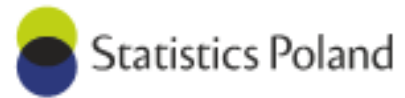


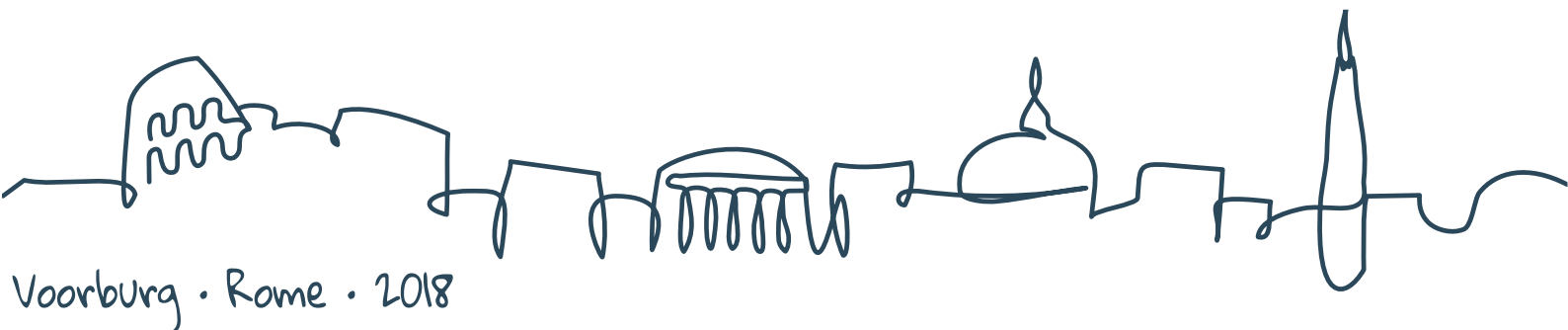


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Cross-cutting topics
**How export of services
is measured in Poland**

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1. Introduction

The main purpose of paper is to present practices and experiences of Statistics Poland when information on export of services are compiled. At the beginning I describe the phenomena of international trade in services in Poland. Then there are information on the definition of export of services, the methodology of survey on international trade in services presented. Afterwards the challenges related to the international trade in services which the Statistics Poland faces are specified.

Data on international trade in services constitutes the important component in the current account of the balance of payments in each country. As a result the export and import of services have extreme impact on the gross domestic product (GDP) as well as related indices which reflect the development of national economy.

2. General aspects of export of services

2.1 Definition of export of services

In compliance with the balance of payments statistics international trade in services comprises transactions in which one side of the transaction (purchase or sale of services) has its head of office/domicile in Poland (resident), whereas the other side of the transaction has its head of office/domicile abroad, is international organization or diplomatic unit of foreign country (non-resident).

As a result the export of services takes place when resident of Polish economy provides the services to non-resident of Polish economy. As opposite the import of services is when the resident of Polish economy purchases the services from non-resident of Polish economy.

The above concept of international trade in services is significantly narrower than definition given by the GATS¹ which specifies four modes of services supply which depend on the territorial presence of the supplier and the consumer at the time of the transaction. In compliance with the GATS definition there are four modes of services supply:

- Mode No 1 Cross-border trade – services supplied from the territory of one Member into the territory of any other Member;
- Mode No 2 Consumption abroad - services provided in the territory of one Member to the service consumer of any other Member;
- Mode No 3 Commercial presence – services supplied by a service supplier of one Member, through commercial presence, in the territory of any other Member;
- Mode No 4 Presence of natural persons – services supplied by a service supplier of one Member, through the presence of natural persons of a Member in the territory of any other Member;²

¹ GATS – General Agreement on Trade in Services

² https://www.wto.org/english/tratop_e/serv_e/cbt_course_e/c1s3p1_e.htm

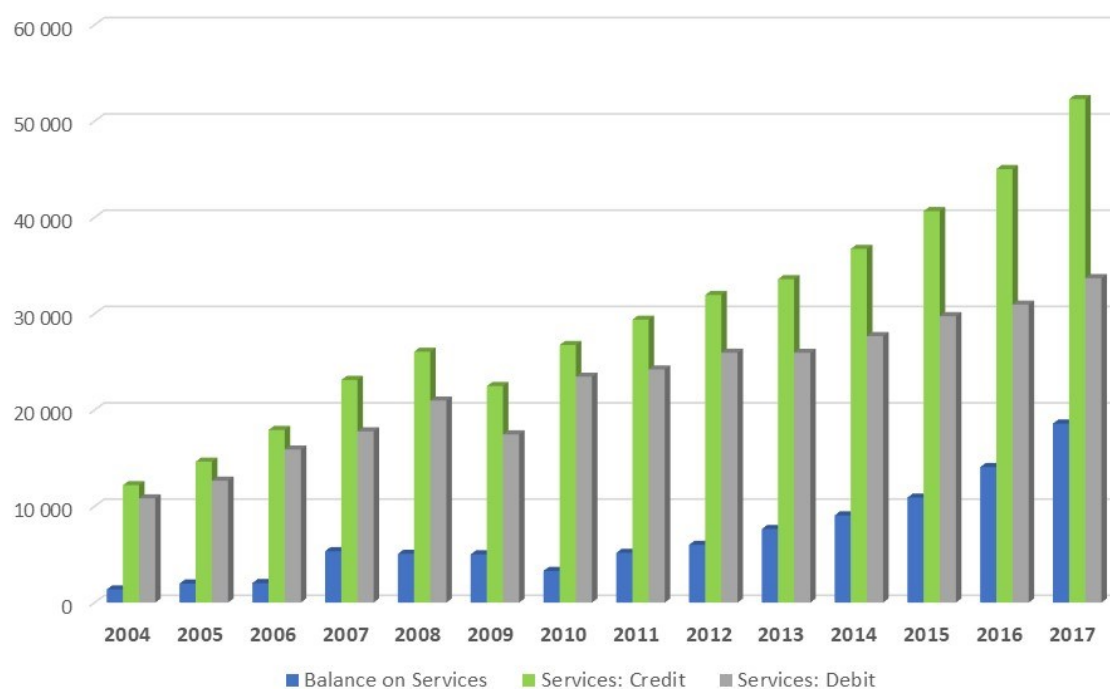
The export of services surveyed within the international trade statistics comprises the services which are provided to consumers by modes no 1, 2 and 4. The services supplied within the mode no 3 are excluded as such transactions involve only residents.

2.2 International trade in services in Poland

In Poland the role of services in the current account of balance of payments (BoP) has grown significantly between 2004 and 2017. The export of services developed more dynamically than import. In the period 2004-2017 the export increased more than four times while import of services more than three times. Moreover, the services as the only one are characterized by the positive balance in the current account.

FIGURE 1

Export and import of services in Poland in 2004-2017 (million EUR)



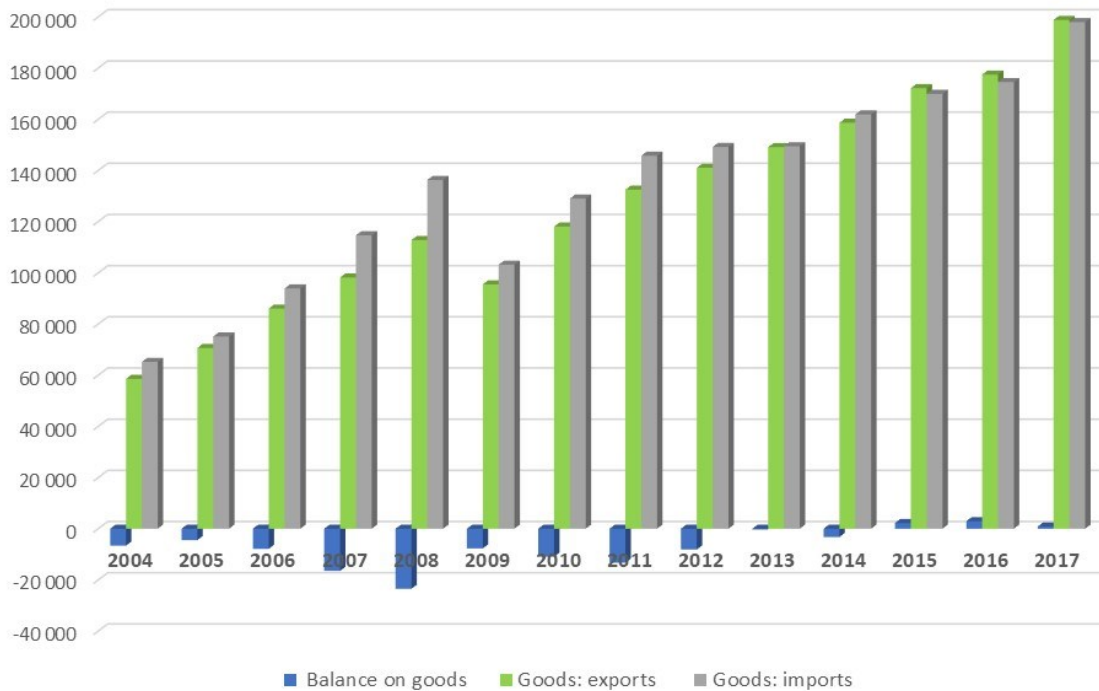
Source: https://www.nbp.pl/homen.aspx?f=en/statystyka/bilans_platniczy/bilansplatniczy_r.html

The share of export of services in the credit side of current account rose from about 15% in 2004 to over 19% in 2017. In the same period the share of export of goods was remaining at the level of about 72%-74% of credit side of current account.

Despite the dynamic growth of international trade in services the trade in goods has dominant role in the current account of BoP. In 2017 the export of goods was almost four times higher than export of services while import about six times.

FIGURE 2

Export and import of goods in Poland in 2004-2017 (million EUR)

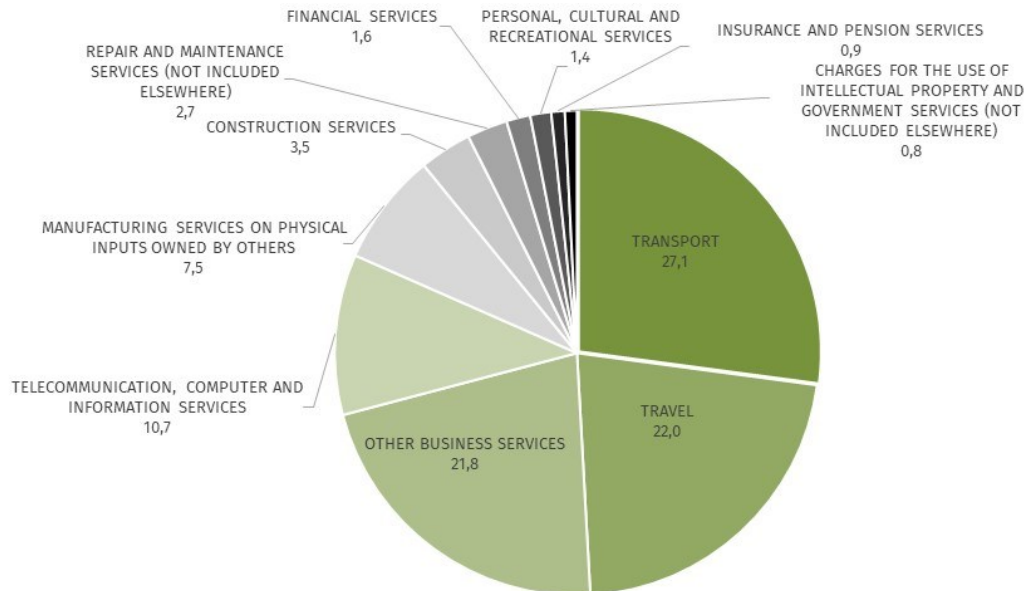


Source: https://www.nbp.pl/homen.aspx?f=en/statystyka/bilans_platniczy/bilansplatniczy_r.html

In 2016 transport played the dominant role in the export of services in Poland. It constituted above 27% of total export of services, within this the road transport had the first position with the share of 16,4% in total export of services. Travel was the next services category with the share of 22% in total export of services. The third one was other business services with the share of 21,8% and within this the legal, accounting, management consulting and public relations services constituted 7,7% of total export of services.

FIGURE 3

Structure of export of services by major groups of services by EBOPS in 2016 in %

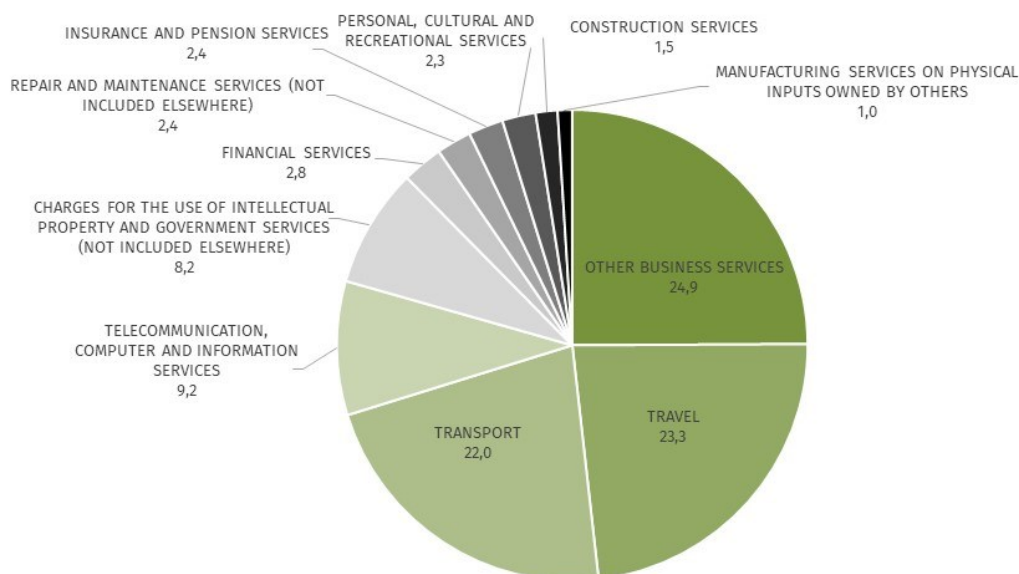


Source: own calculations on the base of the International trade in services survey

As for import in 2016 other business services constituted almost ¼ of total import of services. In this services category the legal, accounting, management consulting and public relations services had the dominant position – above 11% of total import of services. Travel had the share of 23,3% while transport – 22,0% of total import of services (within this road transport services – 10,6% of total import of services).

FIGURE 4

Structure of import of services by major groups of services by EBOPS in 2016 in %



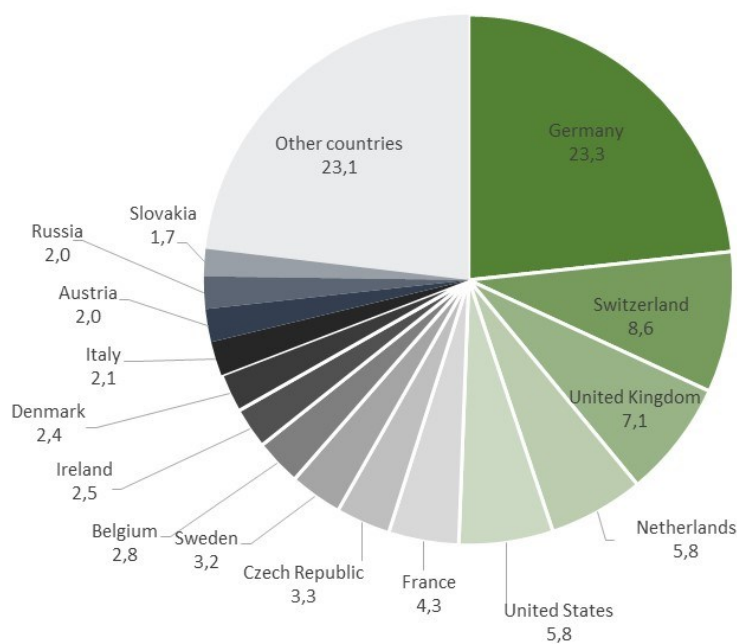
Source: own calculations on the base of the International trade in services survey

Generally, Poland is the net exporter of services. The highest value of positive balance was reported for transport. However, it was mainly generated by trade in road transport and other services supporting and auxiliary transport services while balance of trade in sea and rail transport was negative. As regards the positive balance of trade the next position belongs to manufacturing services on physical inputs owned by others, and further to travel and other business services (within this especially advertising, market research and public opinion polling).

The main receivers of services produced by Polish residents were the residents of Germany. The share of services exported to Germany accounted for 23,3% of total export of services in 2016. Above 8% of services were provided to residents of Switzerland while about 7% to the United Kingdom.

FIGURE 5

Structure of export of services by country of partner transaction in 2016 in %



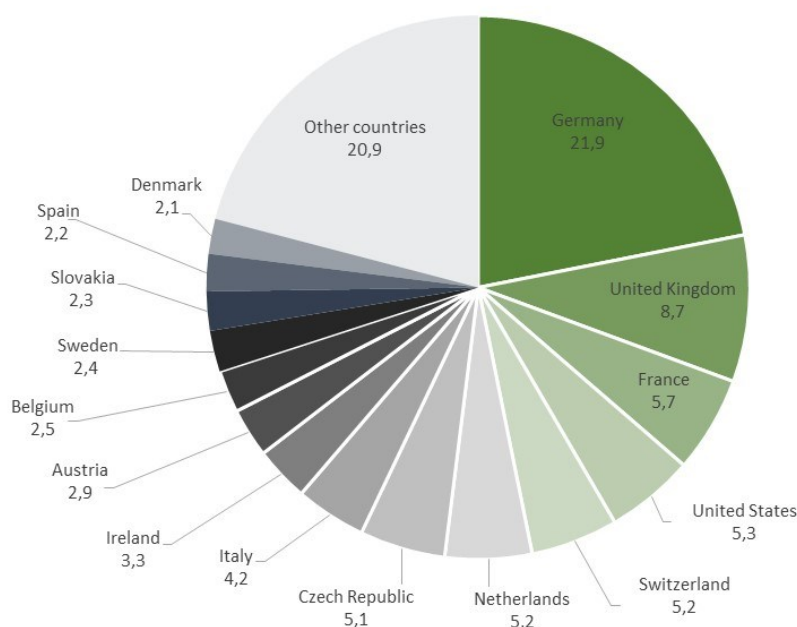
Source: own calculation on the base of the International trade in services survey

The highest share of services imported by Polish residents came from Germany – almost 22% of total import of services in 2016. The United Kingdom achieved the second position with the share of 8,7% in import of services. The third one was France with the share of 5,7%.

Regarding the countries with the highest share in international trade in services in 2016 Poland had the biggest positive balance in trade with Germany, Switzerland and the Netherlands. The negative balance took place in case of Italy, Spain, Czech Republic and Austria.

FIGURE 6

Structure of import of services services by country of partner transaction in 2016 in %



Source: own calculation on the base of the *International trade in services survey*

3. Measurement issues

3.1. General framework

In Poland information on export as well as import of services are compiled within the *International trade in services survey*. They are calculated in compliance with the Regulation of Commission (EC) No 555/2012 adjusting Regulation (EC) 184/2005 of the European Parliament and Council concerning statistics on balance of payments, international trade in services and foreign direct investments as regards updating the requirements on data and definitions.

The *International trade in services survey* has been conducted by Statistics Poland in cooperation with the National Bank of Poland (NBP) since 2009. Before 2009 data on international trade in services were produced by the NBP on the base of system of banking payments. The enterprises which made cross-border payments exceeding set up thresholds were obliged to report some information on transactions to banks. However, due to increasing threshold the NBP was forced to seek for new data source.

The introduction of new survey into official statistics was proceeded with some preparatory works. In 2008 the pilot study was conducted. It aimed at testing the questionnaire and let respondents to adjust their IT book-keeping systems to the requirements of survey. All works were done in close cooperation with staff from the NBP, especially setting up the procedure for data control or data imputation. For the reference year 2009 two simultaneous data sources existed in official statistics: system of banking payments and statistical surveys. As

a result it was possible to control data and ensure the coherence between data. Moreover, the cooperation with the NBP effects positively the response rate of survey.

3.2. Data sources for international trade in services

Information on export and import of services are compiled based on data which come from the following data sources:

- The statistical reports: DNU-K *Quarterly report on international trade in services* and DNU-R *Annual report on international trade in services* filled in by companies engaged in export and/or import of services; data collected within the reports are the same, only populations obliged to fill in them are different (see point 3.4.);
- The surveys: *Travels of non-residents to Poland. The movement of vehicles and people on the Polish border with the European Union* and *Participation of Polish citizens (residents) in travels* as data source for travel – surveys commonly supervised by Statistics Poland, National Bank of Poland and Ministry of Sport and Tourism;
- The survey on the financial services indirectly measured (FISIM) – conducted by the National Bank of Poland; information compiled based on data collected within the NBP's reports provided by banks as well as other financial companies.

The statistical reports DNU-K and DNU-R are the main data sources. Information collected within these reports are supplemented with data from other above specified surveys. Moreover, some additional calculations are needed for the insurance and pension services as well as transportation costs included in the value of imported goods for which the base is the CIF delivery terms. The calculations are done by the NBP in compliance the balance of payments' methodology.

3.3. The scope of collected information

Information collected within the DNU-K and DNU-R reports concerns data on:

- type of service provided to non-resident/ purchased from non-resident (above 81 types of services) as well as other transactions such as merchanting, compensate of non-residents, membership fees and dues etc.
- country of non-resident which is the service provider or services receiver;
- value of services provided to non-residents and/or purchased from non-residents;

The services are classified into the following major groups in compliance with the Extended Balance of Payments Services Classification (EBOPS2010):

- 1) manufacturing services on physical inputs owned by others — cover e.g. processing, assembly, labeling, packing undertaken by enterprises that do not own the goods concerned. The manufacturing is undertaken by an entity that receives a fee from the owner;
- 2) repair and maintenance services — cover maintenance and repair work provided by enterprises that do not own the goods concerned;
- 3) transport - includes all services related to the transport of passengers and goods (freight), by different means of transport, and other supporting and auxiliary transport

- services e.g. loading and unloading of goods, storage and warehousing, freight brokerage services, cleaning of transport equipment (with the breakdown into 19 sub-categories);
- 4) postal and courier services — include information about value of postal and courier services e.g. pick-up transport and delivery of letters, mailbox rental services (with the breakdown into 2 sub-categories);
 - 5) travel - covers revenues and expenditures coming from business and personal travel;
 - 6) construction - covers the creation, renovation, repair or extension of fixed assets in the form of buildings, land improvements of an engineering nature and other engineering constructions (with the breakdown into 2 sub-categories);
 - 7) insurance and pension services — cover premiums and claims from life insurance, freight insurance, other direct insurance, reinsurance, pension services and auxiliary insurance services e.g. agents' commissions, insurance brokering and agency services, actuarial services (with the breakdown into 11 sub-categories);
 - 8) financial services — include intermediary and auxiliary services e.g. financial advisory services, financial asset management services, credit rating services, rating services, usually provided by banks or other financial corporations;
 - 9) charges for the use of intellectual property — include charges for the use of proprietary rights e.g. patents, trademarks and charges for licences to reproduce or distribute intellectual property embodied in produced originals or prototypes (e.g. copyrights on books and manuscripts) and related rights (e.g. for life performances) (with the breakdown into 5 sub-categories);
 - 10) telecommunication, computer and information services — encompass the transmission of sound, images or other information, hardware and/or software-related services, and data processing services, news agency services and database services (with the breakdown into 6 sub-categories);
 - 11) research and development services – covers purchase /sale of patents, copyrights and trademarks as well as services related to financing the research and development works (with the breakdown into 6 sub-categories);
 - 12) other business services — cover the largest group of transactions which includes such services as research and development services, legal, accounting, management consulting and public relations, advertising, market research and public opinion polling, architectural, engineering, scientific and other technical services, waste treatment and de-pollution, agricultural, and mining services, operating leasing services, trade-related services and other business services (with the breakdown into 15 sub-categories);
 - 13) personal, cultural and recreational services — cover audio-visual and related services including the production of motion pictures, radio and television programmes, musical recordings, education services, health services, moreover heritage and recreational services e.g. services associated with cultural, sporting and recreational activities (with the breakdown into 8 sub-categories);

- 14) government services — cover personal expenditures on services incurred by Polish diplomats and consular staff, Polish military personnel located abroad and their dependants (with the breakdown into 3 sub-categories).

3.4. The population and sample frame

The survey on international trade in services comprises all resident of national economy who participate in international trade in services, including the entities of public financial sector. In order to establish the population frame information on VAT are used as well as data collected within the previous editions of survey on international trade in services. Moreover, data collected within the FATS³ are analyzed. If any enterprise is selected for survey it is obliged to provide data on both export and import of services regardless the type of identified type of transactions.

The survey is carried out on quarterly and annual basis. The quarterly data are collected from residents whose revenues from providing the services to non-residents in the previous responding year or in current responding year exceeded the amount of 800 000 PLN⁴ or their expenditures on services purchased from non-residents exceeded in the previous responding year or in current responding year 1 mln PLN⁵. If any enterprise enters the survey in the second quarter or later during the reference year they are obliged to provide also data for previous quarters of given year. Those residents who are not covered by quarterly survey are obliged to fill in the annual questionnaire.

TABLE 1

Number of enterprises in the sample and in the database of International trade in services survey for the reference periods in 2016 and 2017

Specification	SAMPLE	DATABASE	RESPONSE RATE IN %
QI 2016	10 572	9 456	89,4
QII 2016	11 321	9 811	86,7
QIII 2016	13 008	11 075	85,1
QIV 2016	13 196	11 205	84,9
YEAR 2016	30 427	21 754	71,5
QI 2017	11 186	9 917	88,7
QII 2017	11 934	10 369	86,9
QIII 2017	13 749	11 804	85,9
QIV 2017	13 748	11 782	85,7
YEAR 2017	30 136	20 852	69,2

Source: own calculations on the base of the International trade in services survey

3.5. Procedure for data compilation

Data on international trade in services are collected electronically within the DNU-K and DNU-R reports via the reporting website. Quarterly data are reported by reporting units

³ FATS – Foreign Affiliate Trade Statistics

⁴ Approx. EUR 182,0 thous. for 2016

⁵ Approx. EUR 227,5 thous. for 2016

within the 20 days after end of reference period while annual data within the 3 months after end of reference year. Then data are validated and if necessary corrected.

Afterwards data are processed in order to impute data for enterprises which did not respond as well as in order to estimate data for enterprises which did not exceed the reporting threshold applied in the quarterly survey.

As for quarterly edition of survey the value of export and import of services for enterprises which did not participate in the survey is calculated basing on data collected within the DNU-K report. However, firstly data for 20 enterprises with the highest import/export values are eliminated. Then the average value of export/import for the given service category and country is calculated. Afterwards the average values are multiplied by the number of enterprises which did not fill in the report.

The procedure for estimation of under-threshold values of trade is conducted with the usage coefficients developed by the NBP on the base of previous editions of survey. The total value of import/export of given services category and country resulted from the collected data and non-response estimation is multiplied by those coefficients.

The annual data on export/import of services are compiled based on data collected within the both DNU-K as well as DNU-R report. Data imputed for the threshold values are replaced by data collected within the DNU-R report. The values for non-response are calculated in the same way as in case of quarterly survey.

The quarterly as well as annual data on international trade in services compiled by Statistics Poland are supplemented with information on financial services, insurance services, travel and transportation costs included in the value of imported goods for which the base is the CIF delivery terms which are obtained or calculated by the NBP.

3.6. Data dissemination

As data on export and import of services are the component of balance of payments they are published by the National Bank of Poland (NBP) on annual, quarterly and monthly basis within the balance of payments statistics. Quarterly data are published within the 90 days after end of reference period while annual data within 9 months after end of the reference year. Data are available at the website: <https://www.nbp.pl/homen.aspx?f=/en/statystyka/bilansplatniczy.html>.

Statistics Poland disseminates annual data on international trade in services in the Statistical Yearbook of Foreign Trade within 10 months after end of reference year (<http://stat.gov.pl/en/topics/statistical-yearbooks/statistical-yearbooks/yearbook-of-foreign-trade-statistics-2017,9,11.html>) and in the Knowledge Database (<http://swaid.stat.gov.pl/en/SitePagesDBW/HandelZagraniczny.aspx>).

Moreover, annual data on international trade in services are transmitted to Eurostat in compliance with the Regulation in compliance with the Regulation of Commission (EC) No 555/2012 adjusting Regulation (EC) 184/2005 of the European Parliament and Council concerning statistics on balance of payments, international trade in services and foreign direct investments as regards updating the requirements on data and definitions.

4. Issues for consideration

Due to the intangible character of services as well as their heterogeneity the measurement of services sector is difficult task which statisticians all over the world face. It concerns all domains of statistics but especially the international trade in services. Opposite to foreign trade in goods the moment when the service crosses the border of a country territory is extremely difficult or even impossible to be caught. Moreover, the economical relationships which take place between different types of enterprises together with disappearing borders of countries makes the measurement of export and import of services more and more complicated.

Generally, information on international trade in services compiled by Statistics Poland meets the most of requirements posed by domestic users as well as international requirements resulted from the membership of Poland in the European Union as well as international organizations. However, due to dynamic processes which take place in global economy the demand for more detailed information on export and import of services is growing.

First of all, majority of users report the need for data on international trade in services by characteristics of enterprise (STEC). Statistics Poland has already conducted some experimental works and the additional action is planned to be carried out within the grant agreement with the European Commission next year.

Secondly, data users, both institutional entities, for example governmental bodies or EUROSTAT, as well as the market researches, raise the need for data on import and export of services with the breakdown into the modes of supply. Such kind of information is essential when foreign trade policy is performed by the government. However, it should be regarded that four modes of services supply specified by the GATS make the concept of export and import of services broader than definition used by the BoP statistics. According to the BoP statistics a service is exported if it is traded between residents and non-residents. That condition is met when the modes no 1, 2 and 4 take place while in case of mode no 3 transaction involves only residents. Moreover, all four modes of supply may be mixed to each other what makes the phenomena more difficult to be measured.

In order to compile information on export and import of services with the breakdown into four modes of supply Statistics Poland applied for the grant of European Commission. Within the planned action it is foreseen to conduct the pilot study which will aim at developing and then testing the methodology of survey on international trade in services by modes of supply. Moreover, due to the lack of information on services provided to/purchased from non-residents by the commercial presence the activity of the foreign affiliated enterprises is going to be analyzed (with the usage of data from foreign affiliated trade statistics – FATS).

Undoubtedly, the measurement of export and import of services by modes of supply will be the turning point for international trade in services, national accounts as well as BoP statistics. A lot of new challenges and questions will arise and first of them should be stated at the forum of Voorburg Group:

Should data on international trade in services performed by the affiliates located abroad be included in the value of export and import of services?

Thirdly, the measurement of export and import of services is a real challenge due to the lack of possibility for the mirror statistics. The comparability of data on international trade in services between various countries constitute significant quality dimension. However, due to the statistical confidentiality it is impossible to conduct such exercise with other countries.

Fourthly, nowadays in Poland information on the value of exported and imported services is presented only at the current prices because there is no suitable deflator for trade in services. However, within the services producer price statistics data on the residence of customer started to be collected from the beginning of 2018. The methodology for compilation of services producer price index for international trade in services has to be developed.
