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Mini-Presentation

on Turnover & SPPI

for

Advertising Agencies Activities

(part of ISIC 7310 / NACE 73.11)

by

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The main purpose of paper is to present practices and experiences of Statistics Poland when information on the turnover as well as SPPI for enterprises classified into *Advertising agencies* (part of ISIC 7310 / NACE 73.11) are compiled.

Generally, the methodologies of surveys on turnover and SPPI described in this paper concern not only the advertising of agencies activities, but all (in case of turnover) or majority of (in case SPPI) market services industries. As a result information compiled based on data collected within those surveys for the various industries can be easily compared to each other.

1. Description and characteristics of the industry

   1.1. Definition of the industry

According to the ISIC Rev. 4 the activity of advertising agencies is classified into the class 7310 *Advertising* (ISIC Rev.4) while in the NACE Rev.2 advertising activities are classified into two classes:

- 73.11 *Advertising agencies* and
- 73.12 *Media representation*.

The class 73.11 *Advertising agencies* by NACE Rev.2 includes the provision of a full range of advertising services (i.e., through in-house capabilities or subcontracting), including advice, creative services, production of advertising material, and buying. It includes:

- creation and realisation of advertising campaigns:
  - creating and placing advertising in newspapers, periodicals, radio, television, the Internet and other media;
  - creating and placing of outdoor advertising, e.g. billboards, panels, bulletins and frames, window dressing, showroom design, car and bus carding etc.;
  - aerial advertising;
  - distribution or delivery of advertising material or samples;
  - creation of stands and other display structures and sites;
- conducting marketing campaigns and other advertising services aimed at attracting and retaining customers:
  - promotion of products;
  - point-of-sale marketing;
  - direct mail advertising;
  - marketing consulting.

In the Central Product Classification (CPC) the products of *Advertising agencies* (part of ISIC 7310 / NACE 73.11) are classified under class 8361 *Advertising services* (CPC) while in the Statistical Classification of Products by Activity (CPA2015) the products of *Advertising agencies* are classified as follows:

Statistical Classification of Products by Activity (CPA)

73	Advertising and market research services	
73.1	Advertising services	
73.11	Services provided by advertising agencies	
73.11.1	Services provided by advertising agencies	
73.11.11	Full service advertising services	This subcategory includes: - provision of the full range of advertising services, including planning, creation and execution services, such as: • selection of media to be used

		• design of advertisements, illustrations, posters, etc. • writing of scenarios for advertising movies, placement in media, planning (without production) of advertising objects or films • organisation of direct marketing or direct mail advertising campaigns
73.11.12	Direct marketing and direct mailing services	This subcategory includes: - the developing and organisation of direct marketing advertising campaigns, that is, organising sending of advertising and promotional messages directly to consumers, rather than via mass media Includes methods such as direct mail and telemarketing.
73.11.13	Advertising concept development services	This subcategory includes: - creating the basic idea for an advertisement, drafting the words - writing of scenarios for advertising movies
73.11.19	Other advertising services	This subcategory includes: - aerial advertising services - delivery services of free samples and other advertising material - demonstration and presentation advertising services at point of sale - sales promotion services (if no orders are received)

1.2. Market conditions and constraints

In Poland in 2017 there were about 25,4 thous. of enterprises with their core activity classified into the *Advertising agencies* (part of ISIC 7310/NACE 73.11) and they constituted about 1,5% of total number of enterprises in total business economy[1]. In the same year they employed above 62,3 thous. of persons (with about 0,7% share in total business economy) and generated almost EUR 6,8 billion (with about 0,6% share in total business economy).
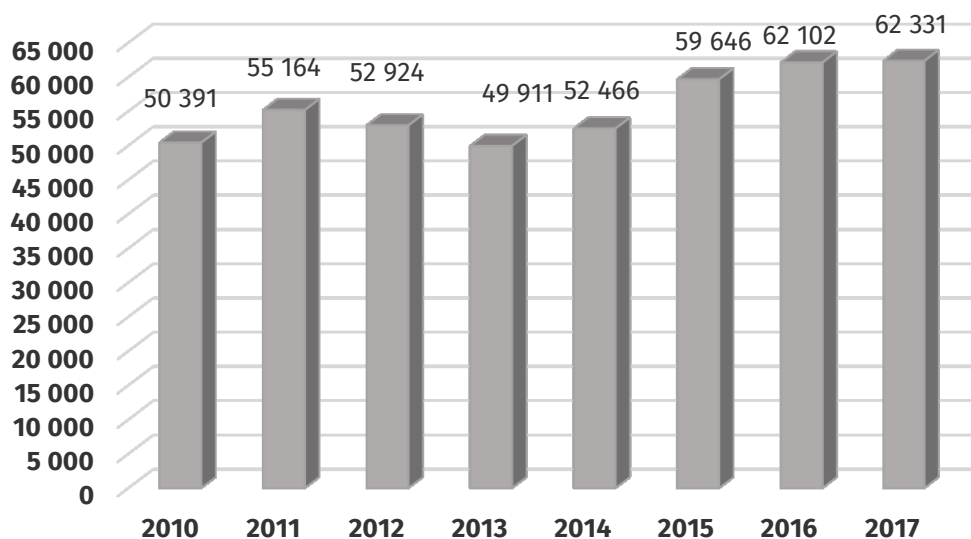
Graph 1 Number of enterprises with the core activity in NACE 73.11 in Poland in years 2010-2017
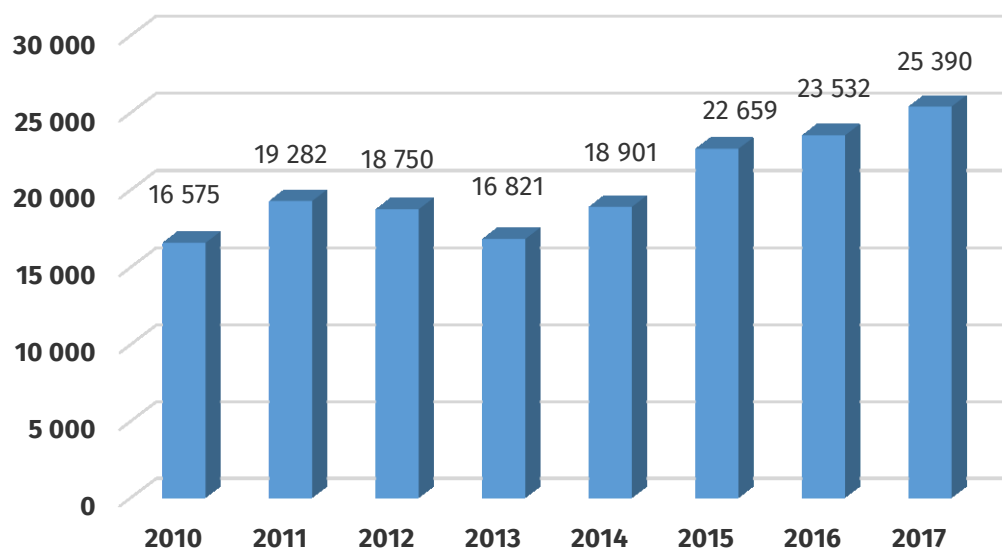
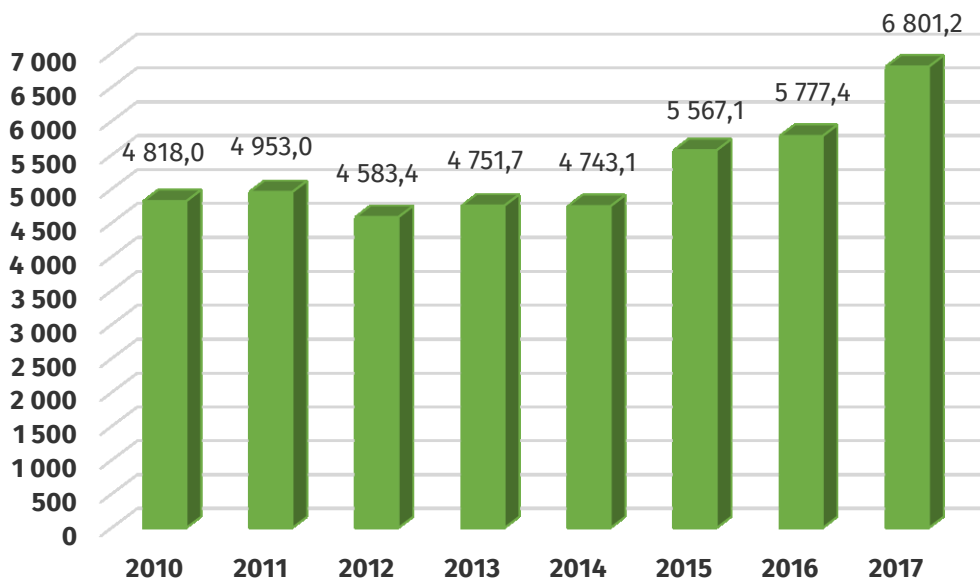*Source: Statistics Poland, Structural Business Statistics*

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[1] Total business economy together with repair of computers, personal and household goods, except financial and insurance activities (Sections B-N and division 95 of Section S, expect Section K by NACE Rev.2);

Graph 2 Number of persons employed in NACE 73.11 in Poland in years 2010-2017

Source: Statistics Poland, Structural Business Statistics

Graph 3 Turnover in NACE 73.11 in Poland in years 2010- 2017 (EUR million)

Source: Statistics Poland, Structural Business Statistics

In period 2010-2017 the number of enterprises engaged in (part of ISIC 7310 / NACE 73.11) increased by above 53%. In the same time the number of persons employed in these enterprises rose by 23,7% while the value of generated turnover – by more than 41%.
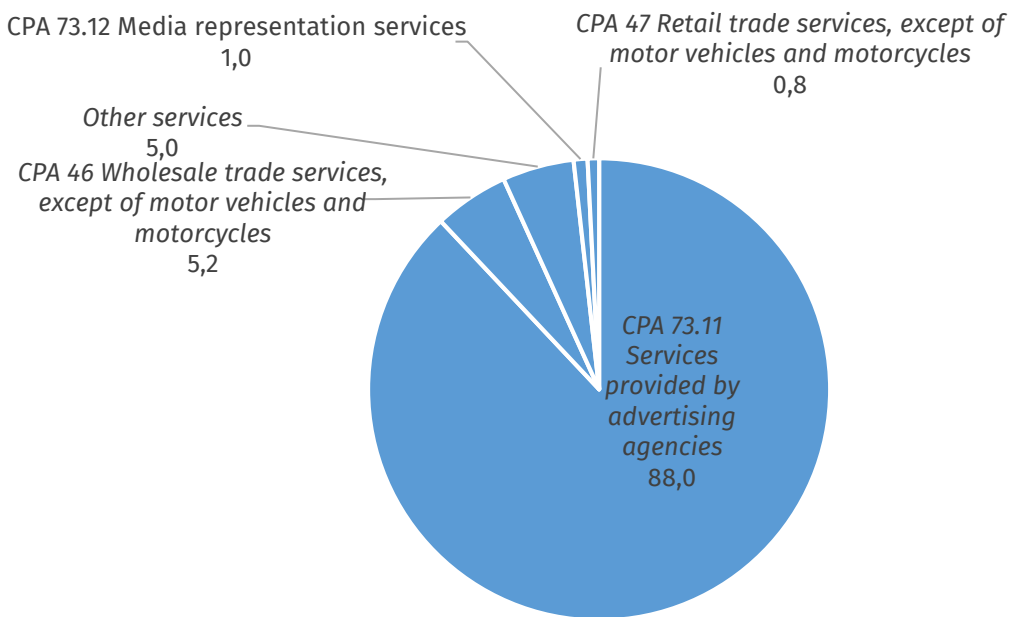
The population of enterprises classified to *Advertising agencies* (part of ISIC 7310 / NACE 73.11) is dominated by units with the number of persons employed 9 and less. In 2017 they constituted 98,1% of total number of enterprises. Simultaneously, those entities generated about half of turnover in (part of ISIC 7310 / NACE 73.11) and employed 65,6% of persons employed in that industry.

As far as the concertation of industry is concerned in 2017 5 enterprises with the highest turnover values generated 10% of total turnover in industry while 14 enterprises – 20% and 35 enterprises – 30%.

Basing on information collected from enterprises classified into ISIC/NACE 73.11 (in compliance with their core activity) with the number of persons employed 10 and more it was established in 2017 about 88% of their turnover came from the sale of services of advertising services. About 6% of turnover resulted from the trade activity (wholesale and retail trade) while about 1% of turnover was generated by the sale of media representation services.

On the other hand, in 2017 total market of advertising agencies' services accounted for 7,8 billion EUR, of which 6,4 billion EUR was performed by enterprises with their core activity in NACE 73.11[2] (about 81% of total turnover) and 1,1 billion EUR by those with the core activity in retail or wholesale trade. It was reflected in the SPPI survey which covered not only the enterprises with core activity in 73.11, but also other enterprises which provided the services of advertising services.

Graph 4 Structure of turnover in NACE 73.11 for enterprises with the number of persons employed 10 and more by product in Poland in 2017 in %

CPA 73.12 Media representation services
1,0

CPA 47 Retail trade services, except of motor vehicles and motorcycles
0,8

Other services
5,0

CPA 46 Wholesale trade services, except of motor vehicles and motorcycles
5,2

CPA 73.11 Services provided by advertising agencies
88,0

Source: own calculations on the basis of Annual survey of business activity of enterprises and Business services survey

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[2] It was assumed that enterprises with the number of persons employed 9 and less deal only with their core activity – NACE 73.11.

Graph 5 Structure of turnover for CPA 73.11 by industry in Poland in 2017 in %
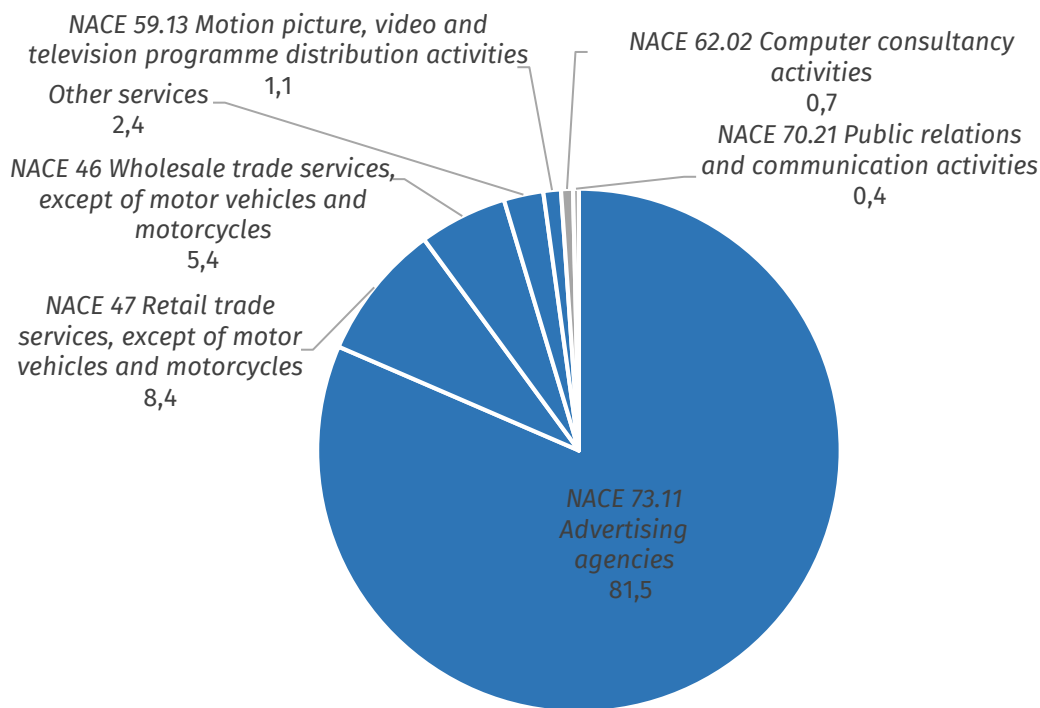
NACE 59.13 Motion picture, video and television programme distribution activities 1,1

Other services 2,4

NACE 46 Wholesale trade services, except of motor vehicles and motorcycles 5,4

NACE 47 Retail trade services, except of motor vehicles and motorcycles 8,4

NACE 62.02 Computer consultancy activities 0,7

NACE 70.21 Public relations and communication activities 0,4

NACE 73.11 Advertising agencies 81,5

Source: own calculations on the basis of Annual survey of business activity of enterprises

In 2017 the turnover of enterprises classified into *Advertising agencies* (part of ISIC 7310 / NACE 73.11) from the sale of services to non-residents accounted for about 10% of their total turnover. In case of enterprises with the number of persons employed 50 and more it was about 22%, while for enterprises with the number of persons employed between 10 and 49 it amounted to   a bit above 9% and on case of enterprises with the number of persons employed 9 and less – almost 2%.

1.3.   Specific characteristics of the industry

Among the enterprises with their core activity in *Advertising agencies* (part of ISIC 7310 / NACE 73.11) with the number of persons employed 10 and more enterprises with the foreign ownership play the important role. For the enterprises with the number of persons employed 50 more foreign enterprises constituted almost 39% of population and generated about half of turnover. In case of enterprises with the number of persons employed between 10 and 49 foreign enterprises constituted 11,2% of population and generated about 30% of turnover. On the other hand, there are only few Polish enterprises which had the affiliates running the business activity abroad.

In the population of enterprises which operate in Poland as an advertising agencies the different types of companies were identified. Among enterprises with the number of persons employed 10 and more there are some multinational agencies which offer the complex advertising services to many customers. However, there are also enterprises which are established in order to provide the advertising services to their affiliated companies. It concerns especially the pharmaceutical companies. The services supplied by such large companies generally rely on creating the complex ecosystems of communication between producers and customers. The range of offered services covers all elements of advertising strategy, from the beginning when the behaviors of consumers as well as the situation on market are analyzed, through planning strategy and its performance, to the final phase when the effects of undertaken activities are assessed.

In order to boost the effectiveness of advertising activities the more and more significant role is assigned to searching the new communication channels used for disseminating the advertising products. As a result the activities focus on placing the products in different types of media, especially on designing, planning and creating the content marketing platforms. Such activity very often requires the close cooperation

between different actors on the market of advertising services. As a result some services are purchased from other affiliated or unaffiliated companies in order to be further resold what is recorded in the financial statements of those entities. Within the population of enterprises with the number of persons employed 10 and more in 2017 the share of services purchased from other enterprises in total cost of operational activity accounted for above 60%. Simultaneously, about 1/3 of purchased services was then resold. In case of few enterprises that share amounted even to 100%. These results are also confirmed by data collected within the survey *Demand for services* for the reference year 2015. It was showed the enterprises with their core activity in 73.11 the advertising and market research services (CPA 73) constituted above half of purchased services.

In the population of analyzed companies there are also many micro enterprises with the number of persons employed 9 and less which usually supply the only selected kind of straightforward services, such as producing business cards, stamps, signboards, engraving etc.

2. Measurement of turnover/output

   2.1 General framework

Generally, when the availability of data on output of any industry in Polish official statistics is considered it is needed to regard the statistical obligation which result from the membership of Poland in the European Union. As a result the development of any domain of statistics follows the requirements which are imposed on countries within their participation in the European Statistical System (ESS).

In case of *Advertising agencies* (part of ISIC 7310/NACE 73.11) output is reflected by turnover variable. The member countries of EU are obliged to provide Eurostat with annual data on the value of turnover with the breakdown into size classes measured by the number of persons employed is compiled at the NACE class level within the structural business statistics (turnover – 12 11 0). Final data are provided to Eurostat within the 18 months after ending the reference year. As a result, such data are available for the *Advertising agencies* (part of ISIC 7310/NACE 73.11). Within the SBS annual data on turnover by product and residence of client are also compiled but for *Advertising and market research* (ISIC/NACE 73) which comprises the industry 73.11.

As far as the short-term statistics is concerned the enterprises with their core activity in NACE 73.11 are covered by quarterly turnover indices (turnover – D210) which are calculated for the *Advertising and market research* (ISIC/NACE 73) and transmitted to Eurostat within 60 days after ending the reference quarter.

Moreover, there is also output which is applied when the set of annual data on the on output, intermediate consumption and the gross value added is prepared at the above mentioned ISIC/NACE division level for the needs of national account statistics

   2.2 Measurement issues

When data on output for the *Advertising agencies* (part of ISIC 7310/NACE 73.11) is compiled the following issues are considered:

- necessity for more detailed information on activity of the enterprises with the number of persons employed 9 and less;

  While in case of enterprises with the number of persons employed 10 and more official statistics collects a lot of different kind of information which allow to monitor their business activity the population of smaller entities has been slightly neglected. However, taking into account their respondent burden non-statistical data sources should be overviewed firstly instead of imposing on those smallest actors of economy duties related with providing the official statistics with any information.

- demand for data on turnover at the product level;

Information on output at the product level is extremely important when the sample for the SPPI survey is designed as the given type of service can be produced not only by the enterprises with their core activity in *Advertising agencies* (part of ISIC 7310/NACE 73.11).

Generally, the vast majority of surveys conducted by official statistics observe the economy at the industry level. The same situation is recorded in case of *Advertising agencies* (part of ISIC 7310/NACE 73.11). However, some surveys directly collect data on turnover at the product level or obtain information which can be used as a proxy for data at this level.

- how total output of industry should be measured;

Regarding the types of services provided by the advertising agencies which include not only services covered by their core activity but also any other services it is crucial to establish how output should be measured. There are some services which are in the fact intermediation services or rely just on re-selling products performed by other enterprises.

- supplementary information on the residence and type of services receiver;

Data on turnover by residence and type of services receiver is necessary if the SPPI with the breakdown into the type of services receiver or the SPPI in international trade in services are planned to be developed.

- influence of enterprises with the foreign ownership as well as the affiliates established abroad by Polish entities on the output of industry;

Due to the globalization process more and more attention is devoted to the activity of enterprises with the foreign ownership as well as the affiliates established abroad by Polish entities.

2.3 Description of methods for measurement

Nowadays, as mentioned above, annual data on turnover for *Advertising agencies* (part of ISIC 7310/NACE 73.11) (as well as for other economy sectors) at the industry level are compiled within the structural business statistics (SBS). The following surveys are used as the main data sources for turnover variable:

- the *Annual survey on enterprises* (SP)

The survey comprises the enterprises with the number of persons employed 10 and more which run the following industries classified by NACE Rev.2 into Sections: A *Agriculture, forestry and fishing*, B *Mining and quarrying*, C *Manufacturing*, D *Electricity, gas, steam and air conditioning supply*, E *Water supply; sewerage, waste management and remediation activities* and F *Construction*, G *Wholesale and retail trade; repair of motor vehicles and motorcycles* , H *Transportation and storage, I Accommodation and food service activities*, J *Information and communication* (except for cultural units with legal personality), K *Financial and insurance activities* (except for banks, co-operative savings and credit unions, insurance companies, brokerage companies, investments unions and funds, pension unions and funds), L *Real estate activities*, M *Professional, scientific and technical activities*, N *Administrative and support service activities*, P *Education* (except for university education), Q *Human health and social work activities* (except for independent public health care units), R *Arts, entertainment and recreation (except for cultural units with legal personality)*, S *Other service activities* (divisions 95 and 96).

The subjective scope of survey concerns information included in the financial statements: balance sheet and the profits and losses account. However, there are also collected additional information, for example number of persons employed, type of book-keeping system, the share of foreign capital, changes in ownership, etc.

In order to compile data on turnover information on the net revenues from sale of products, net revenues from sale of commodities and materials as well as data on excise taxes and subsidies are used.

- the *Survey of small enterprises* (SP3)

  The survey comprises the enterprises with the number of persons employed 9 and less which run the following industries classified by NACE Rev.2: Sections: A, B, C, D, E, F, G, H, I, J (except for cultural units with legal personality), K, L, M, N, P (except for university education)and S, K Financial and insurance activities (divisions 64 and 66), Q (except for independent public health care units), R (except for cultural units with legal personality), S (divisions 95 and 96).

  Data are collected annually from the sample of enterprises (about 5%) which are selected randomly within the settled strata (groupings required by SBS Regulation with the breakdown into voivodships). Information on the kind of book-keeping, number of persons employed, salaries, the value of fixed assets, outlays on their modernization and purchase, taxes, revenues, costs, etc. are obtained.

  In order to compile data on turnover information on the net revenues from the whole business activity and data on excise tax are used.

Apart from the surveys mentioned above other data sources are also used to compile annual data on turnover for *Advertising agencies* (part of ISIC 7310/NACE 73.11). There are other statistical surveys as well as administrative data are also implied:

- the *Report on revenues, costs and financial result as well as outlay on fixed assets* (F-01/I-01)

  This data are used to impute information for respondents who did not report data within the *Annual survey on enterprises* (SP) for enterprises with the number of persons employed 10 and more.

  The questionnaire is filled in by the enterprises which are classified by NACE Rev.2 into Sections: A (except for natural persons running the individual farms), B, C, D, E, F, G, H , I, J, L, M, N, P (except for university education), Q (except for independent public health care units), R (except for cultural units with legal personality) and S. Enterprises with the number of persons employed 50 and more are obliged to fill in the questionnaire quarterly while those with the number of persons employed between 10 and 49 on a half-year basis.

  The subjective scope of survey concerns information included in the financial statements: balance sheet and the profits and losses account. However, there are also collected additional information, for example number of persons employed, type of book-keeping system, the share of foreign capital, changes in ownership, etc.

- the *Monthly report on business activity* (DG-1)

  If there is still the lack of information on a given responding unit data on turnover are estimated with the usage of data collected within the *Monthly report on business activity* (DG-1). For DG-1 questionnaire respondents fill in the value of monthly data for responding period, but also the accumulated value from the beginning of year to the end of reporting month. This accumulated value is used to impute annual data on turnover.

- VAT data

  Finally, if there is no data in the official statistics the annual data on turnover from VAT system hold by the Ministry of Finance are used. For enterprises with the number of persons employed 9 and less only the VAT system is possible to be applied for imputation of missing data.

Apart from annual turnover for *Advertising agencies* (part of ISIC 7310/NACE 73.11) (at the industry) data at the product level but for the whole division *Advertising and market research* (ISIC/NACE 73) is also calculated. The main data source on the value of turnover by product level for the enterprises with the number of persons employed 10 and more which run the business services industries and within them also *Advertising agencies* (part of ISIC 7310/NACE 73.11) the *Business services* survey is.

The survey comprises all enterprises with the number of persons employed 10 and more with their primary business activity classified by NACE Rev.2 into:
- Software publishing (58.2),
- Computer programming, consultancy and related activities (62),
- Data processing, hosting and related activities; web portals (63.1),

- Legal activities (69.1),
- Accounting, bookkeeping and auditing activities; tax consultancy (69.2),
- Management consultancy activities (70.2),
- Architectural and engineering activities and related technical consultancy (71.1),
- Technical testing and analysis (71.2),
- Advertising (73.1),
- Market research and public opinion polling (73.2),
- Employment activities (78);

The scope of information collected within the *Report on the sale of business services (BS)* concerns data on the value of turnover by product and the percentage share of turnover by type as well as the residence of services receiver. The results of survey allow to establish the structure of turnover by product. As the survey is carried out as a census it is possible to use collected data in order to compile information on turnover with additional breakdowns also for *Advertising agencies* (part of ISIC 7310/NACE 73.11).

Apart from the results of *Business services* survey in official statistics there are other information which can be used as a proxy for turnover by product. In the *Annual survey on enterprises* (SP) data on the revenues from sale of products, commodities and materials by kind of activity at the NACE class level are collected. It can be assumed that due to the detailed activity level data on turnover can be treated as data on turnover by product. The great advantage of this data source is that the survey covers almost all national economy. It allows to estimate the revenues from sale of given service in all economy opposite to revenues from sale of products produced by given services industry which is measured by turnover at the industry level. The disadvantage is that the detail level of data is not sufficient for the requirements of structural business statistics as regards business services.

As for short-term data on turnover for *Advertising agencies* (NACE 73.11) it is compiled only at the division level *Advertising and market research* (NACE 73). The main data source for information on the value of turnover the *Monthly report on business activity* (DG-1) questionnaire is.

The *Monthly report on business activity* (DG-1) comprises all enterprises with the number of persons employed 50 and more and the 10% sample of enterprises with the number of persons employed between 10 and 49. The survey covers the following industries classified by NACE Rev.2 into Sections: A Agriculture, forestry and fishing (Division 2 Forestry and logging, class 0311 Marine fishing), B Mining and quarrying, C Manufacturing, D Electricity, gas, steam and air conditioning supply, E Water supply; sewerage, waste management and remediation activities and F Construction, and as regards the services industries into Sections: G Wholesale and retail trade; repair of motor vehicles and motorcycles, H Transportation and storage, I Accommodation and food service activities, J Information and communication, L Real estate activities, M Professional, scientific and technical activities (except for divisions 72 and 75), N Administrative and support service activities, R Arts, entertainment and recreation (except for cultural units with legal personality), S Other service activities (divisions 95 and 96).

It collects information on net revenues from the sale of products, net revenues from the sale of commodities and materials, number of persons employed, value of retail trade, value of wholesale, subsides, salaries, excise, etc. for the responding month and for period from the beginning of year.

In order to compile information on turnover net revenues from the sale of products, net revenues from the sale of commodities and materials as well as data on excise tax are used.

The short-term data on turnover are to present intra-annual changes in the development of industries. Therefore, they are not disseminated as an absolute values but are used to compile monthly or quarterly indices on turnover. They are calculated as the monthly value of turnover for a given reference period related to average monthly value for the base year. The base year is changed every five years and now 2015 is the base year.

3. Measurement of SPPI

3.1 General framework

The Producer Price Index for Services (SPPI) is one of variables compiled in the European Statistical System (ESS) within the short-term statistics (output prices – D310). In compliance with the requirements resulted from STS Regulation data on SPPI are compiled quarterly for specified groupings by NACE Rev.2 and transmitted to Eurostat within 60 days after ending the reference quarter. The SPPI is not required for Advertising agencies 73.11 NACE. Data on SPPI are compiled at the NACE 73 Advertising and market research.

In Poland the survey on SPPI was launched in 2008 in order to meet to the requirements resulted from the membership in the European Union. In 2008 the 73.11 Advertising agencies were surveyed as a part of 74 NACE Rev.1.1 Other business activities (74.40 Advertising). In 2009 after introducing the NACE Rev.2 the separate index for NACE 73 Advertising and market research has been started to be compiled.

In order to follow newly emerging needs of data users and to improve data quality in years 2014 - 2015 Statistics Poland conducted pilot study. The purpose of pilot study was to obtain from the selected group of enterprises information on the characteristics of services they provide, pricing mechanisms applied by enterprises as well as accessibility of data necessary for compilation of SPPI.

The pilot study comprised above 1 100 enterprises with the number of persons employed 10 and more which run selected business services industries, within this the Advertising agencies NACE 73.11 as a sub-group of Advertising and market research (NACE 73). There were 35 enterprises with the core activity in NACE 73.11 selected for pilot study but 21 responded. Information obtained from enterprises enabled to better understand the way the market of advertising agencies operates. In turn it allowed to establish the pricing mechanisms applied by enterprises.

As a result the new tool for data collection has been introduced since the first quarter of 2018. Moreover, the procedure for selecting the sample frame as well as the procedure for index estimation has been changed. It will enable to collect more detailed data on level prices for services and improve data quality.

Data on SPPI are used for deflating various nominal values in current prices, for example macroeconomic variables, turnover, revenues from the sale of products, etc. They are widely used in the national accounts statistics and business statistics. Moreover, data on SPPI are used when analyses of inflation are conducted.

3.2 Measurement issues

Nowadays, in Poland the SPPI is compiled and disseminated at the industry level, however, data on prices are collected from respondents at the product level. The SPPI is to reflect the changes in levels of prices for services received by their producers.

Basing on SPPI survey the following challenges and issues have been identified which should be considered more detailed when the SPPI for *Advertising agencies* NACE 73.11) is compiled:

- The modernized C-06 questionnaire will enable to develop the SPPI with the breakdown into type and residence of client. When time series for new data are long enough Statistics Poland is going to start to compile and disseminate the SPPI with additional breakdowns. It is particularly important due to the dynamic growth in export of services. However, prior to this more methodological and experimental works are needed. The suitable data sources for weights system should be identified and tested.

- When any changes to methodology of the SPPI survey are introduced it should be regarded that the population of enterprises with their primary activity classified in 73.11 is dominated by the units with the number of persons employed 9 and less.

- In the sample for 2018 the *Advertising agencies* (NACE 73.11) comprised 35 enterprises with the number of persons employed 10 and more, within this 29 units with the number of persons employed 50 and more. For 2019 reference year survey comprised 44 enterprises, within this 23 units with the number of persons employed 50 and more.

- Within the population of enterprises with their core activity in ISIC/NACE 73.11 about half of turnover value is generated by the multinational enterprises which provide services to their affiliated units. As a result these services cannot be treated as free market services. Moreover, such enterprises are not able to provide precise data on the prices. They have only information on the costs related with provision of services to other affiliated enterprises. How should these multinational enterprises be treated? Should the costs as an alternative for SPPI be monitored?

3.3   Description of pricing methods and criteria for choosing the method

The survey on SPPI comprises enterprises with the number of persons employed 10 and more which run, within both the primary as well as secondary activity, the selected services industries.

The enterprises are selected purposively basing on information included in the business register (the Base of Statistical Units – BJS) as well as data collected within the business statistics, especially within the questionnaire *Annual survey on enterprises* (SP)[3] and the questionnaire *Report on the sale of business services* (BS)[4].

The sample frame is established separately for each of services industry covered by the SPPI survey on the base of information collected within the above mentioned questionnaires as well as the business register. However, information on the revenues from the sale of products, goods and materials broken down by the kind of activity at the 4-digit class level of NACE which are collected within the SP questionnaire, are particularly useful. Basing on this information it is possible to establish the core and secondary activity of enterprises.

As a result starting from the first quarter of 2018 in the sample frame there are two groups of enterprises. The first one includes the enterprises with their core activity classified into NACE 73.11 and the second one enterprises with other core activities which report the significant share of revenues from the sale of services provided by advertising agencies (CPA 73.11).

In case of *Advertising agencies* (NACE 73.11) the SPPI survey for 2018 reference year comprised 35 enterprises, within this 29 units with the number of persons employed 50 and more. At the same time the number of services representatives amounted from about 50 in first quarter to about 60 services representatives in fourth quarter. Total number of representative services for the reference year 2018 accounted for 84.

For 2019 reference year survey comprised 44 enterprises, within this 23 units with the number of persons employed 50 and more. At the same time the number of services representatives amounted to about 80 services representatives (first quarter 2019).

The enterprise selected for survey establishes at least one services representative. However, the respondents with the number of persons employed 50 and more are obliged to provide information on at least 3 services representatives.

Data on services producer prices are collected by the use of the C-06 questionnaire which is filled in by respondents electronically by statistical website. When respondents choose their services representatives firstly they select 6-digit CPA grouping of services which should have the significant share in their turnover value. Then within such a grouping they establish the services representatives following the below recommendations:

- The service should be as representative as possible for the activity of given enterprise;

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[3] The SP questionnaire is filled in by enterprises with the number of persons employed 10 and more. The subjective scope of survey concerns information included in the financial statements: balance sheet and the profits and losses account. However, there are also collected information on turnover with the breakdown into the kind of activity at the 4-digit class level of NACE. These data are used for selecting the sample frame.

[4] The BS questionnaire is filled in by enterprises with the number of persons employed 10 and more which run the selected business services industries, amongst IT services industries. There are collected information on turnover by product or residence of services receiver (country, EU country, non-EU country) Information from survey are used as a supplementary data source when the sample frame of survey is established.

- The service should have significant share in the turnover value of 6-digit CPA grouping;

- The service should be rendered the most often, repeatable and foreseen to be produced also in future;

- The service should individual and named;

- The dynamic of price should be as much as possible characterizes the changes in price levels which take place in the grouping;

The selected representative service should be constant for consecutive reference periods. It means that in the consecutive quarters the prices should be reported for the same representative services which were selected when enterprise entered the survey. The change of representative service is possible only if the representative was not rendered any more or stopped to be representative for the given enterprise.

Till 2018 within the *Report on producer services prices* (C-06) enterprises provided information on the 6-digit CPA grouping, kind of price, unit of measure, then they described the services representative in open field in order to finally report the price level in the given and previous reference quarter as well as the reasons for their change. The number of filled-in fields and their type (open/ closed) were the same for all surveyed services industries. Moreover, the sample frame of survey covered only enterprises with their core activity. The secondary activity of enterprises was not regarded.

From the first reference quarter of 2018 data on SPPI are collected on the modernized questionnaire C-06. Currently used questionnaire consists of 22 modules. Each module is dedicated for separate services industry covered by the SPPI survey. In a given module there are as many sections as the pricing methods possible for given services industry. Comparing to the previous version of questionnaire the scope of collected information has been widened by data on type of clients and their residence. These information are necessary in order to compile the SPPI for export and the SPPI with the breakdown into the type of client. Moreover, description of services representatives has been expanded and generally, it depends on the kind of services observed. It was necessary due to the high fluctuations of level prices which were observed in case of some services industries. After analyzing price data collected within the old C-06 questionnaire it turned out that the price development very often results from the changes in quality of services rather than real prices development.

Information on SPPI *for Advertising agencies* NACE 73.11 is collected within the module no 13 dedicated to *Advertising* (NACE 73.1) including services provided by advertising agencies (NACE 73.11) and media representation (NACE 7312). The respondents are obliged to fill in one or more modules depending on their primary and secondary activity.

The module no 13 consists of five sections:

- section no 1: direct use of prices of repeated services,

- section no 2: contract pricing method,

- section no 3: unit value method,

- section no 4: time based methods,

- section no 5: percentage fee method;

The variables collected when using the different methods:

- Direct use of prices of repeated services - unit of measure, type of customer, customer's location, type of price information, price in the reporting period, price in the previous period, reasons for price change, description of the service;

- Contract pricing - unit of measure, duration of the contract, customer name, type of customer, customer's location, price in the reporting period, price in the previous period, reasons for price change, description of the service;

- Unit value method - unit of measure, type of customer, customer's location, value of the sold service in the reporting period, value of the sold service in the previous period, amount of the sold service

in the reporting period, amount of the sold service in the previous period; reasons for price change, description of the service;

- Time based methods - type of customer, customer's location, staff category, number of hours worked in the reporting period, charge out rate in the reporting period, charge out rate in the previous period, reasons for price change, description of the service;

- Percentage fee method - type of customer, customer's location, percentage fee in the reporting period, percentage fee in the previous period, the value of the product to which the fee relates in the reporting period, the value of the product to which the fee relates in the previous period, reasons for percentage fee change, description of the service.

After providing the 6-digit CPA code for the representative services respondent ticks the kind of services from the list of services. To each 6-digit CPA code the suitable names of services are assigned. Then the enterprise describes the scope of services and provides some additional information (see in Annex no 1). Each representative service has its unique number which is unchangeable during the survey. After that the responding unit fills in the suitable sections of questionnaire taking into account the applied pricing mechanism.

The Section no 1 is devoted for measuring the price development in representative services. As a result, in that section respondents are obliged to provide information on prices which are established using various pricing mechanisms. For *Advertising agencies* (NACE 73.11) in that section respondent provides data necessary for the direct use of prices of repeated services method. The reported prices can come from one invoice, be calculated on the basis of few invoices, come from the list of prices or to be estimated by staff of enterprise.

The Section no 2 concerns the long-term contract pricing method. As representative service the contract signed with the given client for the period of at least 6 months should be taken. Moreover, selected contract should assume providing the same or very similar service for longer time and payments for services should be made at least once a quarter.

The Section no 3 is aimed at monitoring the prices which are calculated as quotient of value and volume of sale realized in given reference quarter within many transactions. That pricing methods can be applied if enterprise is able to provide information on the value of turnover and volume of homogenous services provided to clients.

The Section no 4 is dedicated to measure time devoted to service provision. For representative service information on staff categories, number of hours worked in reference period and hourly charge out rate are collected.

The Section no 5 is applied to services in which prices are calculated as a percentage fee related to value of given good, service, contract. The respondent for representative service provide both information: percentage fee and related value.

Within the sections of module no 13 the respondents report the following information:

TYPE OF INFORMATION	POSSIBLE OPTIONS OF ANSWER	DIRECT USE OF PRICES OF REPEATED SERVICES	CONTRACT PRICING METHOD	UNIT VALUE METHOD	TIME BASED METHOD	PERCENTAGE FEE METHOD
UNIT OF MEASURE	selected from the list	X	X	X		
TYPE OF CLIENT	enterprise, public body, individual client	X	X	X	X	X
RESIDENCE OF CLIENT	in country, outside country	X	X	X	X	X

CLIENT NAME	*real name or symbol of the client*		X			
DURATION OF THE CONTRACT			X			
TYPE OF PRICE	*price from the representative transaction, average price from few comparable transactions, price from the list, price from the model estimated by respondent*	X				
PRICE LEVELS	*for the reporting and previous quarter*	X	X			
VALUE OF THE SOLD SERVICE	*for the reporting and previous quarter*			X		
AMOUNT OF THE SOLD SERVICE	*for the reporting and previous quarter*			X		
STAFF CATEGORY	*open question*				X	
NUMBER OF HOURS WORKED IN THE REPORTING PERIOD	*For the reporting quarter*				X	
CHARGE OUT RATE	*for the reporting and previous quarter*				X	
PERCENTAGE FEE	*for the reporting and previous quarter*					X
THE VALUE OF THE PRODUCT TO WHICH THE FEE RELATES	*for the reporting and previous quarter*					X
REASONS FOR CHANGE IN PRICE LEVELS	*selected from the list*	X	X	X		
REASONS FOR CHANGE IN PERCENTAGE FEE	*selected from the list*					X

DESCRIPTION OF THE SERVICE	*the most important price-determining characteristics of the observed representatives according to the features specified for particular kind of services (CPA)*	X	X	X	X	X

Data collected from respondents via reporting website are validated automatically. After approving unit data provided by respondents they are downloaded to IT system of survey. In case of non-response data for given enterprise are imputed with the geometrical average of SPPIs compiled for other enterprises in given industry.

Out of 84 representative services reported within the questionnaire C-06 for reference quarters of 2018 most often (49 items) the direct use of prices of repeated services was indicated by respondent as the pricing method, followed by time based methods (18 items), contract pricing method (9 items) and percentage fee method (8 items).

In order to calculate weights used for aggregation of indices data on turnover are applied. For compiling the ISIC/NACE class level indices the unit data collected within the above mentioned SP questionnaire are used. When the indices at the class level are aggregated into the higher ISIC/NACE levels the weights are calculated on the base of turnover which come from the structural business statistics. The system of weights is changed every 5 years.

The pricing methods currently applied in measuring the price development for *Advertising* (NACE 73.1) were selected on the basis of experiences gained within the SPPI survey as well as the results of pilot study conducted by Statistics Poland in years 2014-2015.

The results of pilot study showed that in case of *Advertising* (NACE 73.1) the constant clients concerned 71% of services. About 86% of services were sold the domestic client, 95% - private enterprises, 81% - independent enterprises and almost 67% - large companies. The enterprises in 73.1 which took part in the pilot study reported also that the most important factors which determine the price level the kind of service, length of contract and scope of service are.

In 2018, the main pricing methods used for *Services provided by advertising agencies* (CPA 73.11) were: direct use of prices of repeated services, contract pricing method, time based method. Type of main collected price were: transaction price, price from the price list and hourly charge out rate

The main findings identified for measuring the SPPI in *Advertising agencies* (NACE 73.11)/ *Services provided by advertising agencies* (CPA 73.11) are presented in the table below:

The CPA code of service	Main pricing methods	Type of main collected price	Factors determining the services price (*features specified for particular kind of services (CPA) in questionnaire*)
73.11.11 Full service advertising services	section no 1: direct use of prices of repeated services; section no 2: contract pricing method; section no 4: time based methods	• transaction price • price from the price list	kind of service, aim of the campaign, strategy of the campaign, scope of service/additional information related to the service
73.11.12 Direct marketing and direct mailing services			kind of service, character of the campaign (frequency), scope of service/additional information related to the service

73.11.13 Advertising concept development services		• hourly charge out rate	kind of service, scope of service/additional information related to the service,
73.11.19 Other advertising services			kind of service, scope of service/additional information related to the service,

The procedure of SPPI estimation consists of few stages:

1) Firstly, the basic indices for each reported services representatives are calculated with the previous quarter as the base reference period.

2) Then, the price indices at the enterprise level are compiled as a geometrical average of price indices for representatives reported by given responding unit. That average comprises only services representatives covered by surveyed industry. The price indices are calculated for all enterprises covered by sample frame established for given industry (also for enterprise with secondary activities).

3) After that the SPPI for the class ISIC/NACE level is estimated with the Laspeyres price index formula, i.e. weighted average of price indices at enterprise level. As the weights unit data on turnover at the class level kind of activity for given enterprise[5] are used. The index comprises indices for all enterprises in the sample frame established for given industry.

4) The next steps includes the aggregation of indices for higher level of ISIC/NACE levels. There is also Laspeyres price index formula used. For the group, division or section levels the calculations are carried out with the use of system of weights based on turnover values from the base year which come from the structural business statistics.

The SPPI is presented with the base of previous reference period = 100, the base year = 100 and the same reference period of previous year = 100.

4. Evaluation of comparability of price data with output data

The comparability of price data and output data has been analyzed regarding different aspects of statistical production: the use of SPPI data for deflating the output data and the process of data compilation.

In Poland the SPPI for *Advertising agencies* (part of ISIC 7310/NACE 73.11) is not disseminated at that NACE level. However, it is calculated as a one stage of procedure described in point. 3.3. when the SPPI for *Advertising* (ISIC 7310/NACE 73.1) is compiled. As a result, in case of:

• annual data on turnover which are compiled at the ISIC/NACE class level, the SPPI at the group level is not enough;

• quarterly data on turnover which are produced at the division level the SPPI for *Advertising and market research* (ISIC/NACE 73) the SPPI at the division level is applied as a deflator;

• the needs of national account the SPPI for *Advertising and market research* (ISIC/NACE 73) is used in order to deflate the output.

However, according to the draft Framework Regulation in Business Statistics (FRIBS) there will be obligation to produce data on monthly index of services production (ISP). The SPPI is one of variables which is necessary to compile the ISP. On one hand, the need for compilation of SPPI on monthly basis arises. On the other hand, regarding the trends observed in prices development for business services activities, including *Advertising and market research* (ISIC/NACE 73), there is no need for higher than quarterly frequency of index. Therefore, in order to overcome constraint related to the lack of monthly SPPI the linear interpolation method is going to be applied. The timeliness of quarterly SPPI seems to be the next constraint put on the calculation of the ISP. The quarterly SPPI are available 60 days after ending

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[5] Data on turnover by the NACE level kind of activity can be a proxy for product level data.

the reference quarter and at the same 120 days after ending the reference month. It is planned that this problem will be sorted out by applying the extrapolation procedure.

Generally, regarding data sources which are used as the weights in order to compile the SPPI data on prices and data on turnover are fully coherent as for both variables data collected within the same statistical surveys for the needs of structural business statistics is used. Moreover, the same unit data are used when the sample frame for the SPPI survey is selected.

However, looking insight into the details of algorithm for compiling the SPPI for any of services industries it should be stated that data on SPPI at the class level, which are produced as a one stage of SPPI production for higher levels of NACE, are product level indices. While, due to the aggregation of class level SPPI to the group and division level indices when the turnover at industry level as the weights is applied the SPPI is compiled at the industry level. Simultaneously, data on turnover, regardless of the detail level, is compiled at the industry level. As a result, in case of data on output at the class level of NACE is not fully coherent with price data while for data at the group and division levels of NACE data are well aligned.

5. Evaluation of measurement

Nowadays, Polish official statistics compiles data on turnover and producer prices for any services industries, among these also for *Advertising agencies* (part of ISIC 7310/NACE 73.11), at the industry level. However, some experimental works are conducted in order to develop the scope of produced data.

As for turnover statistics ...

Annual data on turnover comprises whole the population of enterprises regardless of size class measured by the number of persons employed while in a case of short term data the turnover indices are compiled based on value data collected for enterprise with the number of persons employed 10 and more. Due to the significant share of these small units in the number of enterprises, number of persons employed as well as in total turnover generated in services industries and also in *Advertising agencies* (part of ISIC 7310/NACE 73.11) it is recommended to cover these part of population with statistical observation.

As for SPPI statistics ...

After implementing the new tool for data collection as well as introducing new approach for selecting the sample the SPPI data are more accurate to measure the changes in price levels recorded by given service industry. It can be stated that nowadays the SPPI becomes closer to the concept of product level.

Despite the developments implemented in the services producers price statistics there are still many challenges Statistics Poland faces. Some of them concern very practical issues related to the procedure of data collection, such as sample selection, modification of questionnaires, but there are also conceptual issues which influence all domains of statistics, such as classification issues.