REPUBLIC OF BULGARIA
NATIONAL STATISTICAL INSTITUTE

A N A L Y S I S

OF THE RESULTS OF THE INTERNAL QUALITY SURVEY:

"QUALITY OF THE STATISTICAL PRODUCTS"

Sofia, 2008

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Introduction

The assessment of quality of statistical information is a priority direction of statistical activity of National Statistical Institute (NSI), which complements data presentation for analyses and development strategies of economic and social policies of the country. General direction in European statistical activity is that data disseminated by statistical offices should be accompanied by its quality assessments in accordance with Eurostat quality definition[1] and thus statistical products will be presented with certain guarantees of reliability in their use.

The activity on quality assessment and documentation in statistical divisions is studied with this quality survey carried out in February 2008. This contributes to both continuous improvement of statistical products offered to users and for implementation of NSI quality management policy. Quality survey in statistical divisions is related to some prerequisites of theoretical and practical aspects. On the one hand, these are the principles of the European Code of Practice – Principle 4 "Quality Commitment", Principle 7 – "Sound Methodology" and Principle 8 – "Appropriate Statistical Procedures" in the common frame on quality ensuring as well as Eurostat quality documents. On the other side, it is the best practice of Statistics Sweden[2] and Eurostat questionnaire "DESAP"[3] on self-assessment by survey managers.
The purpose of the survey is to analyze the level of quality of statistical products with high social importance, which NSI experts prepare for users, and to outline the areas of quality improvement. In order to fulfill its main purpose the survey assigns the following tasks:

- General description of statistical products by type, main subject areas; available European regulations and gentlemen's agreements applied in the process of their preparation; type of observation unit for statistical products for which data from respondents or administrative sources is collected (primary products);
- Quality assessment of statistical products by quality components (relevance; accuracy; timeliness and punctuality; availability, accessibility and clarity; comparability and coherence) in accordance with the statistical experts evaluation;
- Assessment on documentation of quality of statistical products;
- Complex assessment of significance of different quality components and drawing a general indicator quality in NSI;
- Guidelines for quality improvement.

The survey covers statistical products produced in all NSI statistical divisions according to a criterion on high social significance of the statistical product. The questionnaire on quality self-

[1]The quality of statistical information is defined as a complex of the following components: relevance (degree to which the statistical data corresponds to the user needs); accuracy (closeness between calculated and real values); timeliness and punctuality (data actuality and adherence the dates of data announcement); accessibility and clarity of the statistical data for users; comparability and coherence of data in content aspect for different needs.
[2] Statistics Sweden conducts regularly annual internal quality survey in the statistical divisions. It concerns changes in data quality and measures on product quality as well as the conditions influencing the quality in the statistical process.
[3] DESAP (Development of Self Assessment Programme) – complete & condensed versions

assessment[4] is preliminary tested by statistical experts and thus the structure and advisability of studied characteristics (questions) as well their variety (answers) are checked. The questionnaire is sent via e-mail for electronic filling in according to the approved list of statistical products. Questionnaires received are processed with SPSS 13.0 and MS Office /Windows XP. The most important results of the survey are shown in the current presentation.

I. General characterization of statistical products

The profile of the assessed statistical products is received on the base of analysis of their main characteristics as follows:

I.1 Type

According to adopted criterion "high social significance of the statistical product" the list of products is precisely specified by directors of statistical departments and heads of all 21 statistical divisions in NSI. It includes a total of 62 statistical products that are divided into two main groups[5] depending on the technology of their preparation as follows:

- primary statistical products: products for which data from respondents or data from administrative sources is collected. Their share (93, 5 %) is predominant in the whole studied population;
- Secondary statistical products: integrated and balance statistical developments in which data from primary products and administrative sources is integrated. Their share is relatively small and includes the most important products of this category.

The distribution of statistical products depending on the participation of statistical divisions in self-assessment indicates that about one fifth of the statistical products are evaluated by Environment Statistics division that presents this division with the highest participation in the survey. This is a positive fact concerning the actuality of issues related to environmental protection and climate changes. Secondly by participation is Transport and Communications Statistics division with the assessment of one ninth of products approximately. With relatively close degree of participation are Business Tendencies and Analyses division (9.7%) with the assessment of monthly statistical data as well Statistics of Population division (8,1% of the products). The other divisions participate in lower degree in the self-assessment as the divisions preparing secondary products (macroeconomic indicators and Supply and Use tables[6]) are among them. About 29% of all divisions assess the quality of only one statistical product. Because of the fact that this is a first internal quality survey, its scope is fully satisfactory in terms of inclusion of all statistical divisions in quality self-assessment as well as about establishment of a base on comparison on quality changes. It could be expected an enlargement of this approach for all statistical products prepared at NSI because of experts experience in the self assessment.

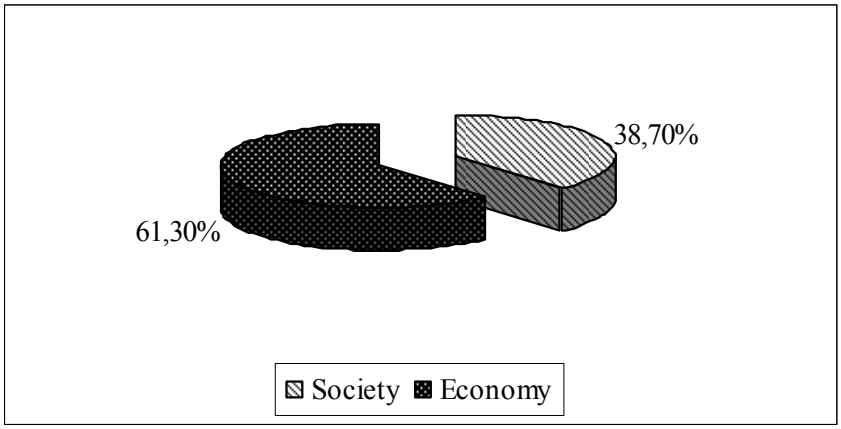
[4] Survey questionnaire and methodology are presented in AnnexA_Questionnaire and AnnexB_ Methodology.
[5] According to adopted classification in "Technology for development, coordination and presentation of National programme for statistical surveys", 2005. The list of statistical products is presented in Annex C_ List_StatProd.
[6] Supply and Use Tables are annual tables that define the connections in production system, system for final internal use of available resource of goods and services, foreign trade balance, system for primary income generation.

I.2 Main subject areas, period that data refers to and implementation of European legal acts

In regard to the last reference time period to which the assessed products are connected, the products which reported period is a year predominate compared to others with less period of observation have significantly lower relative shares, respectively 11.3% and 16, 1% of all products evaluated.

The evaluated statistical products are mainly connected with subject area Economy as the results of just over one third of them relate to the field Society (Fig.1).

Fig.1 Distribution of statistical products by main subject areas

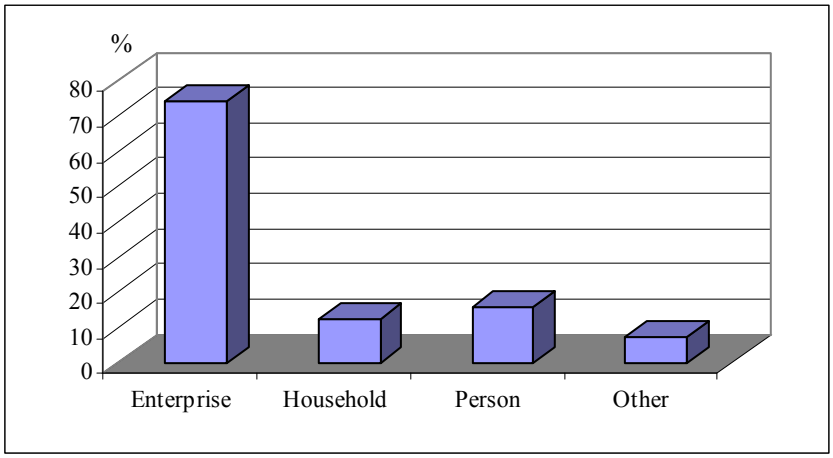


With a view to European legal acts experts apply the requirements of corresponding EC/EU Regulations for the predominant part (79,9%) of the assessed products in this survey. Gentleman agreements are applied about 5,6% of the products. Among products with EC/EU Regulations/gentleman agreements applied, primary products (92,5%) prevail the secondary ones (7,5%) on the analogy of distribution of studied products by type.

I.3 Type of observation unit for primary products

Statistical analysis of primary products according to the type of unit of observation shows that enterprise is an observation unit for more than two-thirds of these products. (Fig.2)

Fig.2 Distribution of primary statistical products by type of units of observation [7]



Along with traditional units of observation – enterprise, household, person, information for another type of units is collected on a small part of primary products, for example "different goods (services) which price is registered at concrete point of observation"; "freight road vehicles"; "local units (branches of enterprises)". It is interesting that two types of units (enterprise and household as well as household and person) are observed for some primary products (8,6%).

II. Assessment of products by quality components

Eurostat approach to define quality as a set of separate components harmonizes the quality assessments in order to ensure comparability between countries. Quality survey is in conformity with this approach as complements it in following areas:

- "Availability of information" element is included for assessment to "Accessibility and clarity" component for its relation to the accessibility to statistical products;
- "Comparability" and "Coherence" components are assessed in a common group – "Comparability and coherence" because of certain similarity in their characteristics[8]. This facilitates the self-assessment as well as the procedure on taking out a general quality indicator.

The assessments of some products by quality components are supplemented with comments by experts as justification of their assessments. Opinions are given for more than half of evaluated products as comments on all components are presented for 30.6% of them. There are no comments for over one third of products evaluated. Normally comments connected with accuracy (the most important aspect of quality) are predominated, given to the evaluation of more than half of statistical products.

[7] The sum of the percentages may exceed 100% since there is more than one answer to the question

[8] European Code of practice also integrated Coherence and Comparability in Principle 14

II.1 Assessment of component "Relevance"

In principle, this quality component is connected directly with users of statistical information in order to assess their satisfaction. It is of interest to see the experts' point of view about whether data is such as the users expect. In this respect the guidelines of the analysis is to identify main external users, their statistical competence, frequency of contacts and the extent of the sufficiency of information to users.

II.1.1 Profile of main external users

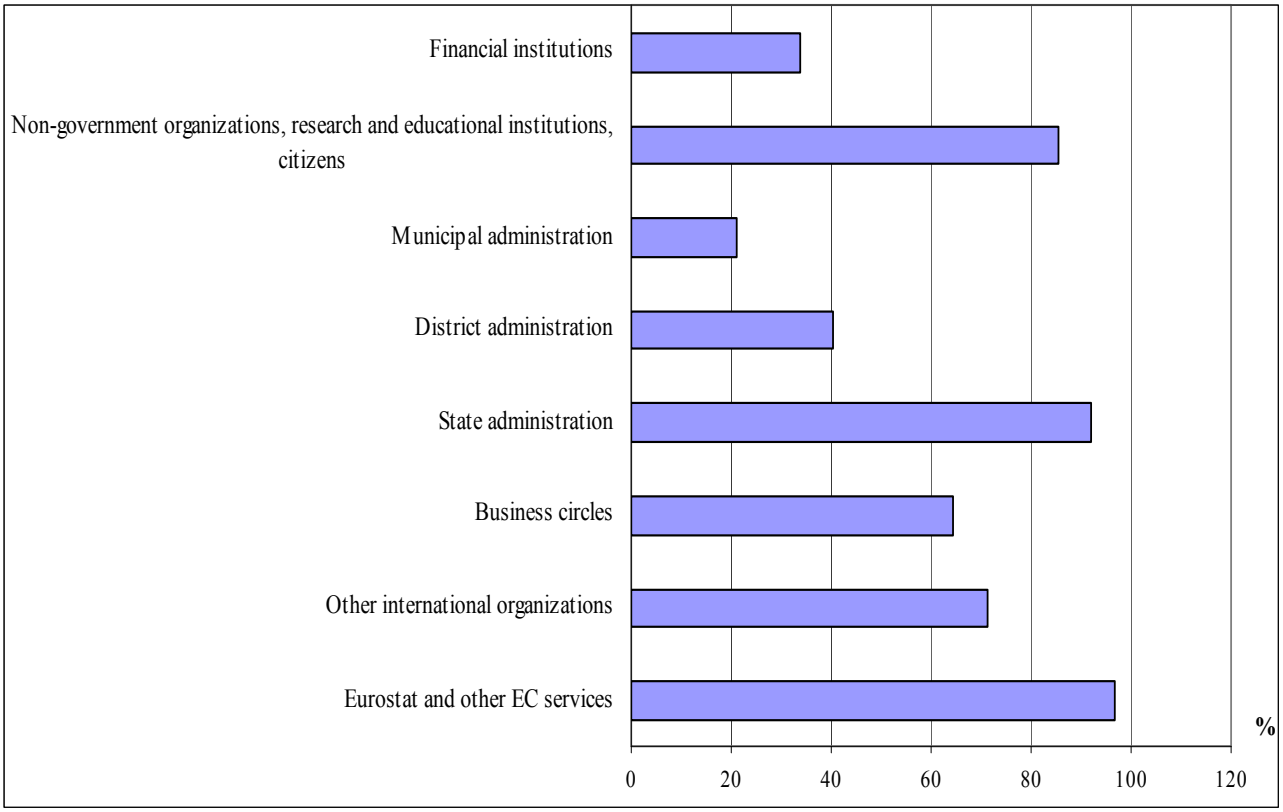
The distribution of statistical products by this characteristic shows that the largest users of statistics are Eurostat and the other EC departments and Bulgarian state administration that are valuated by almost equivalent relative share (over 91%). Comparatively high is also the share of the products used by non-governmental organizations, scientific and educational institutions and citizens (85.5%), other international organizations (71%), business circles (64.5%). The rest three groups of users have requests for less than half of the surveyed products. (Fig.3)

This estimate of experts in the survey is indicative of the existing interests of different users to the statistical products. It makes an impression that users from regional and municipal administrations use only NSI primary statistical products and have not an interest of integrated and balance statistical developments (secondary products). More complete picture about users' interest could be achieved through combining of the results for this component with other results from surveys on users of statistical information.

II.1.2 Assessment of contacts with external users for studying their satisfaction

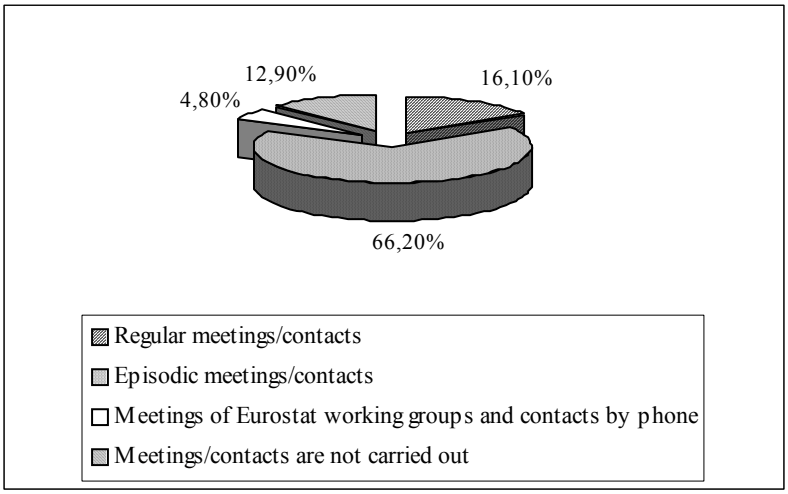
With regard to the realized contacts with users, the survey shows that episodic meetings with users are carried out for more than half of the statistical products as these relations predominate in comparison with the regular meetings. For some products, the contacts are reduced to meetings within Eurostat working groups. Relations with national users are realized in an operational order (mostly by phone). No contacts with users are carried out for some primary products (12,9%) as "Information on Local government authorities", "Wastes from activity", "Wastes in agriculture, forestry and fishery", "Report on output of packed goods and packaging", "Quarterly survey of employees, time worked and salaries and wages" and "Survey of structure of wages and salaries". (Fig.4)

Fig.3 Distribution of statistical products by main categories of users



The enlargement of the regular contacts with users will contribute significantly to study their satisfaction and recommendations regarding used statistics.

Fig.4 Distribution of statistical products by the realized contacts with users



II.1.3 Assessment of national users according to their competence and frequency of requests

The statistical competence of users is an important issue concerning the overall characterization of Relevance. The analysis shows that there is an even distribution of the different categories of users according to their competence. About 26.3% of users have a high statistical competence as the remaining three groups of users whose relative shares are approximately one quarter have equal requests for statistical information. The distribution of users according to their level of competence and frequency of requests for information is presented in Table 1.

The results present a real polarization of users in combining the two characteristics "competence and frequency of requests" – the most frequent requests in NSI come from users with high statistical competence and the least frequent requests come from users with low statistical competence.

Табл.1 Users groups according to their statistical competence and frequency of requests for statistical information[9]

User groups	Frequency or requests for statistical information					
	Total	Most frequently	Comparatively frequently	Neither frequently, nor rarely	Comparatively rarely	Very rarely
Users with high statistical competence	26,2	80,0	29,1	10,6	12,8	4,3
Users with a certain statistical competence	24,6	7,5	36,4	42,6	17,9	12,8
Users with insufficient statistical competence	24,6	7,5	27,3	36,2	30,8	19,1
Users with low statistical competence	24,6	5,0	7,2	10,6	38,5	63,8
Total	100,0	100,0	100,0	100,0	100,0	100,0

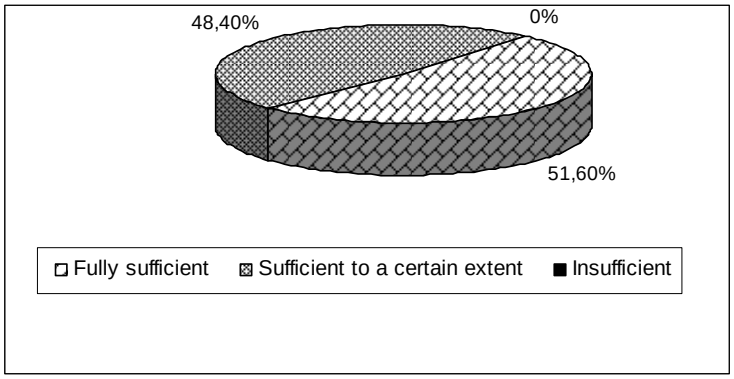
Users with high statistical culture are the most frequent users for more than half of the statistical products. These users make comparatively frequent requests for more than a quarter of the products because of their professional interest in statistics. Users with low statistical competence make requests very rarely for more than half of the products.

II.1.4 Sufficient information to users

Experts estimate that more than half of the statistical products are completely sufficient for users and the rest of products are sufficient to some extent. A positive fact is that estimate "Insufficient" is missing. (Fig.5)

[9] Percentage is calculated towards answers given to the question i.e. missing values are excluded.

Fig.5 Distribution of statistical products according to the degree of their sufficiency for users



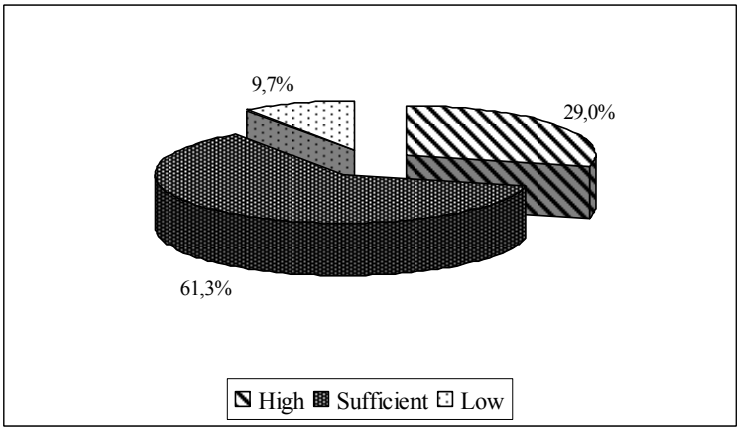
II.2 Assessment of component "Accuracy"

The assessment of accuracy related to measuring the sample and non-sample errors is more detailed for primary statistical products because of the different technology of statistical process. In this respect the guidelines of the analysis are directed to the assessment of accuracy of data entry, reasons of limited accuracy of products, reasons of data revisions. The primary statistical products are additionally assessed with calculated standard quality indicators, accuracy measures in sample surveys, overcoverage/undercoverage of statistical units, response rate and reasons for respondents' non-response, non-response rate about some main questions in the questionnaire, cases of misclassification.

II.2.1 Accuracy of data entry

Regarding accuracy of data entry there are satisfactory evaluations for more than half of the statistical products. The accuracy is defined as high for nearly one third of products evaluated and low for quite a small part (9.7%) of the products. (Fig.6)

Fig.6 Distribution of statistical products according to the accuracy of data entry



II.2.2 Reasons for limited accuracy of the products

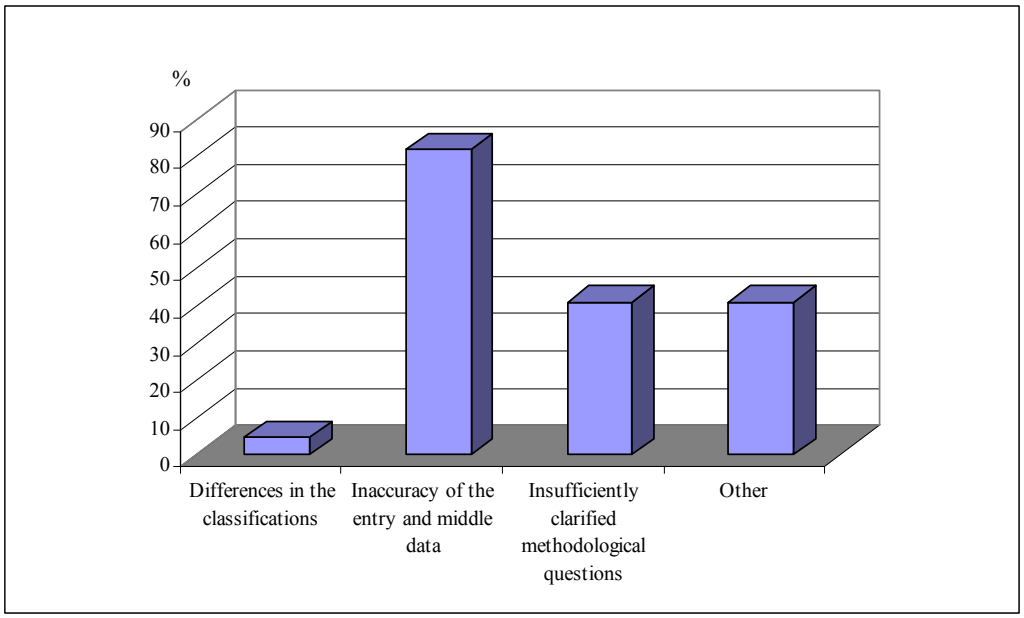
As regards the products, which experts valued with limited accuracy, it is very important to specify the reasons for that fact. There is no statistical evaluation of limited accuracy for secondary statistical products. As a result, the reasons for the limited accuracy are addressed only to primary products. For most of them, the limited accuracy is due to the registered inaccuracy about input and intermediate data.

Differences in classifications used are also reason on limited accuracy for a very small part of products (4.5%). For more than a third of the products in this category the limited accuracy is caused by insufficient clarified methodological issues. (Fig.7)

Comparatively high (40.9%) is the relative share of products whose accuracy is limited by other reasons as follows:

- Refusal of some respondents with considerable influence on the market to provide information;
- The sample size does not allow very precise estimates for the low level of aggregations;
- Incompetence of respondents and their low qualification;
- The requested information is missing or not maintained in a database in a type as required for monitoring.

Fig.7. Distribution of primary statistical products with limited accuracy by reasons[10]



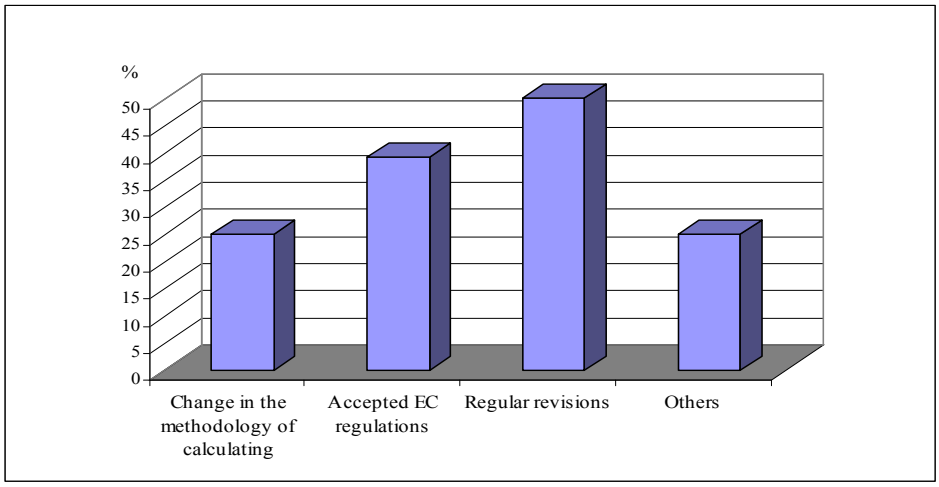
II.2.3 Reasons for revision of data

The ensuring of comparable data series in some cases is connected with revisions of statistical results that in most cases is in conformity with legal requirements and recommendations.

[10] The sum of the percentages exceeds 100% since there is more than one answer to the question

Revisions of data are not made for over half (54.8%) of the statistical products that characterize the stability of the statistical process (Fig.8).

Fig.8 Distribution of revised statistical products by reasons of revisions



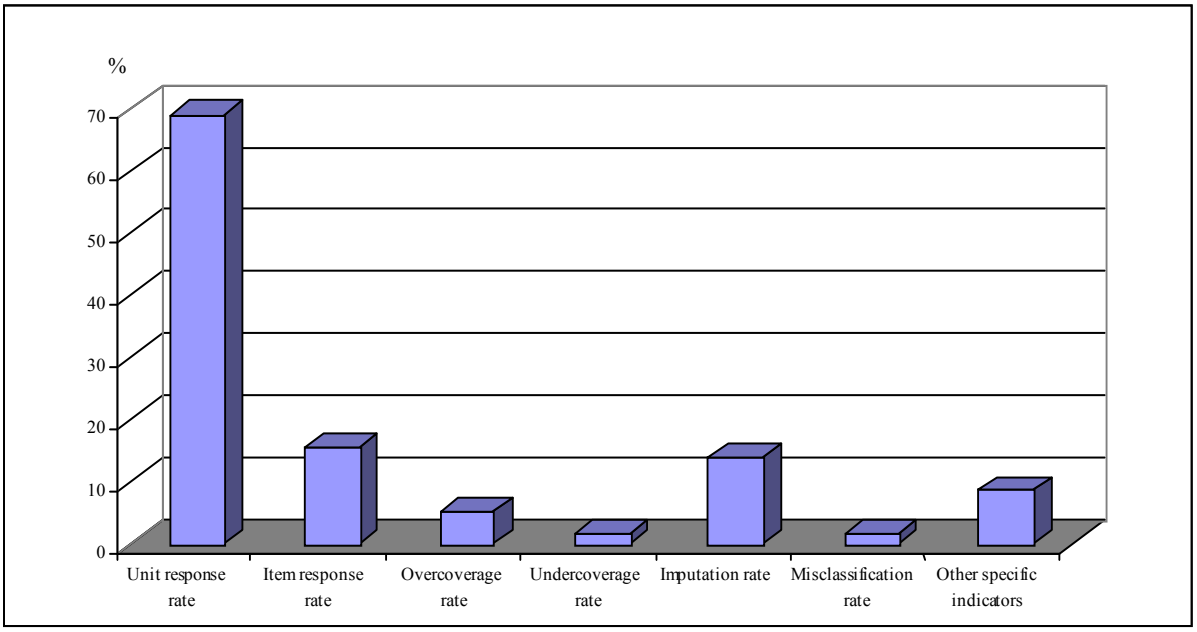
Revisions are made for the rest of the products because of different circumstances. Regular revisions of data are the most common practice followed by changes in methodologies as a cause for the revision (about a quarter of the revised products) or EC regulations adopted (for over one third of the revised products). Experts indicate other reasons for revisions as: the transition from one classification to another (from CBNE (Classification of Branches of National Economy) to NACE BG (National Classification of National Activities); revisions related to notification tables for government debt and deficit in sector “Rest of the world” relating to the updating of the general population.

II.2.4 Indicators on accuracy of primary statistical products

Accuracy of primary products is estimated by a number of standard quality indicators[11] according to the specificity of the technological process. The most calculated standard indicator in NSI practice is “unit response rate” which is calculated for the majority (69%) of the products. Other standard quality indicators are calculated for a small part of primary products as “item response rate" (15.5%) and "imputation rate" (13.8%). (Fig.9)

Fig.9 Distribution of primary statistical products by the type of standard and other specific indicators for accuracy[12]

[11] Standard quality indicators are developed by Eurostat
[12] Sum of percentages exceeds 100% as more than one answer are indicated for the question.



Some experts calculate also other indicators for quality characterization related to the specificity of their products as follows:

- Level of quality of the register on freight road transport;
- Scope extent of the sample (according to the turnover or another strata variable).

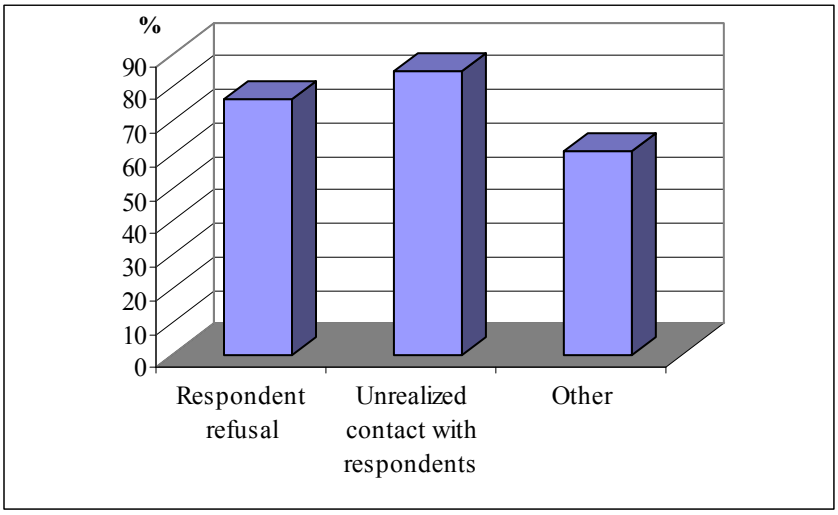
Overcoverage and undercoverage indicators are calculated only when they are reported about some products. According to experts:

- Registered overcoverage is assessed as medium for more than half and as small for nearly one third of the products with reported overcoverage. An estimate on significant overcoverage is missing.
- Reported undercoverage is considered as a small (minor) for the majority of products and is assessed as significant (high) for only one third of the products with reported undercoverage. An estimate on medium undercoverage is missing.

Unit response rate is assessed[13] as high for over two thirds of the products. This positive fact is of great importance for effectiveness of statistical process. A medium estimate of unit response rate is given by experts for nearly one fifth of the products. Among the most common reasons for non-response of respondents, primarily it is indicated the non-realized contacts with respondents for most of the products (84.8%) as well the refusal of respondents to participate in the survey (76.1%)[14]. (Fig.10)

[13] The percentage is calculated only for products with estimates on item response rate.
[14] The percentage is calculated only for products for which reasons of respondents non-response are indicated

Fig.10 Distribution of primary statistical products by reasons of respondents' non-response



Experts have indicated also other reasons for non-response from respondents that have noticed in their practice as follows:

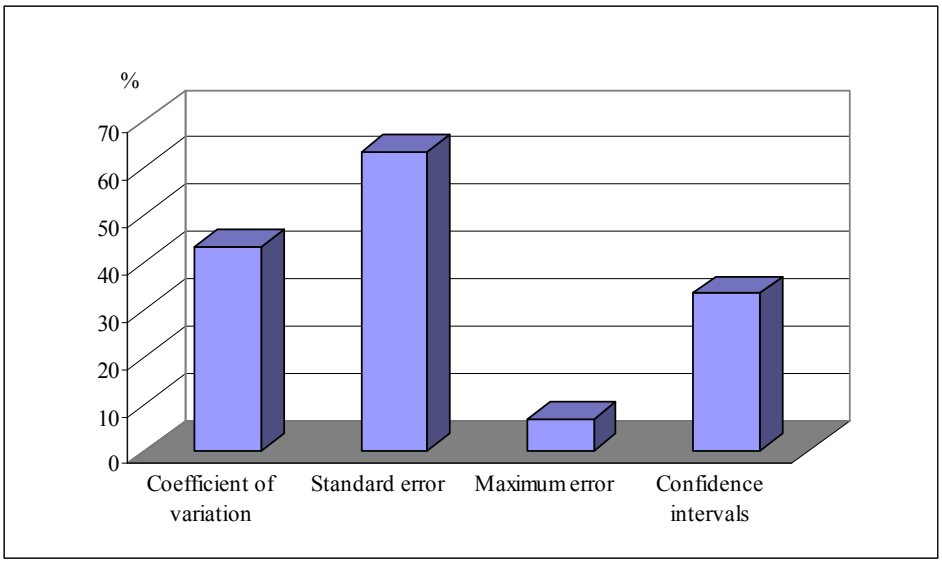
- lack of a suitable position in the classification PRODPROM for the statistical product or service as well the respective class in NACE BG (National Classification of Economic Activities) is outside sectors C, D, E;
- dropping out of the position observed and the impossibility for change with other position. Because of that the registration number in the observation frame is decreased;
- structural changes and changes in the activity of companies (closing, inactive companies, re-registration, etc.);
- lack of a concrete reason for non-response;
- low qualification and incompetence of respondents;
- inaccurate registration by administrative sources.

Item non-response rate[15] is evaluated by experts as low for more than half of the products which is a positive assessment of the clarity of survey statistical tools.

Concerning sample surveys, the standard error is calculated predominantly as a measure of the accuracy for more than half of the products, followed by the coefficient of variation for major variables that is calculated for over two fifths of the products. Experts estimate accuracy also with the confidence intervals for one third of the products. (Fig.11)

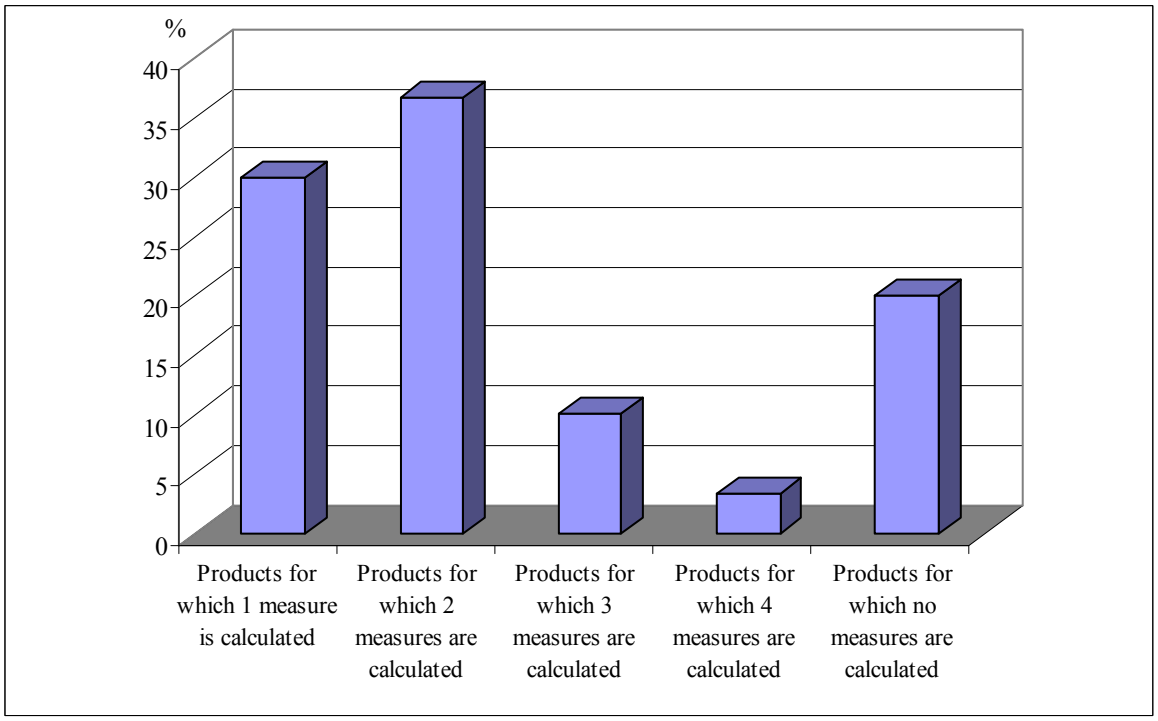
Fig.11 Distribution of statistical sample products by type of calculated accuracy measures

[15] Sum of percentages exceeds 100% as more than one answer is indicated for the question.



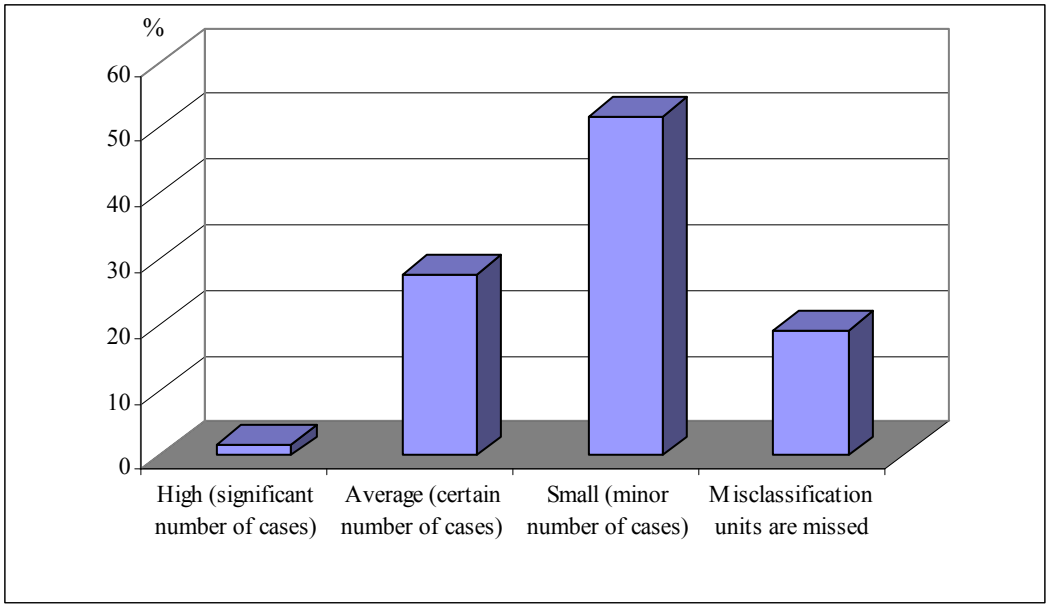
Concerning the number of calculated measures an impression is made that for nearly one-third of the sample products experts calculate only one measure of accuracy as well more than two measures are calculated about very small part of them. About one fifth of sample surveys in general are not calculated measures of accuracy. (Fig.12)

Fig.12 Distribution of statistical sample products by the number of calculated accuracy measures



Regarding misclassification cases in the classification of statistical or administrative units a positive fact is that, the number of misclassification cases is negligible for more than half of primary products. There is a room for improvement for over a quarter of the products. There is a lack of misclassification for nearly one fifth of the products. (Fig.13)

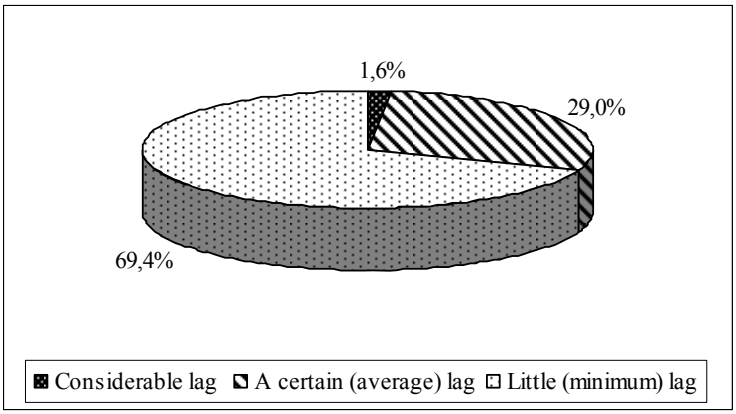
Fig.13 Distribution of primary statistical products by the estimates on misclassification



II.3 Assessment of component "Timeliness and punctuality"

This quality component generally relates to the question "Do users receive actual data according to pre-announced dates?" In this connection the guidelines of the analysis are directed to the estimation of the time period between the data prepared and the event that is described by them as well the adherence to dates announced in the calendar of statistical surveys.
Estimates on timeliness of the information are based on the lag period (the time from survey carrying out until results receiving). A positive fact is that timeliness of the information is at high level and the lag is negligible about nearly two thirds of the statistical products. It can be assumed that some experts consider that the term determined in the legal acts (regulations) is the optimal short term to provide timely information. Approximately one third of the products are presented with a medium (certain) lag and in a very small part of the products, the lag is rated as considerable. (Fig.14)

Fig.14 Distribution of statistical products by the estimates on their timeliness



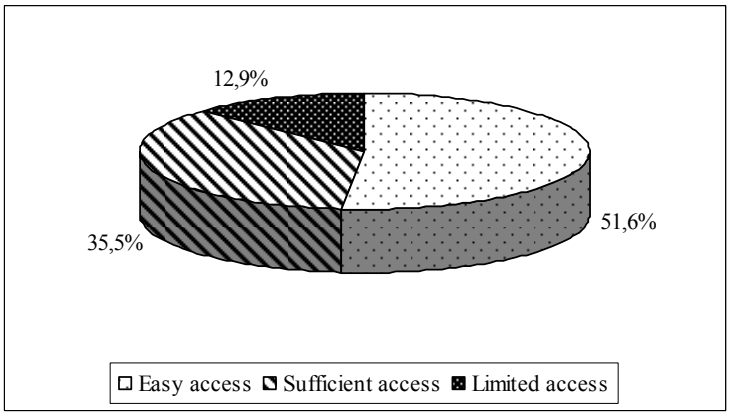
In experts opinion the delay (the lag) is related to the need of adherence with the timetable for data transfer to Eurostat or to other NSI divisions as well with Eurostat recommendations for data publication. Timeliness optimization is very important for the quality of statistical information that could be improved by optimization of the organization of statistical production.

Regarding punctuality experts indicate that dates planned for announcing the statistics are predominantly respected (for nearly 97% of the products). Sometimes there is a delay for very small part of the products in the announcement of final results which is caused by objective circumstances, for example, the provision of additional information relating to corrections of data in achieving better accuracy.

II.4 Assessment of component „Availability, accessibility and clarity"

This quality component is related to the question "To what extent data is available, easily accessible and understandable by users?" In this respect analysis directions are connected with evaluation of users' data provision, access and opportunities for proper interpretation of data. Experts assess data availability as very good for majority (77.4%) of the products. Availability is limited (low) only for a very small part (3.2%) of the products which is related only to primary products. Regarding the accessibility of statistical products experts concern that more than half of the products are easily accessible by users (Fig.15).

Fig.15 Statistical products by the estimates on their accessibility



The presentation of products on NSI Internet contributes also for the easy access by users. More than half of the products (59.7%) are presented on Internet with a certain part of data (medium estimate) while just over one fifth of them are represented with a large part of data. Nearly one-fifth of the products are not included in Internet site. (Fig.16) The enlargement of the representativeness of the products on the Internet will increase the information about users.

Metadata as basic information for assistance to the interpretation of statistical results is assessed as sufficient and clear for the majority (79.0%) of products and it is concerned to all secondary products (macroeconomic indicators and integrated tables). However methodological notes about one fifth of the products are considered incomplete to some degree which requires their improvement. The fact that there are no products whose metadata are rated as deficient is positive. (Fig.17)

Fig.16 Distribution of statistical products by their presentation on Internet

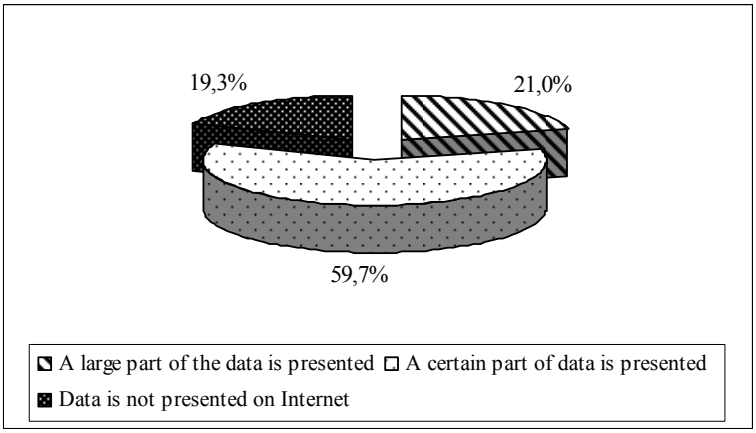
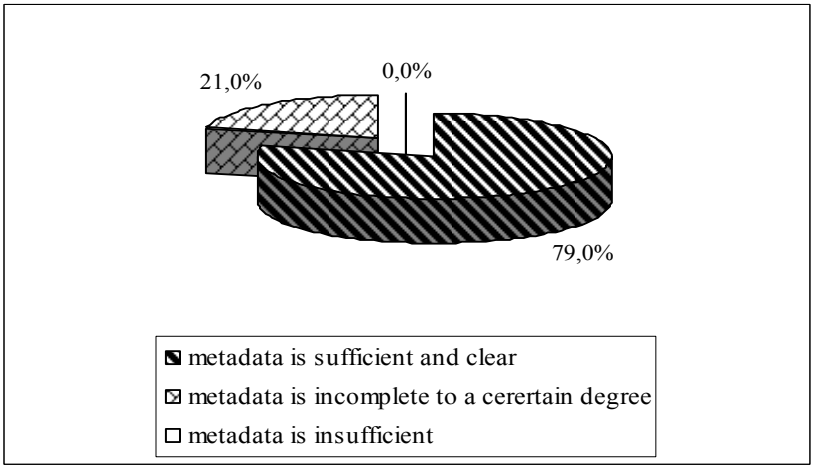


Fig.17 Statistical products by the estimates on metadata clarity



II.5 Assessment of components "Comparability and coherence"

Comparability is connected to the degree of products comparison over time and in territorial and methodological aspects with regard to the implementation of international definitions, concepts, classifications and other conceptual aspects. Coherence concerns the extent to which data can be reliable combined for different use.

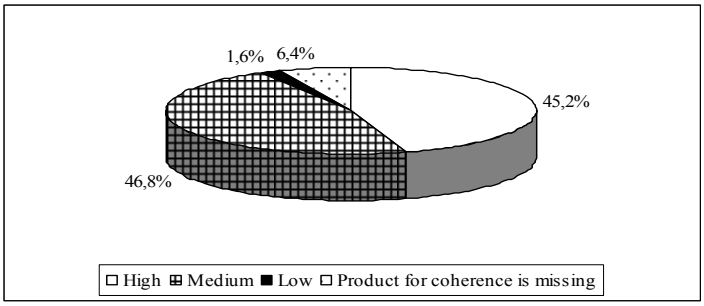
In territorial aspect over half of the statistical products are assessed with a high degree of comparability and nearly one-third part of the products have relatively good comparability. Restrictions in the comparability of data exist for a very small part, which covers only primary products. For nearly one fifth of primary products comparisons at regional level are not made.

In the methodological aspect, more than half of the products have a high comparability while other products are comparable in a lower degree because of changes in methodological principles applied. Only a small part of primary statistical products is evaluated with a low degree of comparability.

Regarding the comparability over time (compared to the last three-year period [16]) over two thirds of the products have a high comparability i.e. it is not limited over time. The comparability is limited to some extent about one sixth of the products (only for primary products). Objectively there are no data with which to be compared for a very small part of the products as this fact covers the new surveys with a periodicity of two / four years for which information is expected to be comparable in terms of methodology used. A positive fact is that the low estimate "seriously limited comparability" is missing.
Presented results indicate the necessity of improving the comparability on those products that have low ratings in various aspects of comparability as well those that have to pass in the category of higher estimates for this component.

Concerning coherence the products with high and medium estimates are at a short distance with relative shares 45,2% and 46,8% respectively. For all secondary products a high degree of coherence with other data is marked, i.e. the existing differences in the methodologies used are negligible. That is why only primary products are assessed with a medium estimate of coherence, i.e. there are some methodological differences in combination with other data. A very small part of the products cannot be connected with other data due to lack of similar products. (Fig. 18)

Fig.18 Statistical products by their coherence with other data

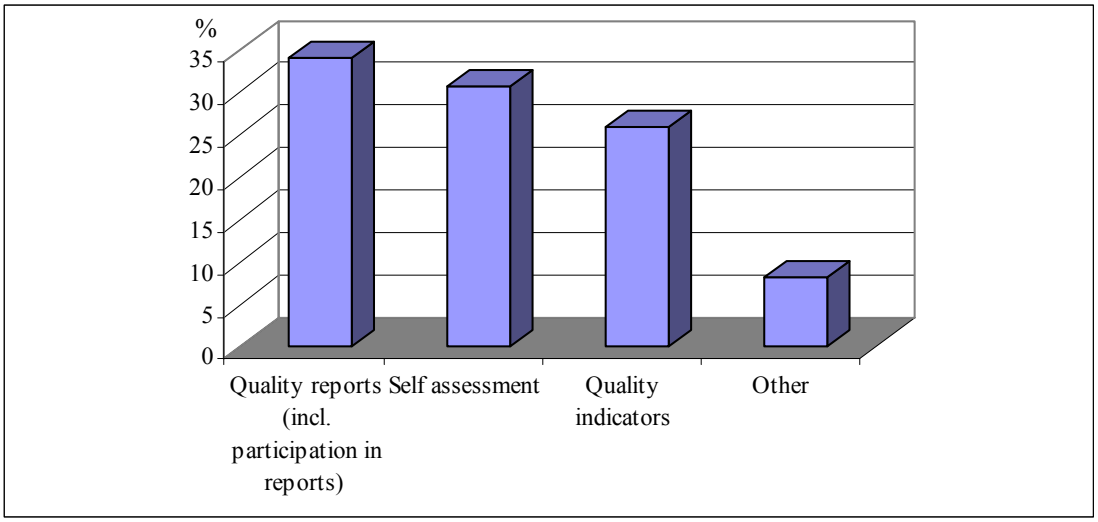


[16] The three-years period is chosen about comparison on the basis of the same estimated period in Eurostat questionnaire on quality of statistical process, 2008

III. Quality documentation

Documentation of quality of statistical products is a process that gradually extended in NSI practice. Quality reports normally prepared at the request of Eurostat (for almost 34% of products) are the most common approach in experts activity (Fig.19) A quality report for a single statistical product (the survey of social integration of people with disabilities) is prepared in NSI in 2005 that presents an individual quality documentation. Self-assessment as an approach for documentation is applied to nearly one third of the products as for more than a quarter of them experts apply indicators of quality.

Fig.19 Approaches to quality documenting[17]



Some experts apply all the three approaches for documentation (about 6.4% of products) as well for nearly a quarter of the products they use two of presented approaches. Experts indicate other approaches for documentation (about 8.1% of products) as follows:

- Defining the procedures and criteria for making the selection as well the methods of control on data quality (for consumer price indexes on regional and national level).
- Assessment of accuracy of quarterly data according to EC Regulation
- Global assessment of United Nations statistical department (energy statistics and material balances).
- Discussion of data quality and coherence at meetings of working groups.

Quality is not documented for 38.7% of statistical products because of new products development under Phare programme.

[17] Sum of percentages exceeds 100% as more than one answer are indicated for the question.

IV. Indicators for quality components and general quality indicator

Quantitative assessments of quality can be obtained by calculating indicators for quality components, which can be used for drawing of a general quality indicator of statistical products[18]. The main importance of these indicators lies in the opportunities for both comparative analyses as well as between the different components and the general quality over time.

In order to receive a complex evaluation of quality components it is taken a standardized scale of assessment to be applied with three levels that are equal to the following grades: **"High"** assessment (points **6), "Medium"** assessment (points **4)** and **"Low"** assessment (points **2)**. The review of the results in the group of **"**High assessments (**6)"** indicates that the component "timeliness and punctuality" is assessed with high estimates for more than half of the products and takes the first place, followed by "comparability and coherence", "relevance" and "accuracy". Finally, in this group the component "Availability, accessibility and clarity" is ordered for less than half of the products. In the group with "low estimates (2)" the components "timeliness and punctuality" and "comparability and coherence" are missing which is a positive fact. (Tabl.2) The transition to higher assessments of quality of products for the individual components should be the main direction in the statistical activity on quality improvement.

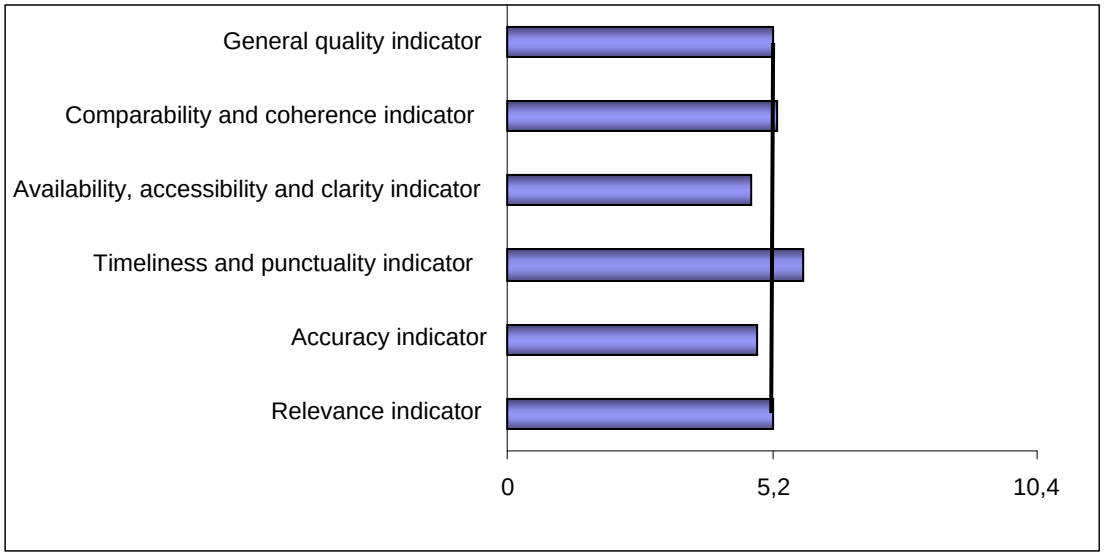
Table 2 Distribution of statistical products based on statistical estimates of quality components

Quality components	High estimate (6)	Medium estimate (4)	Low estimate (2)	Indicators	Degree of significance (weights)
	(%)	(%)	(%)		(%)
Relevance	62,9	35,5	1,6	5,2	18%
Accuracy	51,6	41,9	6,5	4,9	25%
Timeliness and punctuality	88,7	11,3	0,0	5,8	20%
Availability, accessibility and clarity	41,9	56,5	1,6	4,8	18%
Comparability and coherence	66,1	33,9	0,0	5,3	19%
General quality				**5,2**	100%

[18] Eurostat document "How to make quality report" as well best practice of Statistics Netherlands (Attention to quality within Statistics Netherlands-Quantifiable quality characteristics, 2000) are taken into account in calculation of general quality indicator. Components weights are accepted as a result of experts discussion on components significance for users.

Comparative characterization between the different components (through components indicators[19]) indicates that the highest-evaluated component is "timeliness and punctuality" followed by "comparability and coherence" and "relevance". This is in accordance with the majority high estimates for the components and the lack of low estimates for the first two components.

Fig.20 Quality indicators of statistical products (general and by quality components)



The general quality indicator (I_Q=5.2)[20] reflects all components estimates and as a general result could be used as for a base on comparison of the individual components indicators as well on comparison over time. The indicators for the components "accuracy" and "availability, accessibility and clarity" are located at the lowest levels to the general (average) indicator of quality while the indicator for" timeliness and punctuality" is quite above average level. The general quality indicator is identical by value with the indicator of relevance that is a satisfactory fact with regard to the main purpose of statistical data - for users.

V. Main Conclusions

An overall picture on the quality of statistical products and its documentation in NSI is receiving as a main result from this first survey of the quality of statistical information. Based on the estimates and their analysis the following findings can be presented:

First, it is assessed the quality of statistical products with high social importance in all statistical divisions in NSI. The estimates on quality of primary products (for 93.5%) predominate for which data are collected from respondents or administrative sources. The most important

[19] Quality components indicators are weighted averages of quality grades: high (6 points), medium (4 points), low (2 points) weighted by the number of respective statistical products (Tabl.2)

[20] General quality indicator is calculated as weighted average of components indicators, weighted by the conventional weights representing the importance of respective components in the overall quality. (Tabl.2)

secondary products which integrate data from primary products and administrative sources are assessed. Experts supplement their estimates with comments for more than half of the products.

Secondly, concerning the component "Relevance" Eurostat and other services of the European Commission aw well BG State administration are main users for the majority (over 90%) of statistical products. The most frequent users of NSI statistical products have a high statistical competence as users with low statistical competence predominate about requests that are given very rarely. Episodic meetings / contacts with external users are widespread (for 66.2% of the products) in order to study their satisfaction that indicates the necessity of expanding the regular meetings / contacts with users. This will enable for better presentation of information capabilities of the products and for perceiving users needs as well increasing their statistical culture. The consultations to users with insufficient and low statistical competence should be enlarged for support them about proper interpretation of statistical results and informing them on the possibilities for implementation of their requests without reducing the accuracy of the statistics. Experts should not allow compromises for decrease the accuracy of data for low aggregation level about satisfaction the demands of users for much diverse information.

Third, the accuracy of more than half of statistical products is assessed as high. However the share of products for which there are errors in data entry and intermediate is still too high (81.8%). The most calculated indicator associated with accuracy (for about 70% of primary products) is unit response rate. It is estimated only one measure of accuracy for nearly one third of primary products, and for one-fifth of sample surveys it is not calculated measures of accuracy. These results indicate the need for both the regular analysis of accuracy of data in different phases of the statistical process and the increasing of accuracy indicators computing that will complement the presentation of statistics in society.

Fourth, estimates on timeliness are suitable to the terms defined in the regulations that are considered as optimal short lag for the preparation of statistics. In this connection experts predominantly assess the lag as small in the scale of assessments. Some experts estimate the lag as significant or a certain (middle) because of the waiting time for data announcement by respective Eurostat departments. Regarding punctuality, the planned dates for submitting statistical results are predominantly adherence (about over 97% of the products).

Fifth, the overall assessment of the availability is high for over two thirds of the products and satisfactory for nearly one fifth of them. Data for the main statistical products are available and at the disposal for the agreed terms and completeness. It could be seeking opportunities for shortening the time for issuing the printed publications. Only a small part (3.2%) of the products is with limited availability for users that is associated primarily with data confidentiality. With the extended use of the procedure for anonymity of data for which there is users' interest, the availability of these products could be increased. A positive fact will be studying of users' interest about data stored in the years that are not provided for users. More than half of the products have been assessed by experts as easily accessible to users as it is largely linked with their performance on the NSI Internet site. There is no data on Internet for nearly one fifth of statistical products that cannot be used by Internet users. It is necessary to consider the possibilities for greater presentation of statistical products on the website. Metadata is assessed as sufficient and clear for the predominant part (79%) of the products. The inclusion of more

detailed metadata is a declared intention by experts that will increase the clarity of statistical results and ensure right interpretation of data.

Sixth, the overall comparability of products is assessed as high for more than half of the products (62.8%) and as limited for a very small part (3.9%) for primary products mainly because of changes in the applied methodological principles and economic activity of reporting units. In methodological aspect the comparability is high for two-thirds of the products as a result of Eurostat harmonized methodologies and hence for the comparability in geographical aspect about data of other EU countries. In regional aspect comparisons are not made for a certain part (17.1%) of the products because of non-existing data for comparison. Comparability is not limited over time for over two thirds of the products. Time series are maintained, for example, efforts are made for the maintenance of comparable historical series for indices of consumer prices. Users are informed of data revisions. It is necessary to improve the comparability of those products which have low ratings for various aspects of comparability as well those that have to pass in the category of higher estimates for this component. Almost all products are assessed with high and medium degree of coherence with other products.

Seventh, product quality is documented predominantly with quality reports prepared mostly at the request of Eurostat. Experts apply self-assessment and quality indicators included in the metadata approximately about one third of the products. The quality of more than one third of the products is not documented. Experts plans for the period 2008-2010 are connected with an enlargement of the quality documentation by increasing the quality reports and other approaches. Self-assessment is declared as for all products and it is already done with this quality survey. Self-assessment as more operative approach on quality documenting could be introduced as a regular statistical practice, which will allow documentation of changes in products quality. Quality reports could be published on the website

Eighth, quality indicators as quantitative characteristics afford an opportunity for comparative analysis of quality as between its various components as well over time. The calculated general indicator of quality (GQI_Q=5.2) coincides with the value of the indicator on component "relevance" which is relatively a satisfactory fact according to the purpose of statistics. Only the indicators of components "timeliness and punctuality" and "comparability and coherence" exceed the general quality indicator respectively with 0.6 and 0.1 points. While the indicator for component “availability, accessibility and clarity " is at the most low level. The total evaluation through the general quality indicator ensures an opportunity about a real future corrective on quality of prepared statistical products in the implementation of NSI quality policy.

Ninth, the main areas in which NSI activity relating to quality should be improved are primarily an enlargement of the approach for quality assessing about all statistical products, followed by improving the assessment of products by quality components as well increasing of quality documentation. A regular (two-year) survey for self-assessment of quality in statistical divisions is appropriate to be carried out as it will analyze the changes in quality and identify possible problems for resolving. These opportunities will optimize the activity of quality assessment and will establish stable traditions in this priority area.

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