator and other reservation service and related activities		
80	Security and investigation activities		
81	Services to buildings and landscape activities		
82	Office administrative, office support and other business support activities		
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY		
84	Public administration and defence; compulsory social security		
P	EDUCATION		
85	Education		
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES		
86	Human health activities		
87	Residential care activities		
88	Social work activities without accommodation		
R	ARTS, ENTERTAINMENT AND RECREATION		
90	Creative, arts and entertainment activities		
91	Libraries, archives, museums and other cultural activities		
92	Gambling and betting activities		
93	Sports activities and amusement and recreation activities		
S	OTHER SERVICE ACTIVITIES		
94	Activities of membership organisations		
95	Repair of computers and personal and household goods		
96	Other personal service activities		
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE		
97	Activities of households as employers of domestic personnel		
98	Undifferentiated goods- and services-producing activities of private households for own use		
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES		
99	Activities of extraterritorial organisations and bodies		
	Non-attributed:activity		
	Travel		Non-linked services
	Financial services		
	other		
	Total		Linked and non-linked

Table 4.3: Trade value by activity sector

Exports (Extra EU)			
	NACE rev 2	Trade value	Linked data
A	**AGRICULTURE, FORESTRY AND FISHING**		
01	Crop and animal production, hunting and related service activities		
02	Forestry and logging		
03	Fishing and aquaculture		
B	**MINING AND QUARRYING**		
05	Mining of coal and lignite		
06	Extraction of crude petroleum and natural gas		
07	Mining of metal ores		
08	Other mining and quarrying		
09	Mining support service activities		
C	**MANUFACTURING**		
10	Manufacture of food products		
11	Manufacture of beverages		
12	Manufacture of tobacco products		
13	Manufacture of textiles		
14	Manufacture of wearing apparel		
15	Manufacture of leather and related products		
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials		
17	Manufacture of paper and paper products		
18	Printing and reproduction of recorded media		
19	Manufacture of coke and refined petroleum products		
20	Manufacture of chemicals and chemical products		
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations		
22	Manufacture of rubber and plastic products		
23	Manufacture of other non-metallic mineral products		
24	Manufacture of basic metals		
25	Manufacture of fabricated metal products, except machinery and equipment		
26	Manufacture of computer, electronic and optical products		
27	Manufacture of electrical equipment		
28	Manufacture of machinery and equipment n.e.c.		
29	Manufacture of motor vehicles, trailers and semi-trailers		
30	Manufacture of other transport equipment		
31	Manufacture of furniture		
32	Other manufacturing		
33	Repair and installation of machinery and equipment		
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply		

E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES		
36	Water collection, treatment and supply		
37	Sewerage		
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services		
F	CONSTRUCTION		
41	Construction of buildings		
42	Civil engineering		
43	Specialised construction activities		
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES		
45	Wholesale and retail trade and repair of motor vehicles and motorcycles		
46	Wholesale trade, except of motor vehicles and motorcycles		
47	Retail trade, except of motor vehicles and motorcycles		
H	TRANSPORTATION AND STORAGE		
49	Land transport and transport via pipelines		
50	Water transport		
51	Air transport		
52	Warehousing and support activities for transportation		
53	Postal and courier activities		
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES		
55	Accommodation		
56	Food and beverage service activities		
J	INFORMATION AND COMMUNICATION		
58	Publishing activities		
59	Motion picture, video and television programme production, sound recording and music publishing activities		
60	Programming and broadcasting activities		
61	Telecommunications		
62	Computer programming, consultancy and related activities		
63	Information service activities		
K	FINANCIAL AND INSURANCE ACTIVITIES		
64	Financial service activities, except insurance and pension funding		
65	Insurance, reinsurance and pension funding, except compulsory social security		
66	Activities auxiliary to financial services and insurance activities		
L	REAL ESTATE ACTIVITIES		
68	Real estate activities		
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES		
69	Legal and accounting activities		
70	Activities of head offices; management consultancy activities		
71	Architectural and engineering activities; technical testing and analysis		
72	Scientific research and development		
73	Advertising and market research		
74	Other professional, scientific and technical activities		
75	Veterinary activities		

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES		
77	Rental and leasing activities		
78	Employment activities		
79	Travel agency, tour operator and other reservation service and related activities		
80	Security and investigation activities		
81	Services to buildings and landscape activities		
82	Office administrative, office support and other business support activities		
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY		
84	Public administration and defence; compulsory social security		
P	EDUCATION		
85	Education		
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES		
86	Human health activities		
87	Residential care activities		
88	Social work activities without accommodation		
R	ARTS, ENTERTAINMENT AND RECREATION		
90	Creative, arts and entertainment activities		
91	Libraries, archives, museums and other cultural activities		
92	Gambling and betting activities		
93	Sports activities and amusement and recreation activities		
S	OTHER SERVICE ACTIVITIES		
94	Activities of membership organisations		
95	Repair of computers and personal and household goods		
96	Other personal service activities		
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE		
97	Activities of households as employers of domestic personnel		
98	Undifferentiated goods- and services-producing activities of private households for own use		
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES		
99	Activities of extraterritorial organisations and bodies		
	Non-attributed:activity		
	Travel		Non-linked services
	Financial services		
	other		
	Total		Linked and non-linked

Table 4.4: Trade value by activity sector

Imports (Extra EU)			
	NACE rev 2	Trade value	Linked data
A	**AGRICULTURE, FORESTRY AND FISHING**		
01	Crop and animal production, hunting and related service activities		
02	Forestry and logging		
03	Fishing and aquaculture		
B	**MINING AND QUARRYING**		
05	Mining of coal and lignite		
06	Extraction of crude petroleum and natural gas		
07	Mining of metal ores		
08	Other mining and quarrying		
09	Mining support service activities		
C	**MANUFACTURING**		
10	Manufacture of food products		
11	Manufacture of beverages		
12	Manufacture of tobacco products		
13	Manufacture of textiles		
14	Manufacture of wearing apparel		
15	Manufacture of leather and related products		
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials		
17	Manufacture of paper and paper products		
18	Printing and reproduction of recorded media		
19	Manufacture of coke and refined petroleum products		
20	Manufacture of chemicals and chemical products		
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations		
22	Manufacture of rubber and plastic products		
23	Manufacture of other non-metallic mineral products		
24	Manufacture of basic metals		
25	Manufacture of fabricated metal products, except machinery and equipment		
26	Manufacture of computer, electronic and optical products		
27	Manufacture of electrical equipment		
28	Manufacture of machinery and equipment n.e.c.		
29	Manufacture of motor vehicles, trailers and semi-trailers		
30	Manufacture of other transport equipment		
31	Manufacture of furniture		
32	Other manufacturing		
33	Repair and installation of machinery and equipment		
D	**ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**		
35	Electricity, gas, steam and air conditioning supply		

E	WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES		
36	Water collection, treatment and supply		
37	Sewerage		
38	Waste collection, treatment and disposal activities; materials recovery		
39	Remediation activities and other waste management services		
F	CONSTRUCTION		
41	Construction of buildings		
42	Civil engineering		
43	Specialised construction activities		
G	WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES		
45	Wholesale and retail trade and repair of motor vehicles and motorcycles		
46	Wholesale trade, except of motor vehicles and motorcycles		
47	Retail trade, except of motor vehicles and motorcycles		
H	TRANSPORTATION AND STORAGE		
49	Land transport and transport via pipelines		
50	Water transport		
51	Air transport		
52	Warehousing and support activities for transportation		
53	Postal and courier activities		
I	ACCOMMODATION AND FOOD SERVICE ACTIVITIES		
55	Accommodation		
56	Food and beverage service activities		
J	INFORMATION AND COMMUNICATION		
58	Publishing activities		
59	Motion picture, video and television programme production, sound recording and music publishing activities		
60	Programming and broadcasting activities		
61	Telecommunications		
62	Computer programming, consultancy and related activities		
63	Information service activities		
K	FINANCIAL AND INSURANCE ACTIVITIES		
64	Financial service activities, except insurance and pension funding		
65	Insurance, reinsurance and pension funding, except compulsory social security		
66	Activities auxiliary to financial services and insurance activities		
L	REAL ESTATE ACTIVITIES		
68	Real estate activities		
M	PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES		
69	Legal and accounting activities		
70	Activities of head offices; management consultancy activities		
71	Architectural and engineering activities; technical testing and analysis		
72	Scientific research and development		
73	Advertising and market research		
74	Other professional, scientific and technical activities		
75	Veterinary activities		

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES		
77	Rental and leasing activities		
78	Employment activities		
79	Travel agency, tour operator and other reservation service and related activities		
80	Security and investigation activities		
81	Services to buildings and landscape activities		
82	Office administrative, office support and other business support activities		
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY		
84	Public administration and defence; compulsory social security		
P	EDUCATION		
85	Education		
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES		
86	Human health activities		
87	Residential care activities		
88	Social work activities without accommodation		
R	ARTS, ENTERTAINMENT AND RECREATION		
90	Creative, arts and entertainment activities		
91	Libraries, archives, museums and other cultural activities		
92	Gambling and betting activities		
93	Sports activities and amusement and recreation activities		
S	OTHER SERVICE ACTIVITIES		
94	Activities of membership organisations		
95	Repair of computers and personal and household goods		
96	Other personal service activities		
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE		
97	Activities of households as employers of domestic personnel		
98	Undifferentiated goods- and services-producing activities of private households for own use		
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES		
99	Activities of extraterritorial organisations and bodies		
	Non-attributed:activity		
	Travel		Non-linked services
	Financial services		
	other		
	Total		Linked and non-linked

Table 4.5: Trade value by activity sector

Total Exports (Intra + Extra EU)			
NACE rev 2	Trade value	Exports Intensity*	Linked data
A **AGRICULTURE, FORESTRY AND FISHING**			
01 Crop and animal production, hunting and related service activities			
02 Forestry and logging			
03 Fishing and aquaculture			
B **MINING AND QUARRYING**			
05 Mining of coal and lignite			
06 Extraction of crude petroleum and natural gas			
07 Mining of metal ores			
08 Other mining and quarrying			
09 Mining support service activities			
C **MANUFACTURING**			
10 Manufacture of food products			
11 Manufacture of beverages			
12 Manufacture of tobacco products			
13 Manufacture of textiles			
14 Manufacture of wearing apparel			
15 Manufacture of leather and related products			
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials			
17 Manufacture of paper and paper products			
18 Printing and reproduction of recorded media			
19 Manufacture of coke and refined petroleum products			
20 Manufacture of chemicals and chemical products			
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations			
22 Manufacture of rubber and plastic products			
23 Manufacture of other non-metallic mineral products			
24 Manufacture of basic metals			
25 Manufacture of fabricated metal products, except machinery and equipment			
26 Manufacture of computer, electronic and optical products			
27 Manufacture of electrical equipment			
28 Manufacture of machinery and equipment n.e.c.			
29 Manufacture of motor vehicles, trailers and semi-trailers			
30 Manufacture of other transport equipment			
31 Manufacture of furniture			
32 Other manufacturing			
33 Repair and installation of machinery and equipment			
D **ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**			
35 Electricity, gas, steam and air conditioning supply			

E	**WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES**			
36	Water collection, treatment and supply			
37	Sewerage			
38	Waste collection, treatment and disposal activities; materials recovery			
39	Remediation activities and other waste management services			
F	**CONSTRUCTION**			
41	Construction of buildings			
42	Civil engineering			
43	Specialised construction activities			
G	**WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES**			
45	Wholesale and retail trade and repair of motor vehicles and motorcycles			
46	Wholesale trade, except of motor vehicles and motorcycles			
47	Retail trade, except of motor vehicles and motorcycles			
H	**TRANSPORTATION AND STORAGE**			
49	Land transport and transport via pipelines			
50	Water transport			
51	Air transport			
52	Warehousing and support activities for transportation			
53	Postal and courier activities			
I	**ACCOMMODATION AND FOOD SERVICE ACTIVITIES**			
55	Accommodation			
56	Food and beverage service activities			
J	**INFORMATION AND COMMUNICATION**			
58	Publishing activities			
59	Motion picture, video and television programme production, sound recording and music publishing activities			
60	Programming and broadcasting activities			
61	Telecommunications			
62	Computer programming, consultancy and related activities			
63	Information service activities			
K	**FINANCIAL AND INSURANCE ACTIVITIES**			
64	Financial service activities, except insurance and pension funding			
65	Insurance, reinsurance and pension funding, except compulsory social security			
66	Activities auxiliary to financial services and insurance activities			
L	**REAL ESTATE ACTIVITIES**			
68	Real estate activities			
M	**PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES**			
69	Legal and accounting activities			
70	Activities of head offices; management consultancy activities			
71	Architectural and engineering activities; technical testing and analysis			
72	Scientific research and development			
73	Advertising and market research			
74	Other professional, scientific and technical activities			
75	Veterinary activities			

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES			
77	Rental and leasing activities			
78	Employment activities			
79	Travel agency, tour operator and other reservation service and related activities			
80	Security and investigation activities			
81	Services to buildings and landscape activities			
82	Office administrative, office support and other business support activities			
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY			
84	Public administration and defence; compulsory social security			
P	EDUCATION			
85	Education			
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES			
86	Human health activities			
87	Residential care activities			
88	Social work activities without accommodation			
R	ARTS, ENTERTAINMENT AND RECREATION			
90	Creative, arts and entertainment activities			
91	Libraries, archives, museums and other cultural activities			
92	Gambling and betting activities			
93	Sports activities and amusement and recreation activities			
S	OTHER SERVICE ACTIVITIES			
94	Activities of membership organisations			
95	Repair of computers and personal and household goods			
96	Other personal service activities			
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE			
97	Activities of households as employers of domestic personnel			
98	Undifferentiated goods- and services-producing activities of private households for own use			
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES			
99	Activities of extraterritorial organisations and bodies			
	Non-attributed:activity			
	Travel			Non-linked services
	Financial services			
	other			
	Total			Linked and non-linked

* Imports ratio to turnover; based on sample linked with turnover %.

Table 4.6: Trade value by activity sector

Total Imports (Intra + Extra EU)			
NACE rev 2	Trade value	Exports Intensity (*)	Linked data
A **AGRICULTURE, FORESTRY AND FISHING**			
01 Crop and animal production, hunting and related service activities			
02 Forestry and logging			
03 Fishing and aquaculture			
B **MINING AND QUARRYING**			
05 Mining of coal and lignite			
06 Extraction of crude petroleum and natural gas			
07 Mining of metal ores			
08 Other mining and quarrying			
09 Mining support service activities			
C **MANUFACTURING**			
10 Manufacture of food products			
11 Manufacture of beverages			
12 Manufacture of tobacco products			
13 Manufacture of textiles			
14 Manufacture of wearing apparel			
15 Manufacture of leather and related products			
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials			
17 Manufacture of paper and paper products			
18 Printing and reproduction of recorded media			
19 Manufacture of coke and refined petroleum products			
20 Manufacture of chemicals and chemical products			
21 Manufacture of basic pharmaceutical products and pharmaceutical preparations			
22 Manufacture of rubber and plastic products			
23 Manufacture of other non-metallic mineral products			
24 Manufacture of basic metals			
25 Manufacture of fabricated metal products, except machinery and equipment			
26 Manufacture of computer, electronic and optical products			
27 Manufacture of electrical equipment			
28 Manufacture of machinery and equipment n.e.c.			
29 Manufacture of motor vehicles, trailers and semi-trailers			
30 Manufacture of other transport equipment			
31 Manufacture of furniture			
32 Other manufacturing			
33 Repair and installation of machinery and equipment			
D **ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY**			
35 Electricity, gas, steam and air conditioning supply			

E	**WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES**			
36	Water collection, treatment and supply			
37	Sewerage			
38	Waste collection, treatment and disposal activities; materials recovery			
39	Remediation activities and other waste management services			
F	**CONSTRUCTION**			
41	Construction of buildings			
42	Civil engineering			
43	Specialised construction activities			
G	**WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES**			
45	Wholesale and retail trade and repair of motor vehicles and motorcycles			
46	Wholesale trade, except of motor vehicles and motorcycles			
47	Retail trade, except of motor vehicles and motorcycles			
H	**TRANSPORTATION AND STORAGE**			
49	Land transport and transport via pipelines			
50	Water transport			
51	Air transport			
52	Warehousing and support activities for transportation			
53	Postal and courier activities			
I	**ACCOMMODATION AND FOOD SERVICE ACTIVITIES**			
55	Accommodation			
56	Food and beverage service activities			
J	**INFORMATION AND COMMUNICATION**			
58	Publishing activities			
59	Motion picture, video and television programme production, sound recording and music publishing activities			
60	Programming and broadcasting activities			
61	Telecommunications			
62	Computer programming, consultancy and related activities			
63	Information service activities			
K	**FINANCIAL AND INSURANCE ACTIVITIES**			
64	Financial service activities, except insurance and pension funding			
65	Insurance, reinsurance and pension funding, except compulsory social security			
66	Activities auxiliary to financial services and insurance activities			
L	**REAL ESTATE ACTIVITIES**			
68	Real estate activities			
M	**PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES**			
69	Legal and accounting activities			
70	Activities of head offices; management consultancy activities			
71	Architectural and engineering activities; technical testing and analysis			
72	Scientific research and development			
73	Advertising and market research			
74	Other professional, scientific and technical activities			
75	Veterinary activities			

N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES			
77	Rental and leasing activities			
78	Employment activities			
79	Travel agency, tour operator and other reservation service and related activities			
80	Security and investigation activities			
81	Services to buildings and landscape activities			
82	Office administrative, office support and other business support activities			
O	PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY			
84	Public administration and defence; compulsory social security			
P	EDUCATION			
85	Education			
Q	HUMAN HEALTH AND SOCIAL WORK ACTIVITIES			
86	Human health activities			
87	Residential care activities			
88	Social work activities without accommodation			
R	ARTS, ENTERTAINMENT AND RECREATION			
90	Creative, arts and entertainment activities			
91	Libraries, archives, museums and other cultural activities			
92	Gambling and betting activities			
93	Sports activities and amusement and recreation activities			
S	OTHER SERVICE ACTIVITIES			
94	Activities of membership organisations			
95	Repair of computers and personal and household goods			
96	Other personal service activities			
T	ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; U0NDIFFERENTIATED GOODS- AND SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE			
97	Activities of households as employers of domestic personnel			
98	Undifferentiated goods- and services-producing activities of private households for own use			
U	ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES			
99	Activities of extraterritorial organisations and bodies			
	Non-attributed:activity			
	Travel			Non-linked services
	Financial services			
	other			
	Total			Linked and non-linked

(*) Imports ratio to turnover; based on sample linked with turnover %.

Table 5.5: Trade value by service item and enterprise size class

EBOPS 2010	CODE	ITEMS	0_49:	0_49: 0_9	0_49: 10_49	50_249	250_M	Non-attributed size	TOT
		Total Exports (Intra + Extra)	**Number of employees**					**Non-attributed size**	**TOT**
	SA	Manufacturing services on physical inputs owned by others							
	SB	Maintenance and repair services not included elsewhere							
	SC	Transport							
	SD	Travel							
	SE	Construction							
	SF	Insurance and pension services							
	SG	Financial services							
	SH	Charges for the use of intellectual property n.i.e.							
	SI	Telecommunications, computer, and information services							
	SJ	Other business services							
	SJ1	Research and development services							
	SJ2	professional and management consulting services							
	SJ3	Technical, trade related and other business services							
	SK	Personal, cultural and recreational services							
	SL	Government goods and services, n.i.e.							
		Non-attributed services							
	TOT	TOTAL							

Table 5.6: Trade value by service item and enterprise size class

			Number of employees				Non-attributed size	TOT
Total Imports (Intra + Extra)								
	CODE	ITEMS	0_49:	_0_49: 0_9_	_0_49: 10_49_	50_249	250_M		
	SA	Manufacturing services on physical inputs owned by others							
	SB	Maintenance and repair services not included elsewhere							
	SC	Transport							
	SD	Travel							
	SE	Construction							
	SF	Insurance and pension services							
	SG	Financial services							
	SH	Charges for the use of intellectual property n.i.e.							
	SI	Telecommunications, computer, and information services							
	SJ	Other business services							
	SJ1	Research and development services							
	SJ2	professional and management consulting services							
	SJ3	Technical, trade related and other business services							
	SK	Personal, cultural and recreational services							
	SL	Government goods and services, n.i.e.							
		Non-attributed services							
	TOT	TOTAL							

(Row label at left of table: EBOPS 2010)

Table 6.5: Trade value by service item and enterprise ownership

		Total Exports (Intra + Extra)	Type of ownership				Non-attributed size	TOT
	CODE	ITEMS	1. Domestic, foreign control less 50%	*1.1. Domestic indigenous*	*1.2. Domestic multinational*	2. Foreign controlled MNE (control abroad, daughters at home) control more 50%		
EBOPS 2010	SA	Manufacturing services on physical inputs owned by others						
	SB	Maintenance and repair services not included elsewhere						
	SC	Transport						
	SD	Travel						
	SE	Construction						
	SF	Insurance and pension services						
	SG	Financial services						
	SH	Charges for the use of intellectual property n.i.e.						
	SI	Telecommunications, computer, and information services						
	SJ	Other business services						
	SJ1	Research and development services						
	SJ2	professional and management consulting services						
	SJ3	Technical, trade related and other business services						
	SK	Personal, cultural and recreational services						
	SL	Government goods and services, n.i.e.						
		Non-attributed services						
	TOT	TOTAL						

Table 6.6: Trade value by service item and enterprise ownership

	CODE	ITEMS	1. Domestic, foreign control less 50%	1.1. Domestic indigenous	1.2. Domestic multinational	2. Foreign controlled MNE (control abroad, daughters at home) control more 50%	Non-attributed size	TOT
		Total Imports (Intra + Extra)			**Type of ownership**			
EBOPS 2010	SA	Manufacturing services on physical inputs owned by others						
	SB	Maintenance and repair services not included elsewhere						
	SC	Transport						
	SD	Travel						
	SE	Construction						
	SF	Insurance and pension services						
	SG	Financial services						
	SH	Charges for the use of intellectual property n.i.e.						
	SI	Telecommunications, computer, and information services						
	SJ	Other business services						
	SJ1	Research and development services						
	SJ2	professional and management consulting services						
	SJ3	Technical, trade related and other business services						
	SK	Personal, cultural and recreational services						
	SL	Government goods and services, n.i.e.						
		Non-attributed services						
	TOT	TOTAL						

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Compilers Guide for statistics on Services Trade by Enterprise Characteristics (STEC)

Statistics on Services Trade by Enterprise Characteristics (STEC) provide insights into how different types of enterprises – characterised for example by their industry, size, or foreign ownership – are engaged in international services trade. In addition to thereby providing a "portrait" of services traders, STEC statistics also contribute to the larger statistical agenda on measuring economic globalization. This Eurostat-OECD Compiler's Guide provides recommendations on how STEC statistics can be compiled.

STEC data are typically produced by linking International Trade in Services enterprise surveys with the Statistical Business Register, creating additional information from existing national statistical data sources at a moderate cost for compilers, without increasing the burden to respondents. However, this data linking process is not without conceptual, practical, and dissemination challenges. This Compilers' Guide, building on the work and expertise of the two Eurostat STEC Task Forces, discusses these challenges and provides recommendations for dealing with them. In doing so, it aims to facilitate the production of cross-country comparable STEC statistics following the current table specifications.

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