THE INTEGRATED SHORT-TERM STATISTICAL SURVEYS: EXPERIENCE OF NBS IN MOLDOVA

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Abstract

The users' rising need for relevant, reliable, coherent, timely data for the early diagnosis of the economic vulnerability and of the turning points in the business cycles, especially during a financial and economic crisis, asks for a prompt answer, coordinated by statistical institutions. High quality short term statistics are of special interest for the emerging market economies, such as the Moldavian one, being extremely vulnerable when facing economic recession. Answering to the challenges of producing a coherent and adequate image of the economic activity, by using the system of indicators and definitions efficiently applied at the level of the European Union, the National Bureau of Statistics (NBS) of the Republic of Moldova has launched the development process of an integrated system of short term statistics (STS) based on the advanced international experience.

Thus, in 2011, BNS implemented the integrated statistical survey on STS based on consistent concepts, harmonized with the EU standards. The integration of the production processes, which were previously separated, is based on a common technical infrastructure, standardized procedures and techniques for data production. The achievement of this complex survey with holistic approach has allowed the consolidation of the statistical data quality, comparable at European level and the significant reduction of information burden on business units, especially of small size.

The reformation of STS based on the integrated survey has been possible thanks to the consistent methodological and practical support given to NBS by the National Institute of Statistics (INS) of Romania, for which we would like to thank to our Romanian colleagues.

Key words: *short term statistics, harmonization with the EU standards, integration, efficiency*

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Short term statistics until 2011 had been based on business infra annual statistics (monthly and quarterly), traditionally performed and separately developed within branch statistics (statistics of: labour market, industry, construction and investment in fixed capital, trade and market services, etc).

Among the main characteristics of the infra annual statistical surveys on STS in the above mention period, the following can be named:

- *The functional principle* of the organisation of surveys which implies the information collection from the statistical units, regardless of their main activity. Thus, for instance, if the enterprise, having as main activity in manufacturing, performed secondary activities, such as trade and services for the market, then the reporting unit had to monthly present, to the statistical bodies (OS), statistical questionnaires on: i) industrial activity; ii) services rendered to the population, as well as a series of other questionnaires that do not take into consideration the main activity of the enterprise (regarding labour, investment statistics, etc). Consequently, there were many questionnaires which the statistical respondent had to present to the statistical body during the year.

- *The exhaustive principle* of short term statistics data collection. Most of the short term statistical surveys were based on the exhaustive study of the statistical units, regardless of their size. Thus, the statistical surveys were characterised by a large number of statistical respondents surveyed infra-annually. For instance, in the quarterly survey no. 5-C "Consumption and expenditure of the enterprise", about 23 thousand enterprises were included compared to 16 thousand units annually surveyed within the Annual Structural Survey which, as a matter of fact, is considered to be the most exhaustive statistical survey in enterprises having a periodicity that does not exceed one year.

- The doubling of information in various statistical questionnaires. The same indicators were present in various statistical questionnaires, inconsistencies in their reporting being also present. Thus, for instance, the indicators for the number of personnel were present in 6 monthly and quarterly questionnaires. At the same time, the concept used varied in the various questionnaires (for instance: *average number of employees, number of personnel, written average number of employees for the calculation of labour productivity, written average number of the personnel employed in the main activity*) causing difficulties for the respondent when reporting this indicator and negatively influenced the quality of primary data.

- There is a great enough information pressure on respondents which is shown in the results of the above mentioned reasons and of the various deadlines for the presentation of the statistical questionnaires.

- The reporting criteria and method by the statistical units for certain surveys were not strictly defined. Thus, in a series of statistical surveys, the respondent units were both the enterprise and the local unit (the structural subdivisions of an enterprise in different rayons of the country). Consequently, the statistical questionnaires could be presented to the NBS as follows: i) in a centralized manner by the mother enterprise (which included the economic activity of all its subdivisions, regardless of the rayons/administrative-territorial units (UAT) they were located in), or ii) in a decentralized manner by the structural subdivisions of the enterprises which had local units in various UAT, by presenting the statistical questionnaires to the territorial statistical body in whose jurisdiction they activated. Thus, there was the possibility to under report or to double the statistical information collected.

- The respondents for the statistical surveys were directly identified by the statistical territorial bodies (OTS) and were weakly led from the central statistical office. The National Register of Statistical Units was not entirely used within short term surveys. The list of statistical respondents, done by the OTS was based on the statistical units which traditionally presented the statistical information. Because of the limited use of the National Register of Statistical Units, sometimes there were various data, from various statistical surveys for the same enterprise, regarding the main activity, the type of ownership, the legal and organizational form, etc., affecting the quality of the statistics disaggregated by the respective criteria.

- Despite of the development of national short term statistics within the process of transition towards the market economy, there were important gaps regarding the system of indicators and their calculation methodology compared to the international standards, especially those of the European Union. This is caused inclusively by the "traditional thinking" of many statistical users, especially from the public administration preferring statistical indicators produced earlier. Thus, on one hand, the short term statistics were not fully relevant for the market economy and did not ensure their comparability at international level, and, on the other hand, the statistical body allocated considerable resources for producing some "traditional" data with reduced informational value in the new economic conditions.

At the same time, the national statistical system of a country must organize its activity, perform statistical surveys according to the informational requests of the national users and of the international users, too (under the obligations of the state, as member of international organizations, to advise eventual investors, etc), in accordance with international standards, in order to ensure a high quality, including the international compatibility of the statistical information..

For the modernization and efficiency of the STS, a short term integrated statistical survey (*integrated* survey) was implemented in 2011, with monthly and quarterly periodicity.

The main objective of the implementation of this survey was:

- to harmonize short term statistics with the European Union standards in the field, especially to adapt them to the requirements of EU Regulations no. 1165/1998 and 1158/2005, further amended;

- to optimize the programme of the STS surveys, the repetition of the collection of the same indicators being eliminated;

- to decrease the information burden on the economic agents and optimize the deadlines for the short term statistics questionnaires;

- to ensure the standardization of processes and the common technical infrastructure.

The manner of organizing the integrated survey corresponds mainly to the practice existing in Romania, being pursued the survey model "UNICA", performed by the National Institute of Statistics beginning with 2005. The advanced and relevant experience for Moldova was transmitted within the methodological and practical assistance granted to BNS by the INS, for which we gratefully thank our Romanian colleagues.

The implementation of the short term integrated survey in the national statistical system was also possible thanks to the financial support granted within the UN common project "The consolidation of the national statistical system" and the project USAID/BIZTAR.

The National Bureau of Statistics performed, from the organizational and methodological point of view, the integration of 11 statistical questionnaires from the field of industry, construction, trade and services, remuneration and labour market which were performed separately by several departments of statistical production of NBS.

The integrated statistical survey includes the following statistical questionnaires:

Monthly: IND TS – *Short term indicators in industry;* CONS TS - *Short term indicators in construction;* SERV TS - *Short term indicators in trade, services, agriculture;* MUNCA 1 – *Earnings.*

Quarterly: 5-CI - *Consumption, enterprise expenditure and investment;* 2-INV - *Investments.*

It is worth mentioning that, for the compilation of the macroeconomic indicators according to SCN within the infra-annual statistics, the quarterly survey on income and enterprise consumption and expenditure has been kept (no. 5-CI).

The questionnaires have common chapters for all the reporting units, regardless of the main activity, such as: number of employed persons (monthly); the earnings (monthly); data related to turnover (monthly), except for the units for which this indicator is not relevant (budgetary units, financial institutions, etc); data related to investments in fixed capital (quarterly).

At the same time, the monthly questionnaires also include specific modules dependent on the main activity of the enterprise regarding: the industrial activity; the activity in construction.

It is worth mentioning the fact that experts in the National Bookkeeping Standards have been involved in the elaboration of the questionnaires content. Thus, in order to facilitate the respondents' understanding and filling in of the questionnaires, these, as well as the methodological instructions for filling them in, have been elaborated, taking into account the peculiarities of bookkeeping and the normative acts in force.

The testing of the statistical tools for the integrated survey, performed in the enterprises with various kind of activities (from manufacturing, construction, retail and wholesale trade and market services) and of various sizes (large, medium and small enterprises), allowed the identification of the problems regarding the filling in of the questionnaires and their adjustment.

Following the implementation of the above-mentioned survey, as of 2011, the system of short-term statistical surveys has the following characteristics:

The organisation of the collection of the information from statistical units is based on the *institutional principle* – according to their main type of activity. The reporting entity submits only a monthly and a quarterly statistical questionnaire.

The statistical survey is conducted on a sample basis and includes approximately 10 thousand reporting units or 2.3 times less units than in the most comprehensive infra-annual survey (no. 5 C) that existed up to 2010.

Statistical units are included in the integrated survey in the following manner:

- exhaustively – the enterprises with an average number of 20 or more employees; budgetary institutions are surveyed exhaustively irrespective of the number of staff;

- on a sample basis – the enterprises with an average number of employees ranging between 4 and 19 persons;

- the enterprises with up to 4 employees are not included in the statistical surveys conducted during the year.

Thus, the pressure on small units, in particular micro-enterprises, to supply information decreased considerably and so did the expenses related

to the reporting by businesses. The work of statistical bodies became more efficient, with the focus on ensuring the quality of primary data.

The responding unit - the *enterprise* is clearly defined, so, the data are reported per total unit, including its structural subdivisions (branches, representations production units, own shops etc.). The double collection of the information or the under-reporting of the data due to the incomplete collection of these data from local units are thus avoided.

New, extended deadlines were set, allowing the entities to supply data of a greater quality. The integrated short-term survey is submitted by the responding units to the territorial statistical bodies monthly - by the 15th and quarterly by the 25th after the reference period.

The list of respondents for monthly and quarterly questionnaires is elaborated by the National Bureau of Statistics on the basis of the National Register of Statistical Units. The situation concerning the reporting by the statistical respondents is closely monitored.

The implementation of the survey enabled the harmonisation of the definitions and the compliance of short-term statistics with EU requirements.

The launching of the integrated survey also required a common modern technical infrastructure. Through the efforts of the NBS specialists, an efficient information subsystem for entering, processing and storing data in a unique database was created.

More details on the use of sampling in the conducting of the integrated short-term survey are given as follows.

The **sampling design** applied is the optimum allocation and the sampling method used is the simple random selection without replacement, with each unit of the stratum having the same probability of being included in the sample.

The **sampling frame** is built by using the National Register of Statistical Units which, in its turn, includes the following statistical units:

- the enterprises that were active in the year t^1-2 (that submitted an annual (accounting) financial report, and/or participated in the annual structural survey);

- in addition – the enterprises that submitted their annual tax-on-profit returns for the year t-2 (and declared a total income of over 1 million lei);

- the new enterprises that were active in the year t-1 (that only participated in statistical surveys within the first 6 months of the year t-1);

- the budgetary units (public institutions);

- the new enterprises which were registered in the year t-1 and which declared a statutory capital of more than 0.5 million lei (these units may be of interest to the statistics on fixed capital investments).

1. t – the year when the integrated statistical survey is conducted

With a view to making the statistical survey more efficient, the units having between 0 and 4 employees were eliminated from the sampling frame due to the fact that their weight in the turnover per country is low. The representativeness threshold is at least 90% at the level of each CAEM Rev. 1 division (aligned to NACE Rev. 1.1). The sampling frame includes approximately 50 thousand enterprises.

The **selection/stratification variables** are: *economic activity* – at the level of CAEM Rev. 1 (national classification, aligned to NACE Rev. 1.1) divisions; the *size class* according to the number of employees of the enterprise (4-9, 10-19 and 20 or more employees).

The strata are formed by crossing the stratification variables.

The size and allocation of the sample

The sample includes approximately 10 thousand enterprises. The sample of the survey is built so as to ensure the representativeness of the data at the level of the national economy (CAEM Rev.1 division level and the size classes 4-9, 10-19 and 20 or more employees). The standard error is 5% for turnover and the probability of accuracy of the results is 95%.

The sample was allocated to strata according to the Neyman method, which takes into account the value of the standard deviation of the turnover within each stratum.

Due to the need to ensure the comparability of time series, it was decided to set the exhaustive survey threshold at 20 persons. The following are also surveyed exhaustively: budgetary units; financial institutions; the units that were created during the year n-1 and whose statutory fund amounts to or exceeds 0.5 million lei and atypical units. For the definition of atypical units, the interquartile deviation method is used.

Future activities

The conducting of the integrated short-term survey is an important step in the reform of economic statistics in the Republic of Moldova, but a series of other improvements concerning the following should also be made:

- the implementation of the new national version of CAEM, aligned to NACE Rev. 2;

- the implementation of the reporting of statistical data by respondents via the Internet;

- the extension of the use of the administrative data for statistical purposes on: VAT returns - data owned by the State Tax Inspectorate; the number of employees, earnings and mandatory state social security contributions - data owned by the National Social Insurance House;

- the redesign of the annual surveys, ensuring mutual coherence within an integrated business statistics system, harmonisation with EU standards, based on the use of modern information technologies;
- the implementation of new methods for data editing and imputation in order to improve the quality of statistics.

Conclusions

The mainstream approach to the production and dissemination of short-term statistics led to improvements in the completeness and coherence of data, the decrease of information burden on the respondents and, as a result, an increase in the quality of statistical data and in the efficiency of the statistical activity. The implementation of the integrated statistical survey, based on consistent concepts, harmonised with EU standards, guarantees the provision of relevant, reliable and comparable data on the EU level to national and international users.

The conducting of the integrated short-term survey is an important step in the reform of economic statistics in the Republic of Moldova. The need to complete the reform of business statistics as a whole in accordance with EU standards becomes apparent. For this complex process, the National Bureau of Statistics counts, as before, on the important support of its colleagues from the Romanian National Institute of Statistics.

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