

Statistics on services in the context of business statistics optimisation process

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Summary

The economic importance of the business statistics is permanently growing, mainly in services as one of the most dynamic market activities. Current business statistics system in Statistical Office of the Slovak Republic (SO SR) is based on the common approach in all market activities. Statistical surveys are the only data source for the production of short-term as well as of structural business statistics. Ensuring of comparability in time between short-term and structural statistics as well as ensuring of comparability among the market economic activities is the basic advantage of this system. Common approach to the statistical control creates the basic precondition of quality statistical data. Timeliness is another advantage, which is very important in the area of short-term indicators. However, this system is really demanding regarding the businesses and statistical cost. Lessening of the burden on enterprises, namely on micro entities as well as the need to reduce the cost of statistical data production process are the main motions of optimisation process in this area.

1.2 Data production process

At present business statistics in the conditions of SO SR is based on the data coming out exclusively from statistical surveys. In general there are two types of statistical enterprise surveys: exhaustive surveys in big enterprises with 20 and more employees and sample surveys in small enterprises with less than 20 employees and in the area of small entrepreneurs – physical persons. Depending on the main activity of responding units there are organized short-term as well as structural yearly surveys in all three types of enterprise population. Sample size differs with regard to the particularity of respondents' economic activity.

Enterprise survey system covers all market profit oriented legal units and physical persons performing their economic activity in the area of agriculture, industry, construction, retail trade and services. In the context of business statistics we are not dealing with agriculture enterprises, financial institutions and non-profit oriented organisations. The main criterion for including enterprises into the surveys is related to the definition of institutional units: if more than 50% of total expenditure is covered by turnover the unit is considered to be the market producer and has the duty to fill in relevant enterprise questionnaires. The questionnaires are based on the same concept with part of the variables common for each activity. The harmonized concept regarding the definitions and data treatment system ensures the comparability in time between short-term and annual structural surveys as well as the comparability among particular market economic activities.

There are two main problem areas regarding a current data production process. Firstly, there are problems with high non-response in surveys for small entrepreneurs and consequently with the quality of results for this population. Secondly, the statistical cost of these surveys is quite high considering the number of responding units mainly in short-term periodicity. Thirdly, the smallest entities – small entrepreneurs - are asked to fill in monthly statistical questionnaires 12 times per year and one yearly questionnaire. High cost and burden and problems in quality of input data are the opposite side of above mentioned advantages. The lesser is the size of reporting unit the more important is this problem. Consequently it is significant namely in the economic activities with important share of micro entities on the overall results of particular market areas – in market services and retail trade.

Regarding the above mentioned facts the optimisation activities are focused on the improvement of data production process. The integration of data from administrative sources into the business statistics data treatment is one of the most important efforts in SO SR. First activity in this area was done in the frame of small Eurostat project in the area of structural business statistics in 2003. The analysis was done only on the base of turnover data. The results of the project approved the feasibility of data treatment by combination of structural business surveys and tax data. The main problem was

to create the legal conditions for regular exchange of individual data with Ministry of Finance and to prepare the technical conditions for data entry into statistical database. Another project "Use of administrative sources for enhancement and improvement of the statistical information system" launched in the years 2006 and 2007 created the conditions for taking-over of administrative data by the development of special software tool.

In the first phase of optimisation process in business statistics SO SR concentrates the effort on the quality improvement of yearly structural data source in the area of small entrepreneurs. The relations between statistical and administrative data concept are investigated. The profound analysis of the attachments to the tax declaration of small entrepreneurs and comparability analysis with statistical results is at beginning of solution. This activity should result in defining the problem areas and the rate of possible differences in results.

The examined administrative data include variables of profit/loss and balance sheet forms. Statistical surveys contain variables on receipts and expenses, on stock, investment, employment variables and the breakdown of turnover by economic activities. The analysis concerns data of small entrepreneurs, which are included in both sources, it means where exists the data for the same variable in the statistical as well as in administrative source. On the base of available information in administrative data sources it is possible to calculate some variables directly using particular algorithms, e.g. as turnover, production value, wages and salaries, gross investment in tangible goods, purchases of goods and services for resale in the same condition as received. Another variables, such as value added and total purchases of goods and services or employment variables could be derived using the ratios calculated from statistical data source. In case of employment variables such as social security costs, number of employees and number of persons employed the best way is to use other administrative source, however there are problems with regard to the different concept used in social security agencies. In our view the calculation of proper ratios from statistical survey could be acceptable solution at this stage.

At the first stage the direct data imputation from ADS in case of non-responding active units in statistical surveys will be realized. It will enable to improve the quality of yearly data source, which could consequently be used as the basis for monthly data estimation. The final result of this first stage activity will be the reduction of responding units in short-term surveys as well as lessening of the burden on small entities. Instead of 13 questionnaires per year only one yearly structural questionnaire will be obligatory for this population. This is meaningful namely in the area of services, where the significant part of population concerns small entrepreneurs and small enterprises.

Second phase will focus on the method of estimation of variables, which are not available in ADS for the whole population of small entrepreneurs. The change of frequency of statistical survey is the final aim of this activity. Data for this population would be estimated using ADS and once per 3 or 5 year the statistical survey should be organized for the purposes of up-dating the internal structures of variables and for benchmarking.

1.3 New measures

The basic frame for the production of short-term statistics in the area of services is created by the legal requirements defined in the Council regulation 1165/98 on short-term statistics in terms of later amendments and implementing measures. For the purposes of EU needs data on turnover and number of employees is transmitted to Eurostat on quarterly basis. In national system these short-term variables including wages and salaries are available on monthly basis.

Data production of the large scope of activities in service sector is divided in several units. There are single units dealing with statistical surveys in transport, in information and communication technologies, dealing with wholesale and HORECA statistics and finally with other market services including tourism statistics. In context of our future plans we do not suppose to deal with non-market services. Due to this organisational background particular units compile short-term indicators individually only for relevant part of services activities. Price statistics is compiled in the responsibility of national accounts section.

In line with growing importance of services sector there is the need to assess not only the situation in individual activities but also to obtain the overall picture of an entire development in this sector. Therefore we started to search after the way of production index compilation in the area of market services.

The most appropriate way in case of SO SR is the use of value indicator turnover deflated by particular price indices. Turnover data is easily available from monthly statistical surveys at the 4-digit level of activity classification since the year 2000. More complicated situation is in data availability of correspondent price indices. Producer price indices (PPI) in services are a relatively new developing statistical area. First price indices for limited range of economic activities are available starting the year 2004. Since this year the scope of PPI is being gradually enlarged. However, there are still several gaps in coverage. Data on prices are collected in the frame of direct statistical monthly surveys in relevant enterprises. That means there are 13 specialized monthly questionnaires on output prices in services relating to particular range of economic activities.

In this context next effort will focus on the preparation of the source data on turnover and appropriate price indices as complete as possible at the 4-digit level of activity classification. This is the basic assumption for the first experimental index of services production compilation (ISP).

In this introductory phase of ISP compilation the OECD "Compilation manual for an index of services production" is very precious methodological guide. It includes not only recommendation how to compile such complex index but it supplies statisticians also with really comprehensive recommendations on data sources of necessary variables and deflators regarding the particularity of individual services activity.

What we finally would like to realize? Our aim is to compile Laspeyres index using deflated turnover data and data on value added share as the weights of base year. Surely, the willingness to implement a new measure is one thing and the objective obstacles are another one. Great effort in the last years was concentrated to the implementation of new activity classification Nace Rev.2. With regard to this the problem of ISP was removed for the later period. Regarding the growing need for more complex measure of short-term development in the area of services the ISP compilation remains in the centre of future SO SR effort.

1.4 Quality evaluation

Last important area is quality evaluation system. In the current system there are various outputs from the data treatment process, which contain information on data completeness, non-sampling errors, non-response, imputations. However, regular quality evaluation system including elaboration of quality reports is implemented only in selected statistical areas depending on the existing European regulations. SO SR has the most of experience related to business statistics in the area of structural business statistics (SBS) and research and development (R&D) statistics. Quality evaluation in short-term statistics is focused on the regular evaluation of one PEEI (Principal European Economic Indicators) per year. The last exercise of this type was realized in June 2009 for turnover data in services.

Coming out from the experience in SBS first quality reports in retail trade and services were elaborated in the frame of Transition Facility 2004 project. In the frame of the project all basic quality dimensions were analysed: relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability and coherence. This exercise was the base for current activity. SO SR cooperates in this field with the research institute Infostat on the building up of regular yearly quality evaluation system in the area of short-term statistics. Last year quality evaluation in construction was experimentally organized. In 2009 similar exercise is going on in services and is being prepared in industry statistics.

In the frame of this task the accuracy dimension was analysed using basic quality indicators: coefficient of variation, unit and item non-response, imputation rate, overcoverage and misclassification rate. The results confirmed already mentioned problem with quality of data for small entities. Except of high non-response in this population there are problems with overcoverage and misclassification in the area of retail trade as well as in services.

1.5 Conclusion

The importance of services statistics is undisputed. The dynamic development of this sector evolves increased demands on the availability of quality statistical data. High response burden and growing costs of statistical data production on the one hand and increased need for new and quality statistical indicators on the other hand require the considerable changes in current approaches. The modernisation of current concepts and methods, measures, tools and procedures is the only way how to meet the future needs.