ANALYSIS OF THE RESULTS

FROM QUALITY SELF-ASSESSMENT OF STATISTICAL INFORMATION

IN THE NATIONAL STATISTICAL SYSTEM OF BULGARIA

April, 2010

CONTENTS

1. INTRODUCTION

The assessment and continuously improvement of quality of the statistical information are priority directions in statistical activity of the National Statistical System (NSS).

The current analysis represents results from the first time conducted survey "Quality Self-assessment of statistical information in the NSS" within Grant agreement "Quality assurance in the National Statistical System" which is funded by Eurostat and BNSI. The attitude of experts from National Statistical System (NSS) was studied regarding the quality of statistical information prepared by them.

The realization of this first survey of quality in the NSS is conformed to experience of the National Statistical Institute (NSI)[1] where the quality assessment is regular within statistical process and in accordance with the EU Regulations and Eurostat requirements.

2. SURVEY DESCRIPTION

2.1. Purposes
- Quality assessment of statistical information by components;
- Overall quality assessment;
- Assessment of costs and burden on respondents;
- Assessment of documentation on quality;
- Conclusions and directions for improvement of quality in the NSS.

2.2. Approach

Coverage: ***Bodies of Statistics and Bulgarian National Bank***

Instrumentarium: ***Quality self-assessment checklist for the NSS***
e-questionnaire/e-mail:
- the questionnaire is developed by the NSI on the base of : DESAP condensed version, CoP Questionnaire and the Questionnaire for quality self-assessment in NSI statistical departments (2008);
- the questionnaire is preliminary tested in the NSI in 26.02.-9.03.2010.

Period: ***March 2010***

Unit response rate: **100 %**

Questionnaire item response rate: **93,1%**

Information processing   **SPSS** (frequency distributions and cross tables) **MS Office/Excel** (analytic tables, indicators and charts)

"The Quality self-assessment checklist for the NSS" is developed on the base of European questionnaire for quality self assessment of statistical surveys – „Self Assessment Checklist for Survey Managers (*DESAP condensed version*)", Questionnaire for implementation of European Statistics Code of Practice principles (*CoP Questionnaire*) and the NSI Questionnaire for quality self-assessment in statistical departments (2008).

---

[1] The DESAP questionnaire was applied for the first time in NSI in 2005 and the NSI experts performed self-assessment of data quality in six statistical domains;
The first quality self-assessment survey was conducted for 62 statistical products of BNSI in 2008.

The questionnaire was preliminary tested by experts in the NSI in 26.02.2010-09.03.2010 in order to improve and optimize its structure and contents. The questions included in questionnaire, their formulation and indicated answers were tested by experimentation of the developed instrumentarium. The acceptance of questions by respondents and the problems in questionnaire filling were assessed. The preliminary testing procedure supported the optimization of questionnaire regarding its design and structure of categories of characteristics (questions) together with their varieties (answers). General conclusion from the questionnaire testing in the NSI is that current questionnaire is appropriate to the NSS practice as an instrument for monitoring the quality of the statistical activity at national level.

2.3. Characteristics

The quality components and other complementary elements to fulfill the above mentioned purposes are assessed by the following characteristics:

Component	Characteristics
Relevance	- degree of availability of information to satisfy the key users; - frequency of meetings/contacts with key users to study their needs of statistics (including new and priority needs); - agreements signed for data exchange.
Accuracy	- overcoverage; - undercoverage; - misclassification of statistical units; - necessity of editing the raw data (according to presence of errors in the primary data); - calculated standard quality indicators and measures of accuracy.
Timeliness and punctuality	- time lag between the reference period and the first publication of the preliminary or final results; - keeping the planned publication dates for statistical information; - systematically collection of information on timeliness and punctuality of statistics; - publication in advance of the divergences from the pre-announced release calendar and announcement of a new date.
Accessibility and clarity	- regular test of the usability of official website for different groups of users; - studying user comments on the content and presentation of statistical outputs; - availability of standard format for presentation of statistical metadata to users; - provision of metadata to users; - appraisement of the presentation of data on Internet; - availability of explanation notes to statistical tables on interpretation of statistics and usage of related statistical information.

Comparability	- comparability of statistics between different surveys (in relation to concepts used and design of other important statistical surveys); - comparability of statistical data over time (relating to preceding reference periods); - documentation and analysing the differences over time; - presence of changes to improve comparability of statistics during the last two years.
Coherence	- combination of the results of different frequencies for the same reference period; - coherence of statistics within the same socio–economic area (reliable combination with statistics originating from other sources including important non-official statistics); - coherence of statistics with administrative source data; - documentation and analysing the breaks in time series.
Overall assessment of each quality component	A three degree scale is used: high (> 75%); medium (25-75%); low (< 25%).
Costs and burden	- conformity of costs to final statistical profits; - fairly spread of respondents' burden; - electronic means usage to obtain information from respondents.
Quality documentation	- type of documentation on quality assessment; - type of documentation on quality of the statistical product in 2010–2012

3. ANALYSIS OF THE RESULTS

Analysis of the results aims to describe structure of quality components characteristics and complementary elements, relations between them, as well as to provide comparative analysis of overall assessment of components. Analysis is on:

- indicators of quality components (share (%) of assessments of corresponding indications);
- indicators of quality components importance (share (%) of overall assessments according to quality degrees (high/medium/low); indicators of quality components (average quantity of quality degrees – high (6), medium (4), low (2) weighed by the number of observation units[2]).

3.1. Overall characteristics of the studied units

The National Statistical System consists of the NSI, other Bodies of Statistics and BNB[3] which carry out the statistical activity in Bulgaria by conducting periodic or single surveys included in the National statistical programme. The statistical system in Bulgaria is based mainly on surveys and the share of used administrative sources is still small in comparison with other European countries.

---

[2] $I_{OF COMPONENT} = \Sigma$ (degree **6** x number of assessments "High" + degree **4** x number of assessments "Medium" + degree **2** x number of assessments "Low") / total number of observation units

[3] Law on statistics, Art. 3. (1) http://www.nsi.bg/pagebg.php?P=62&SP=163

Current self-assessment applies only for the other bodies of statistics and the BNB. The term "Bodies of statistics" is used in the current analysis and it is a synonym of "respondents" which provided the information on self-assessment, including the BNB.

The NSI conducts 86% of the surveys/activities included in NSP 2010. The Bodies of statistics carry out independent statistical surveys and provide important administrative data. Share of the independent surveys in Section II Plan for statistical activities of the Bodies of statistics of NSP 2010 amounts to 14% of all surveys included in the Programme (Fig.1).

All of the Bodies of statistics in their statistical activity apply the principles of European and international legal documents – 88,9% of the Bodies apply EU Regulations referring to the quality and about 11% apply UN Framework Convention (Fig. 2).

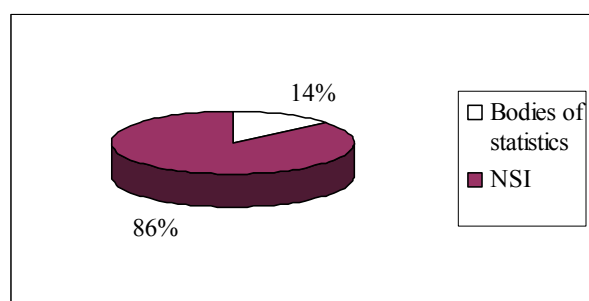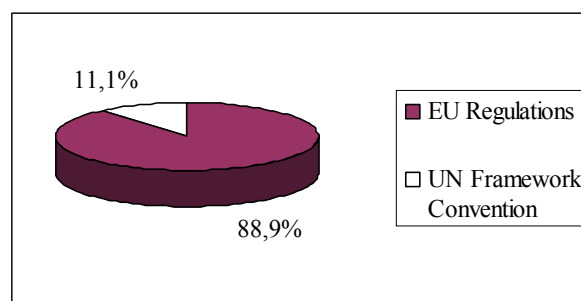Fig.1 Distribution of surveys within NSP 2010   Fig.2 European and international legal documents applied

The overall characteristic of the surveys conducted by Bodies of statistics on the base of NSP 2010 is following: The Bodies of statistics conduct independent statistical surveys or collect data which are source of information for definite surveys of the NSP.

Development, production and dissemination of macroeconomic and financial statistics are regulated by Cooperation memorandum between the NSI, BNB and Ministry of Finances.

The main features of activities conducted by the Bodies of statistics are as follows:
- concentration in separate themes – health and safety, air and maritime transport, agriculture (regarding censuses, structure of agricultural holdings, agricultural production, land use and land cover and agro-environmental statistics) and hazardous waste statistics as well as customs statistics and Intrastat.
- Maintaining connections and dialogue with respondents within the common institutional environment;
- Mandatory participation of respondents;
- Predominance of exhaustive surveys – about 68%, and less sampling surveys and surveys based on administrative sources – respectively 27 % and 5 %;
- Application of general and specialized national classifications, nomenclatures and standards;
- Conformity of statistical dissemination with general requirements included in the NSP – via Internet sites of corresponding institutions, general and specialized publications, data provision to Eurostat, filling in questionnaires of other international organizations and provision of information services.

Specific character of the surveys reflects on the response to questions and the formation of generalized results from the quality self-assessment.

3.2. Assessment of quality components

3.2.1. Assessment of Relevance

In relation to assessment of availability of information to satisfy the key users more than a half of the Bodies of statistics consider that information is to great extent sufficient to users and one third of them provide complete (detail) information (Fig.3).

Meetings/contacts with key users are high important to know users' needs and to conform producers of statistical information to supply and demand principle. Episodical meetings/contacts with users are predominant for more than a half of the Bodies of statistics. User feedback contributes to in time reaction in production planning of statistical information and in reporting of new and priority user needs. (Fig. 4).
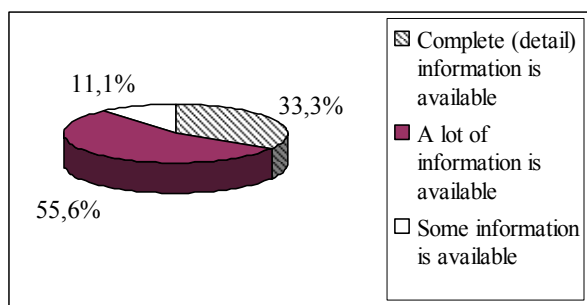
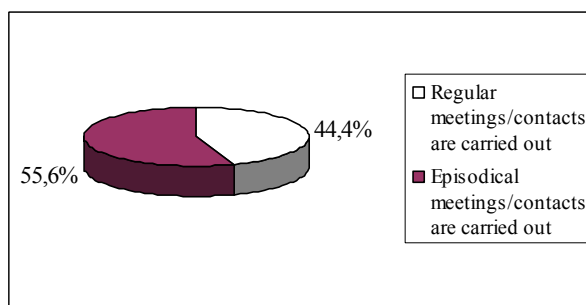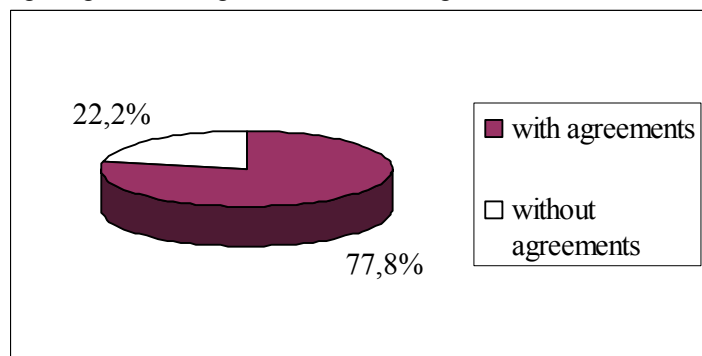Fig.3 Assessments of availability of information   Fig.4 Assessments of meetings/contacts with key users

In respect of existing legal procedure[4] for agreements for data exchange between the national institutions, over three thirds of units confirm that they have agreements signed. 22% of the Bodies of statistics do not have such agreements (Fig.5).

Fig.5 Agreements signed for data exchange

Combined assessments of component characteristics present the correspondence between assessments by different criteria. In regards to Relevance, the combined assessments of "available information and meetings/contact with users" and "available information and agreements for data exchange" can be viewed as points of coincidence of the characteristics. The share of Bodies of

---

[4] According to Rules for dissemination of statistical products and services Art. 58 (1), Relations with users division provides statistical information free of charge to ministries, authorities and other institutions in compliance with agreements signed for information exchange.

statistics, which provide complete information to users and respectively carry out regular meetings with users, is 66,7% (Fig.6).

The existing agreements for data exchange are decisive for availability of information – over two thirds of all Bodies of statistics which have agreements signed provide a lot of information and 28,6% of them provide complete detail information. Despite the lack of agreements half of the observation units provide a lot of information to users and the rest provide some information (Fig.7).

Fig.6 Combined assessments of availability of information and contacts with key users
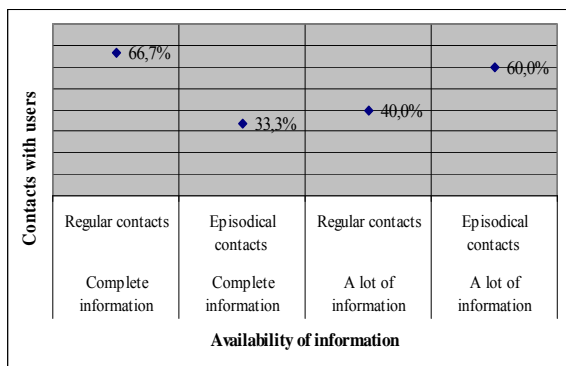
Fig.7 Combined assessments of availability of information and agreements for data exchange
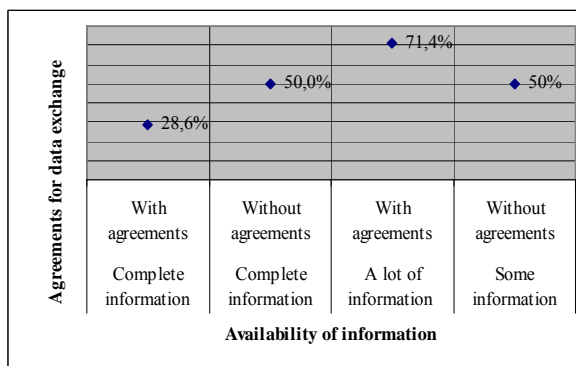
3.2.2. Assessment of Accuracy

In assessment of Accuracy 62,5% of the Bodies of statistics does not report overcoverage of the observed statistical units. One fourth of them assessed overcoverage as slight and 12,5% reported some overcoverage. There are not assessments for major overcoverage (Fig.8).

More than a half of the Bodies of statistics do not report undercoverage of the observed statistical units. The undercoverage is assessed as slight by one third of the units. Some undercoverage is reported by 11,1% of the Bodies of statistics. There are not assessments for major undercoverage (Fig.9).

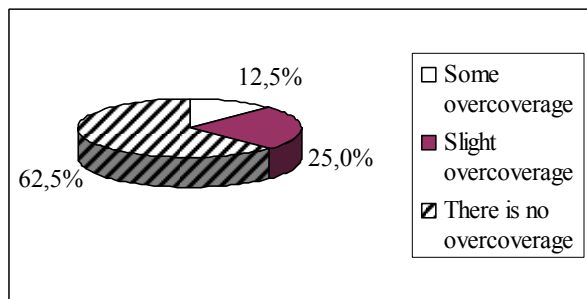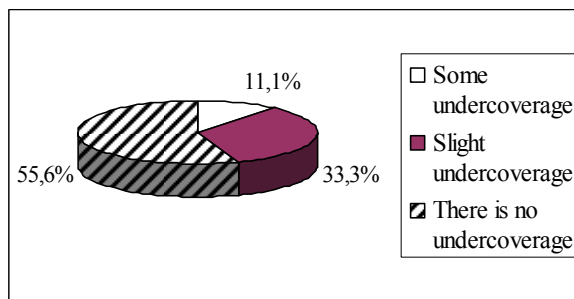Fig.8 Assessments of reported overcoverage of statistical units in the NSS

Fig.9 Assessments of reported undercoverage of statistical units in the NSS

In respect of cases of misclassification of statistical units there is nearly no and there is not misclassification according to 44,4% of the Bodies of statistics. Only one third of them reports small number of misclassifications (Fig.10).

Fig.10 Assessments of misclassification of statistical units
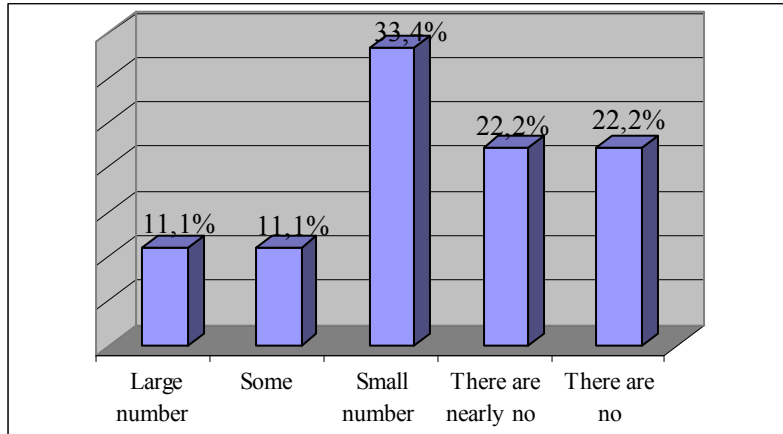
Predominant part of the studied units made satisfactory assessment that primary data is checked and error free and no data editing is necessary. According to less than one fourth of them few errors were discovered in the primary data which need to be corrected.
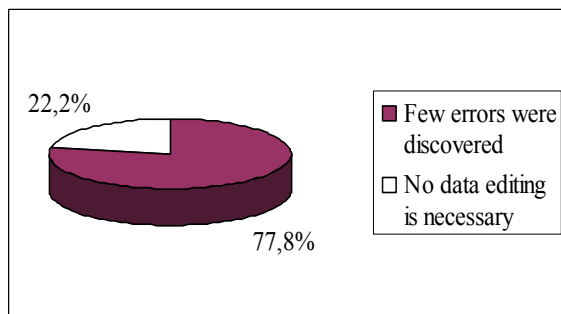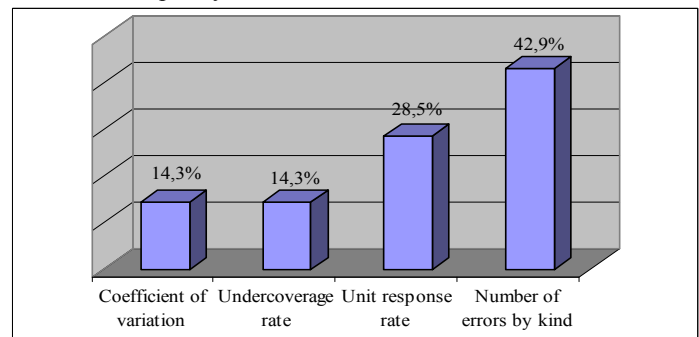
Fig.11 Assessments of primary data editing

Fig.12 Assessments of calculated standard quality indicators and other quality indicators

Almost 43% of the Bodies of statistics calculate share of errors and over one fourth of them calculate share of responded statistical units. Only 14,3% of the Bodies of statistics calculate coefficient of variation and share of undercoverage.

Analysed results show that the number of calculated standard accuracy indicators is not large. This could be explained by the fact that the Bodies of statistics carry out mainly exhaustive surveys.

Some of the answers are conformed to specific approaches used in the Bodies of statistics. For example, data collected for purposes of balance of payments and international investment position has different sources and the approach of measurement of quality indicators is differentiated.

3.2.3. Assessment of Timeliness and Punctuality

In assessment of this component some of the Bodies of statistics can not assess Timeliness in the sense of time period between reference period and first publication of the preliminary/final results since they are not bodies of data dissemination. They observe internal time schedule and provide collected information at a fixed time under data exchange instruction with the NSI.

There is no delay in publication of information according to 33,3% of the Bodies of statistics. 44,4% of them indicate certain time lag which is within the agreed time schedule. Less than one fourth of the Bodies of statistics reports small time lag (Fig. 13).

The publication dates are always kept by 44,4%. There are not assessments of large delay in data publication and according to one third of the Bodies there is sometimes a certain delay in publication (Fig. 14).

Fig.13 Assessments of timeliness
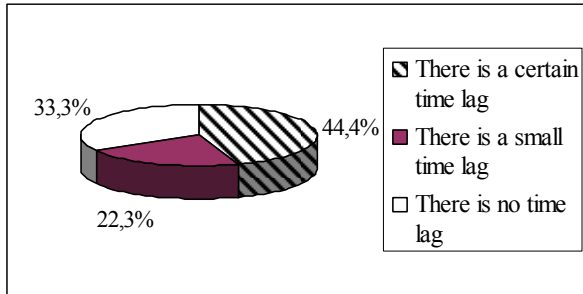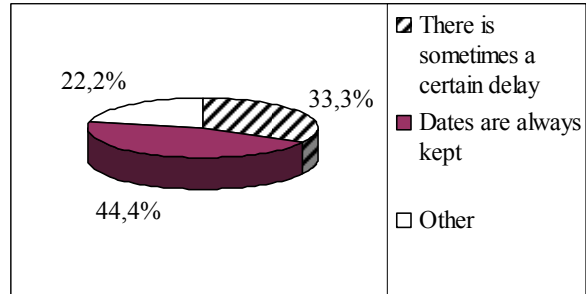of information in the NSS

Fig.14 Assessments of punctuality
of information in the NSS

In assessment of "systematically collection of information on timeliness and punctuality" more than a half of the Bodies of statistics (57,1%) which responded to this question systematically collect information (Fig.15).

One third of the Bodies of statistics publish in advance divergences from the pre-announced release calendar. Also one third of them report that there have never been such divergences from the pre-announced release calendar. The rest 33,3% of the Bodies of statistics does not have release calendar because they does not disseminate statistical information (Fig.16).

Fig.15 Assessments of systematically collection
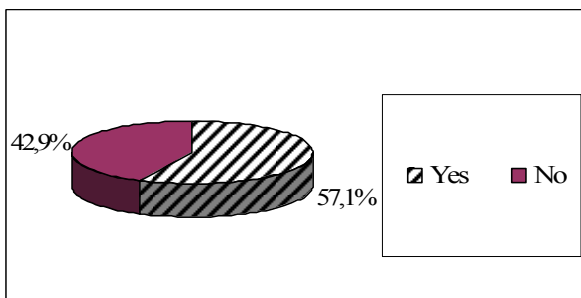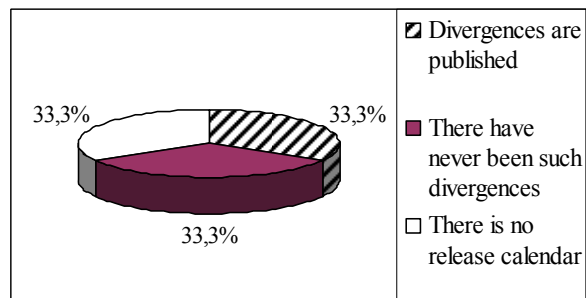of information on timeliness and punctuality

Fig.16 Assessments of publication in advance
of divergences from the pre-announced release calendar

3.2.4. Assessment of Accessibility and Clarity

In assessment of Accessibility and Clarity 71,4% of the Bodies of statistics do not test the usability of their official website for different groups of users. The rest of the Bodies of statistics regularly observe the website information usage by users (Fig.19).

Users' opinion concerning content and presentation of statistical output is reported by 37,5% of the Bodies of Statistics (Fig.20).

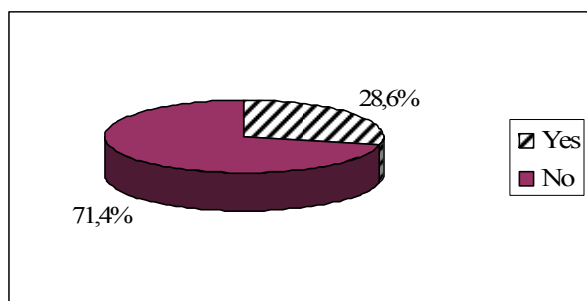Fig.19 Assessments of website usage
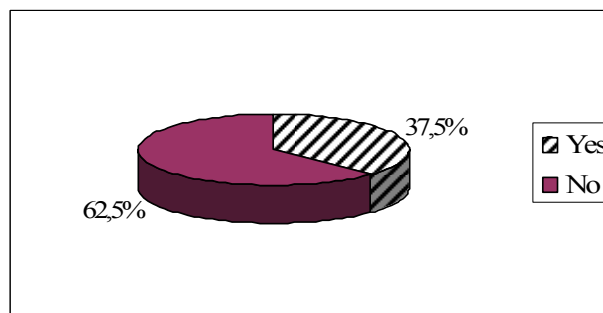 by different groups of users

28,6%

☑ Yes
■ No

71,4%

Fig.20 Assessments of studying the users' opinion

37,5%

☑ Yes
■ No

62,5%

More than a half of the Bodies of statistics present large and certain part of data on Internet but still less than one fourth of them do not publish such information on Internet (Fig.21).

71,4% of the Bodies of statistics which answered this question have a developed standard format for presentation of statistical metadata to users. Over one fourth of the Bodies of statistics still do not have such standard (Fig. 22).
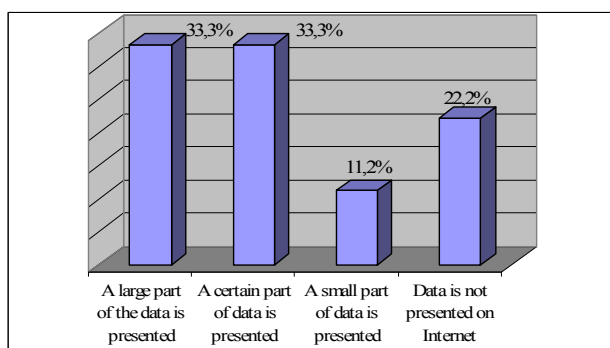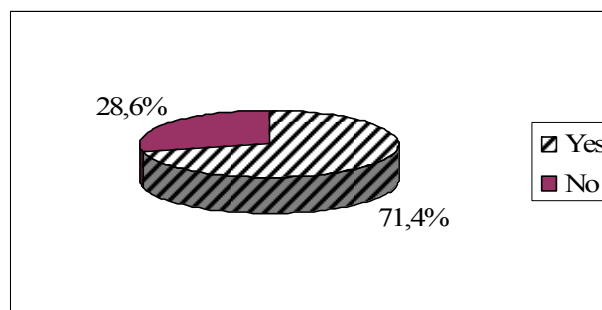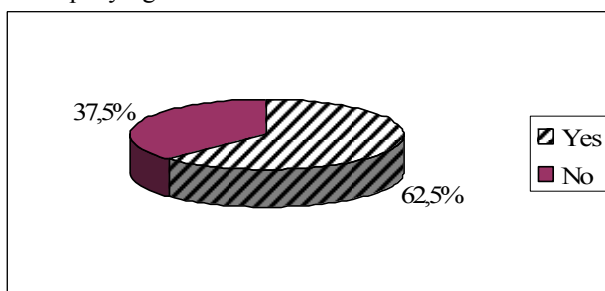
Fig.21 Assessments of data presentation on Internet

33,3%   33,3%

22,2%

11,2%

| A large part of the data is presented | A certain part of data is presented | A small part of data is presented | Data is not presented on Internet |

Fig.22 Assessments of standard format for presentation of statistical metadata to users

28,6%

☑ Yes
■ No

71,4%

In assessment of "Is a statistical table usually accompanied by an explanation on interpretation of statistics and usage of related statistical information?" more than a half of the Bodies of statistics answered positively i.e. the greater part of the Bodies of statistics help users to perceive data clearer and to avoid misunderstanding or ambiguity (Fig. 23).

Fig.23 Assessments of application of explanation notes
 accompanying the statistical tables

37,5%

☑ Yes
■ No

62,5%

The correspondence between "invitation of user comments on the presentation of statistical outputs" and "metadata provided to users" can be presented by combination of assessments of the characteristics of

Accessibility and Clarity. All of the Bodies of statistics which invite user comments respectively provide metadata to users. 75% of the Bodies of statistics do not invite user comments and do not provide metadata (Fig.24). Users of statistical information have the right to be informed about the methodology of surveys as well as the results without preliminary selection from the point of view of their purpose and interest.

Fig.24 Combined assessments of studying the user comments and provision of metadata to users
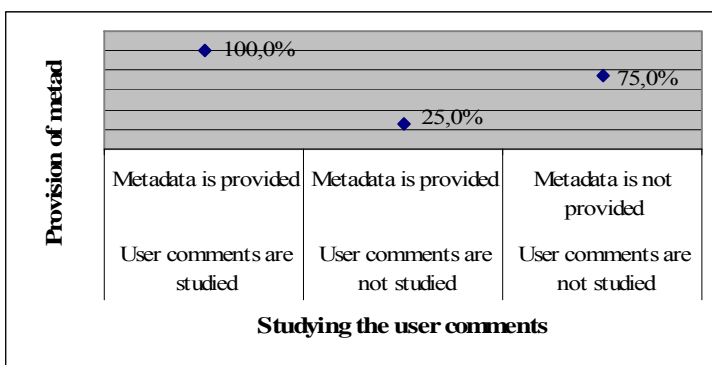
3.2.5. Assessment of Comparability

In assessment of Comparability there are no major differences to other important related statistics according to one third of the Bodies of statistics. Some differences are reported by 22,3% of the Bodies of statistics. Only 11,1% of the Bodies report larger differences. The position "Other" includes answers that comparability is not assessed by the Bodies of statistics because of inapplicability of the component characteristics to the statistical activity. (Fig.25).

Comparability over time is assessed as restricted by over one third of the Bodies of statistics and a fourth of them consider that there are not restrictions. In position "Other" it is indicated that comparability over time is not assessed by the Bodies of statistics because of inapplicability of the component characteristics (Fig. 26).

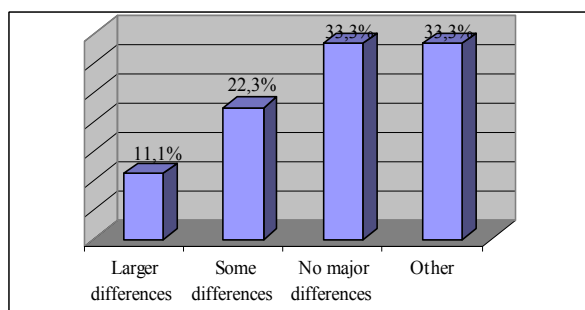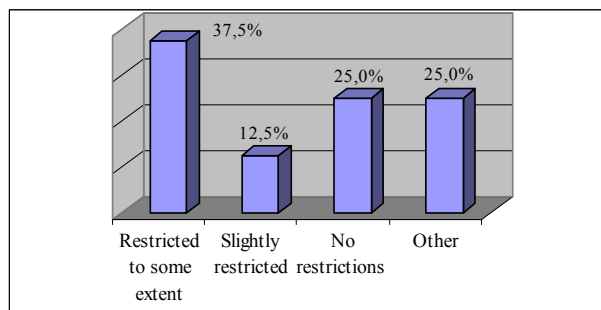Fig.25 Assessments of comparability between different surveys

Fig.26 Assessment of comparability of statistical data over time

Predominant part of the Bodies of statistics (55,6%) document the reported differences over time while less than a fourth of them do not document differences and do not analyse them (Fig. 27). Half

of the Bodies of statistics which answered the question had made changes for improvement of data comparability during the last two years (Fig. 28).

Fig.27 Assessments of documentation
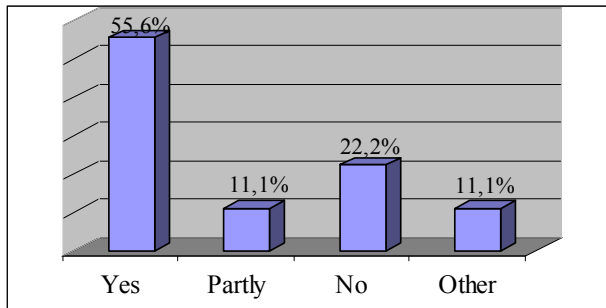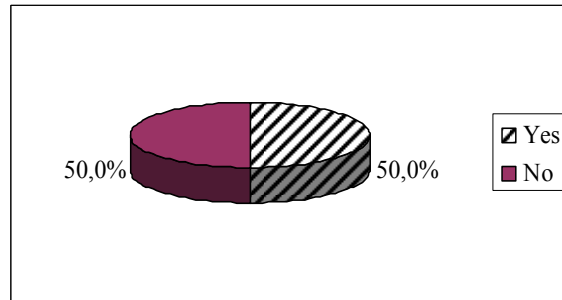analysing the differences over time

Fig.28 Assessments of changes for improvement of and
data comparability during the last 2 years

3.2.6. Assessment of Coherence

In assessment of this component half of the responded Bodies of statistics report some contradictions in combination of the results of different frequencies for the same reference period and 37,5% of them consider that there are no major contradictions. (Fig. 29).

In regard to coherence of statistics within the same socio–economic area 42,8% of the Bodies of statistics report that there are no major differences and 28,6% of them report some differences (Fig. 30).

Fig.29 Assessments of combination of the results
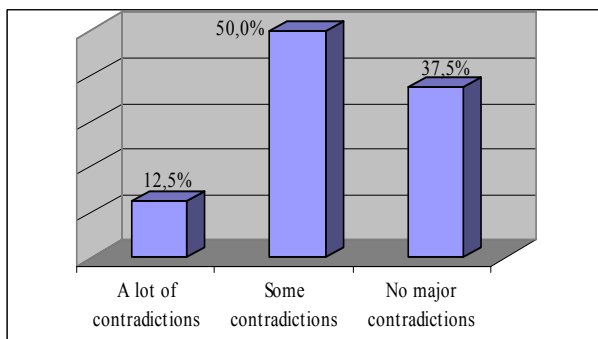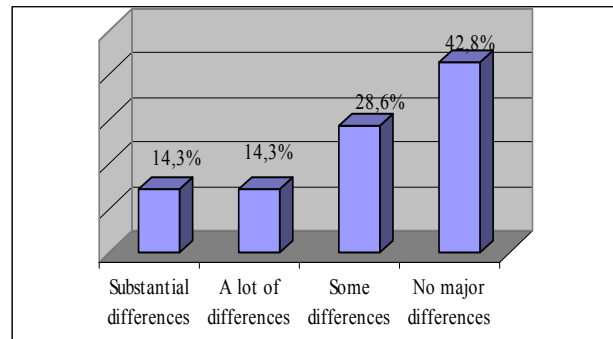of different frequencies

Fig.30 Assessments of coherence of statistics
within the same socio–economic area

In coherence of statistics with administrative source data more than a half of studied units mention that there are no major differences and according to 25% of them - there are some differences (Fig. 31).

Fig.31 Assessments of coherence of statistics
with administrative source data

Fig.32 Assessments of documentation and
analysing the breaks in time series
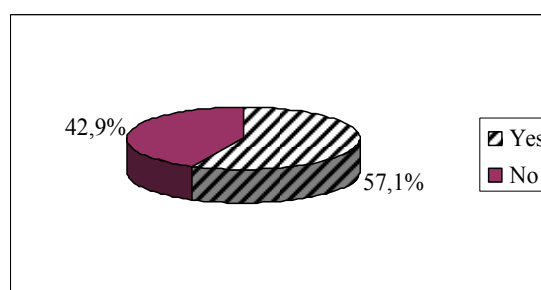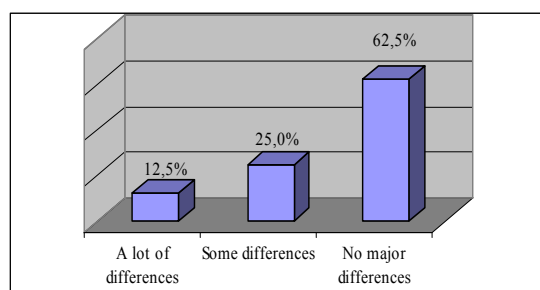
More than a half of the Bodies of statistics, which responded this question, document and analyze systematically breaks in time series (Fig. 32).

3.2.7. Overall assessment of quality component significance

Overall assessment of quality components provides a possibility to appraise them in parallel according to given assessments as well as quality component indicators. In this way the possibility for comparative analysis between components expands. Examination of the results shows that predominant part of the Bodies of statistics (88,9%) assessed highly (6) "Timeliness and punctuality" in the first place and "Accuracy" in the second place - 77,8% of the observation units. The fact that low assessments of components are missing is favourable (Table 1).

Table № 1 Overall assessments of quality components and component indicators

| Quality components	High (6)	Medium (4)	Low (2)	Indicators[5]
Relevance	66,70%	33,30%	-	5,3
Accuracy	77,80%	22,20%	-	5,6
Timeliness and punctuality	88,90%	11,10%	-	5,8
Accessibility and clarity	66,70%	33,30%	-	5,3
Comparability	66,70%	33,30%	-	5,3
Coherence	44,40%	55,60%	-	4,9
General quality indicator [6]				**5,4**

Comparison between component indicators confirms that as a whole "Timeliness and punctuality" is the highest assessed component followed by "Accuracy". This corresponds to dominant high assessment of these components in comparison to the others. Component indicators for Relevance, Accessibility and clarity and Comparability have the same values (5,3%). The lowest standing is for

---

[5] Quality component indicators are weighted averages of quality grades weighted by respective number of observation units
[6] General quality indicator calculates as weighted average of component indicators

Coherence which have least high assessments (44,4%) and most medium assessments (55,6%) compared to the other components (Fig.33).

Fig. 33 Quality component indicators
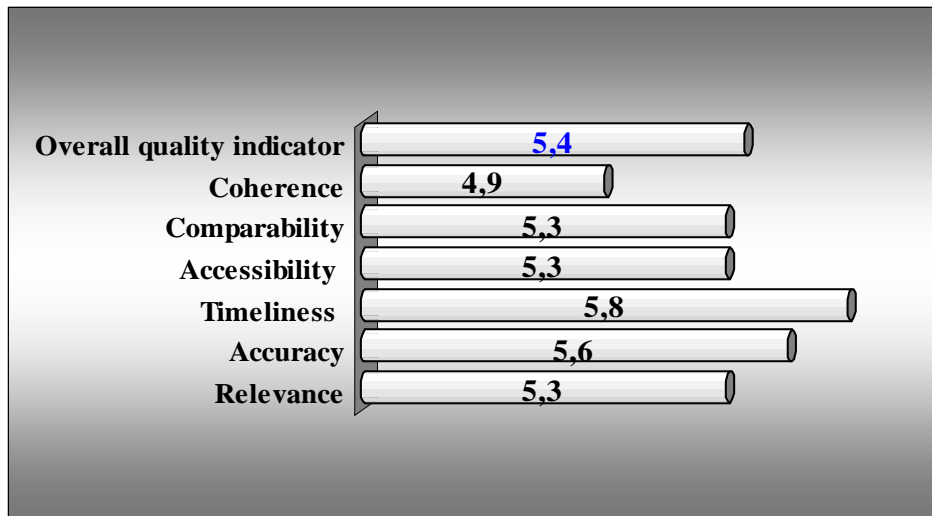
3.3. Assessment of costs and burden on respondents

In assessment of cost and burden on respondents 37,5% of the Bodies of statistics, which answered this question, think that costs are considered to statistical profits. Half of the Bodies of statistics consider that costs are partly considered to statistical profits and only 12,5% of them indicate that they are not considered. (Fig. 34).

Fig.34 Assessments of consideration of costs
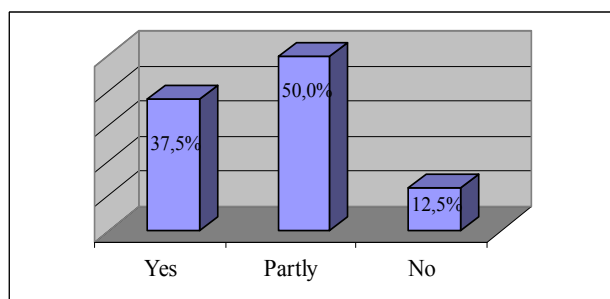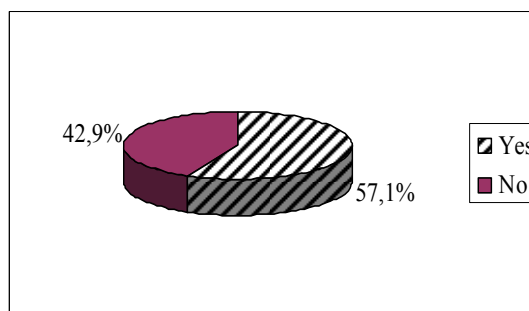to final statistical profits

Fig.35 Assessments of fairly spread
burden on respondents

More than a half of the Bodies of statistics define burden on respondents as fairly spread from the point of view of respondent obligation to provide data and 42,9% of them are in a contrary opinion (Fig. 35).

Electronic means usage notably shortens the time for providing information and reduces burden on respondents. The predominant part of the Bodies of statistics use electronic means to obtain information from respondents and less than a half of them do not use such means (Fig. 36).

Fig.36 Assessments of electronic means usage

15

to obtain information from respondents

22,2%

☑ Yes
■ No

77,8%
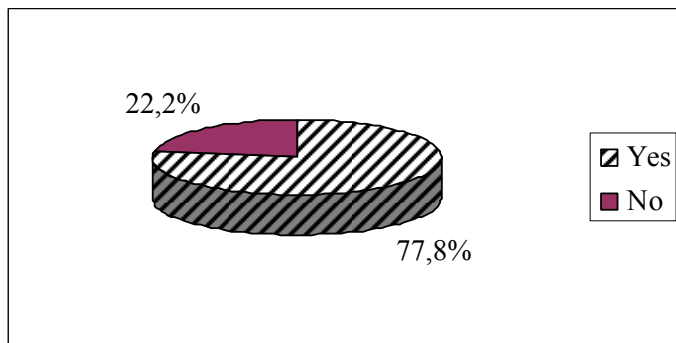
3.4. Assessment of quality documentation

This assessment is connected with the type of documentation for quality assessment; the preferable type of quality documentation of statistics in case of planned monitoring in 2010–2012. The predominant part of the Bodies of statistics (66,7%) do not document quality of statistics. Less than a fourth of the Bodies of statistics prepare quality reports and 11,1% of them document the quality also by its periodic assessment and coverage of collected data (Fig. 37).

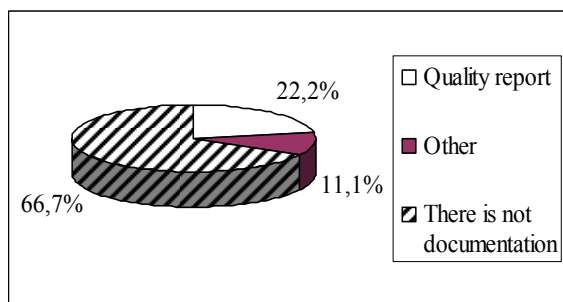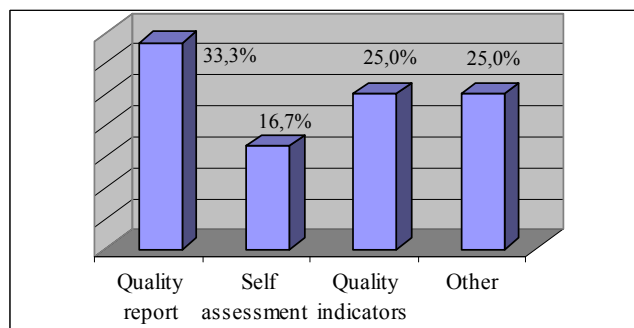Fig.37 Assessments of quality documentation

Fig.38 Assessments of quality documentation in 2010-2012

22,2%

□ Quality report

■ Other

66,7%

11,1%

☑ There is not documentation

33,3%   25,0%   25,0%

16,7%

Quality   Self   Quality   Other
report   assessment indicators

Answering the question "How would you document quality of your statistical product if you plan to monitor it in 2010-2012?" one third of the Bodies of statistics specify quality report and one fourth – quality indicators. Self assessment as an approach for current quality assessment is reported by 16,7% of the Bodies of statistics and one fourth of them do not plan to document the quality (Fig. 38).

3.5. Comments on components

The Bodies of statistics and BNB present their concrete comments after assessment of each quality component.
Most of the opinions are connected to directions for improvement because of the fact that approaches have been constantly searched for improvement of information quality:

In respect to Relevance:
- It is important that bigger part of information must be accessible to users and must meet more complete their needs.
- A broader coverage of provided information is necessary with the purpose of transparency and traceability of performed calculations.
- The improvement approach is directed to assessment of changes of user needs and consideration of modes of information service to user needs.

In respect to Accuracy:
- There are no errors in coverage reported since the whole population of observation units is covered and for that reason overcoverage and undercoverage are missing.
- Misclassification of statistical units is possible because of technical errors in primary data input.
- It is necessary to extend the analysis of input information by usage of other administrative source data.
- The improvement approach is directed to continuous strict control.

In respect to Timeliness and punctuality:
- Data have always been presented in time fixed except because of external reasons (data exchange with other institutions, etc.) a change of terms is needed.
- The improvement of this quality component must be connected to development of unified information and technical environment to generate the reports from respondents (including internal verification as possible), send them to respective body of statistics, perform the respective checks and verifications, and send them to the NSI and then from NSI to Eurostat.
- The improvement approach is directed to maximum shorten of time between reference period and publication.

In respect to Accessibility and clarity:
- Clear and understandable aggregated statistical information is presented in the regular printed and electronic publications.
- The presented information is accessible and easy to use but the observed characteristics of the process are sometimes insufficiently explained and incomprehensible to users.
- There is definitely a reserve for improvement of practice of provision of information to potential users.
- It is of great importance that provided data to be accompanied by a description in more accessible language to external users in order to distribute data correctly in respective formats for calculation and report. This will synchronize data for indicators which the Bodies of statistics reports to other institutions.
- The improvement approach is directed to analysis of possibilities to extend data and way of use.

In respect to Comparability:
- The Eurostat adopted methodology is used in data collection, processing and provision.
- Data comparability is achieved by translation of nomenclature tables (on occasion).
- The surveys are harmonized with European regulations in respective area and this guarantees a possibility for internal and external data comparability.
- Restricted comparability is found in dynamic structures. Some indicators are not comparable over time because of changes in the way of reporting.
- The improvement of information arrays is a try to resolve the existing problems with comparability over time.

- The improvement approach is directed to continuously study of legal and other national and international changes connected with concrete surveys and their timely adaptation.

In respect to Coherence:
- There is a big possibility to combine and match data successfully but only in accounting the different approach by which data is formed and this approach take into account in all comparisons.
- Coherence is part of the combinations of characteristics in different observations and guarantees the accuracy. The preliminary analysis provides a possibility for coherence of data from different sources, including administrative ones, in order to prepare thematic analysis.
- As a result of similar methodology it is possible to perform coherence with part of data collected according to statistical programme of the international organizations.
- Methods for combination of information sources have been periodically improved and data is presented in clear and understandable form.
- The improvement approach is directed to timely adaptation to changes and requirements occurred.

4. CONCLUSION

This first self assessment of the Bodies of statistics studies the quality level of the statistical information and the possibilities to quality improvement. The improvement directions are connected to overcoming the reported inadequate assessments and further perfection of the statistical activity.

4.1. Results

Analysis of the results from the self-assessment presents quality of statistical products according to characteristics of its components as follows:

Relevance
- Information of the Bodies of statistics is to big extent sufficient to users;
- Application of requirements connected with quality in the EU Regulations and other international documents;
- The predominant part of the Bodies of statistics has agreements signed for data exchange between national institutions;
- Mainly episodically meetings/contacts with users are carried out.

Accuracy
- The predominant part of the Bodies of statistics does not report overcoverage/undercoverage of units included in the survey framework;
- There are not assessments for major overcoverage and undercoverage in the survey framework;
- Few errors in the primary data need to be corrected;
- There are nearly no misclassification of statistical units;
- No primary data editing is necessary according to the greater part of the Bodies of statistics.

Timeliness and punctuality
- The Bodies of statistics which report small time lag systematically collect information;
- There are not assessments of large delay in presentation of the results;

Accessibility and clarity
- The presented information is accessible and user friendly;
- The greater part of the Bodies of statistics include metadata and explanations to the statistical tables in order to help users to perceive data clearer and to avoid misunderstanding or ambiguity;
- The Bodies of statistics do not test enough the usability of their website for different groups of users;
- Some of the Bodies of statistics still do not have a developed standard format for presentation of statistical metadata to users.

Comparability
- The predominant part of the Bodies of statistics documents the reported differences over time;
- Documentation and analysis of the systematic breaks in time series.

Coherence
- There are contradictions in combination of the results of different frequencies for the same reference period;
- Predominantly there are no major differences in connection of data to administrative source data.

Overall parallel presentation of the components
- There are no low assessments of the components;
- The highest assessed components are "Timeliness and punctuality" and "Accuracy";
- The lowest assessed component is Coherence in comparison with overall assessments of the other components.

4.2. Directions for improvement

The National Statistical System is faced to the following challenges and possibilities to improve the quality of statistical information:
- Increase of regular contacts with key users to study their needs of statistics including new and priority needs;
- Provision of information on quality to users on Internet;
- Increasing the volume of available information with a view to more complete provision of various information to users;
- Increase the number of calculated standard accuracy indicators in correspondence with type of surveys;
- Improvement of Timeliness by optimization of the time between reference period and first publication of the results;
- Strictly keeping the planned publication dates in the release calendar;
- Extension of systematically collection of information on timeliness and punctuality of statistics;

- More detail presentation of statistical information on Internet as well as inclusion of explanations/metadata which usually accompany statistical table in order to interpret statistics and related statistical information clearer;
- Extension of regularly testing of the usability of official website including invitation of user comments on the presentation of statistical outputs;
- Implementation of new standards and ICT in data and metadata exchange and design and adoption of a standard format for presentation of statistical metadata to users;
- Implementation of uniform approach for quality self-assessment in the NSS;
- Implementation of uniform approach for quality description and documentation in the NSS;
- Extension of quality documentation;
- Improvement of characteristics of the components which have medium assessments;
- Extension of administrative data usage for statistical purposes;
- Higher degree of consideration of costs to final statistical profits;
- Establishment of effective contacts with respondents and introduction of system for measurement and trace of respondents' burden;
- Creation of tools for regular monitoring and assessment of the statistical processes and products.

5. ANNEXES

Annex 1: **Quality self-assessment checklist for the National Statistical System**

Annex 2: **Quantitative survey, percentage distribution**

Annex 1

This checklist performs quality self assessment of statistics produced and disseminated by the Bodies of statistic and the Bulgarian National Bank.
The checklist is developed on the base of European questionnaires for quality self assessment of statistical surveys „Self Assessment Checklist for Survey Managers (DESAP) condensed version" and Questionnaire for implementation of the European Statistics Code of Practice principles as well as the NSI Questionnaire for quality self assessment in the NSI statistical departments.

Quality Self Assessment Checklist
for National Statistical System

Section I. Identification

Body of statistics: ……………………………………………………………………….
Division/Department:

  ……………………………………………………………………………

  ……………………………………………………………………………………………….

Name of survey(s) according to the National Statistical Programme (NSP):

  ……………………………………………………………………………………………….

  ……………………………………………………………………………………………….

  ……………………………………………………………………………………………….

  ……………………………………………………………………………………………….

Self assessment responsible person (s) /e-mail:
1. ………………………………………………………………………………………..
2. ………………………………………………………………………………………..

Section II. Quality of statistics

II.1. Relevance: The European statistics must meet the needs of users.		
II.1.1. How do you appraise the information available on key users satisfaction?	1. Complete (detailed) information is available to users	☐
	2. A lot of information is available to users	☐
	3. Some information is available to users	☐
	4. Little information is available to users	☐
II.1.2. Do you establish meetings/contacts with key users to study their needs of statistics (including new and priority needs)?	1. Regular meetings/contacts are carried out	☐
	2. Casual meetings/contacts are carried out	☐
	3. Meetings/contacts are not carried out	☐
	Other (please specify)………………………………	☐
II.1.3. Do you have agreements signed for data exchange?	1. Yes	☐
	2. No	☐

II.1.4. Your comments on "Relevance": Please describe how do you assess this component in your practice and what is your approach for its improvement.	

II.2. Accuracy: The European statistics must accurately and reliably portray reality.

II.2.1. How do you appraise the problem of over-coverage if such exists?	1. Major over-coverage (an unacceptably high number of units not belonging to the target population were included in the frame)	☐
	2. Some over-coverage (some units not belonging to the target population were included in the frame)	☐
	3. Slight (inconsiderable) over-coverage (few units not belonging to the target population were included in the frame)	☐
	Other (please specify). ………………………………	☐
II.2.2. How do you appraise the problem of under-coverage if such exists?	1. Major under-coverage (an unacceptably high number of units belonging to the target population were not included in the frame)	☐
	2. Some under-coverage (some units belonging to the target population were not included in the frame)	☐
	3. Slight (inconsiderable) under-coverage (few units belonging to the target population were not included in the frame)	☐
	Other (please specify)……………………………..	☐
II.2.3. How do you appraise the problem of misclassification of statistical units if such exists?	1. There is a large number of misclassifications	☐
	2. There are some misclassifications	☐
	3. There is a small number of misclassifications	☐
	4. There are nearly no misclassifications	☐
	Other (please specify)	☐
II.2.4. How do you appraise the necessity of editing the raw data?	1. A lot of errors were discovered in the raw data and checking and editing is indispensable	☐
	2. Few errors were discovered in the raw data which need to be corrected	☐
	3. The raw data have already been sufficiently checked and error free and no data editing is necessary	☐
II.2.5. Which ones of the following standard quality indicators and measures on accuracy do you calculate?	1. Coefficient of variation (in sample survey)	☐
	2. Standard error (in sample survey)	☐
	3. Confidence intervals (in sample survey)	☐
	4. Over-coverage rate	☐
	5. Under-coverage rate	☐
	6. Insufficient editing rate	☐
	7. Unit response rate	☐

	8. Item response rate	☐
	9. Imputation rate	☐
	10. Number of mistakes made, by type	☐
	11. Number of revisions carried out (Reason: ……………………………..)	☐
	Other (please specify) …………………………….. ……………………………………………………	☐
II.2.6. Your comments on "Accuracy": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

II.3. Timeliness and punctuality: European statistics must be disseminated in a timely and punctual manner and according to the release schedule.

II.3.1. How do you appraise the time lag between the reference period and the first publication of the preliminary or final results?	1. There is a substantial time lag	☐
	2. There is a certain time lag (within the agreed time schedule)	☐
	3. There is a small time lag	☐
	Other (please specify)…………………………….	☐
II.3.2. Are the planned publication dates for statistical information usually kept?	1. There is frequently a large delay	☐
	2. There is sometimes a certain delay	☐
	3. They are always kept	☐
	Other (please specify)……………………………..	☐
II.3.3. Do you systematically collect information on timeliness and punctuality of your statistics?	1. Yes	☐
	2. No	☐
II.3.4. Do you publish in advance divergences from the pre-announced release calendar and do you announce a new date?	1. Yes	☐
	2. No	☐
	3. There have never been such divergences from the pre-announced release calendar	☐
	4. There is no release calendar	☐
II.3.5. Your comments on "Timeliness and punctuality": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

II.4. Accessibility and clarity: European statistics should be presented in a clear and understandable form, accessible and disseminated in a suitable and convenient manner with supporting metadata and methodological notes.

II.4.1. Do you regularly keep track of the usability of your website for different groups of users?	1. Yes	☐
	2. No	☐
II.4.2. Do you invite user comments on the content and presentation of your statistical outputs?	1. Yes	☐
	2. No	☐
II.4.3. Do you have a standard format for	1. Yes	☐

presentation of statistical metadata to users?	2. No	☐
II.4.4. Do you provide metadata to users?	1. Information on methodology is provided	☐
	2. Information on quality of statistical processes and products is provided	☐
	3. Information as on methodology as on quality of statistical processes is provided	☐
	4. Metadata is not provided	☐
II.4.5. How do you appraise the presentation of data on Internet?	1. A large part of the data is presented	☐
	2. A certain part of data is presented	☐
	3. A small part of data is presented	☐
	4. Data is not presented on Internet	☐
II.4.6. Is the statistical tables usually accompanied by an explanation on interpretation of statistics and usage of related statistical information?	1. Yes	☐
	2. No	☐
II.4.7. Your comments on "Accessibility and clarity": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

II.5. Comparability: European statistics should be consistent internally, over time, and comparable between regions and countries.		
II.5.1. How do you appraise the comparability of statistics between different surveys? (in relation to concepts used and design of other important statistical surveys)?	1. There are serious differences to other important related statistics	☐
	2. There are larger differences to other important related statistics	☐
	3. There are some differences to other important related statistics	☐
	4. There are slight differences to other important related statistics	☐
	5. There are no major differences to other important related statistics	☐
	Other (please specify)……………………………..	☐
II.5.2. How do you appraise the comparability of statistical data over time (relating to preceding reference periods – please indicate the reference period of your survey)? (Comparability over time could be restricted due to changes in concepts and/or survey design.)	1. The survey is not comparable over time due to fundamental changes or problems	☐
	2. Comparability over time is seriously restricted	☐
	3. Comparability over time is restricted to some extent	☐
	4. Comparability over time is slightly restricted	☐
	5. There are no restrictions concerning comparability over time	☐
	Other …………………………………………	☐
II.5.3. Do you document and analyse the differences over time?	1. Yes	☐
	2. Partly	☐
	3. No	☐
	Other …………………………………………	☐
II.5.4. Did you introduce any changes to improve comparability of statistics during	1. Yes	☐

the last two years?	2. No	☐
II.5.5. Your comments on "Comparability": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

II.6. Coherence: European statistics should be possible to combine and make joint use of related data from different sources.

II.6.1. How do you appraise the possibility to combine reliably the results of different frequencies for the same reference period?	1. There are substantial problems	☐
	2. There are a lot of contradictions	☐
	3. There are some contradictions	☐
	4. There are no major contradictions	☐
II.6.2 How do you appraise the coherence of your statistics within the same socio–economic area? Can results be reliably combined with statistics originating from other sources (also including important non-official statistics)?	1. There are substantial differences	☐
	2. There are a lot of differences	☐
	3. There are some differences	☐
	4. There are no major differences	☐
II.6.3. How do you appraise the coherence of your statistics with administrative source data?	1. There are substantial differences	☐
	2. There are a lot of differences	☐
	3. There are some differences	☐
	4. There are no major differences	☐
II.6.4. Do you systematically document and analyse breaks in time series?	1. Yes	☐
	2. No	☐
II.6.5. Your comments on "Coherence": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

II.7. What is your overall assessment of each quality component?
(high (> 75%); medium (25-75%); low (< 25%)

II.7.1. Relevance	1. High	☐
	2. Medium	☐
	3. Low	☐
II.7.2. Accuracy	1. High	☐
	2. Medium	☐
	3. Low	☐
II.7.3. Timeliness and punctuality	1. High	☐
	2. Medium	☐
	3. Low	☐
II.7.4. Accessibility and clarity	1. High	☐
	2. Medium	☐
	3. Low	☐
II.7.5. Comparability	1. High	☐
	2. Medium	☐
	3. Low	☐

II.7.6. Coherence	1. High	☐
	2. Medium	☐
	3. Low	☐

Section III. Costs and burden on respondents: The resources must be effectively used. Burden on respondents must be in proportion to user's needs and must not be excessive. The statistical authority monitors response burden and defines measures for its reduction over time.		
III.1. Are costs considered to final statistical profits?	1. Yes	☐
	2. Partly	☐
	3. No	☐
III.2. Do you think that burden on respondents is spread as widely as possible?	1. Yes	☐
	2. No	☐
III.3. Do you use electronic means to obtain information from respondents?	1. Yes	☐
	2. No	☐
III.4. Your comments on "Costs and burden on respondents": Please describe how do you assess this component in your practice and what is your approach for its improvement.		

Section IV. Quality documentation		
IV.1. What documentation on quality assessment do you have?	1. Quality report	☐
	2. Other (please specify) ………………………...	☐
	3. There is not documentation	☐
VI.2. How would you document quality of your statistical product if you plan to monitor it in the period 2010-2012? *(More than one answer allowed)*	1. Quality report	☐
	2. Self assessment	☐
	3. Quality indicators	☐
	4. Other (please specify) ………………………...	☐

Comments and proposals regarding the present for quality self assessment checklist	

Thank you for your time and effort!

Annex 2: Quantitative survey, percentage distribution

Fig.1 Distribution of surveys within NSP 2010

Bodies of statistics	14,0%
NSI	86,0%

Fig.2 European and international legal documents applied

EU Regulations	88,9%
UN Framework Convention	11,1%

Fig.3 Assessments of availability of information

Complete (detail) information is available	33,3%
A lot of information is available	55,6%
Some information is available	11,1%

Fig.4 Assessments of meetings/contacts with key users

Regular meetings/contacts are carried out	44,4%
Episodical meetings/contacts are carried out	55,6%

Fig.5 Agreements signed for data exchange

with agreements	77,8%
without agreements	22,2%

Fig.6 Combined assessments of availability of information and contacts with key users

Complete information	Regular contacts	66,7%
Complete information	Episodical contacts	33,3%
A lot of information	Regular contacts	40,0%
A lot of information	Episodical contacts	60,0%

Fig.7 Combined assessments of availability of information and agreements for data exchange

Complete information	With agreements	28,6%
Complete information	Without agreements	50,0%
A lot of information	With agreements	71,4%
Some information	Without agreements	50%

Fig.8 Assessments of reported overcoverage of statistical units in the NSS

Some overcoverage	12,5%
Slight overcoverage	25,0%
There is no overcoverage	62,5%

Fig.9 Assessments of reported undercoverage of statistical units in the NSS

Some undercoverage	11,1%
Slight undercoverage	33,3%
There is no undercoverage	55,6%

Fig.10 Assessments of misclassification of statistical units

Large number	11,1%
Some	11,1%
Small number	33,4%
There are nearly no	22,2%
There are no	22,2%

Fig.11 Assessments of primary data editing

Few errors were discovered	77,8%
No data editing is necessary	22,2%

Fig.12 Assessments of calculated standard quality indicators and other quality indicators

Coefficient of variation	14,3%
Undercoverage rate	14,3%
Unit response rate	28,5%
Number of errors by kind	42,9%

Fig.13 Assessments of timeliness of information in NSS

There is a certain time lag	44,4%
There is a small time lag	22,3%
There is no time lag	33,3%

Fig.14 Assessments of punctuality of information in the NSS

There is sometimes a certain delay	33,3%
Dates are always kept	44,4%
Other	22,3%

Fig.15 Assessments of systematically collection of information on timeliness and punctuality

Yes	57,1%
No	42,9%

Fig.16 Assessments of publication in advance of divergences from the pre-announced release calendar

Divergences are published	33,3%
There have never been such divergences	33,3%
There is no release calendar	33,3%

Fig.17 Combined assessments of timeliness and systematically collection of information

There is a certain time lag	Data is collected	75,00%
There is a certain time lag	Data is not collected	25,00%
There is a small time lag	Data is collected	100,00%

Fig.18 Combined assessments of punctuality and systematically collection of information

Certain delay	Data is collected	66,7%
Certain delay	Data is not collected	33,3%
Dates are kept	Data is collected	66,7%
Dates are kept	Data is not collected	33,3%

Fig.19 Assessments of website usage for different groups of users

Yes	28,6%
No	71,4%

Fig.20 Assessments of studying the user opinion

Yes	37,5%
No	62,5%

Fig.21 Assessments of data presentation on Internet

A large part of the data is presented	33,3%
A certain part of data is presented	33,3%
A small part of data is presented	11,2%
Data is not presented on Internet	22,2%

Fig.22 Assessments of standard format for presentation of statistical metadata to users

Yes	71,4%
No	28,6%

Fig.23 Assessments of application of explanation notes accompanying the statistical tables

Yes	62,5%
No	37,5%

Fig.24 Combined assessments of studying the user comments and provision of metadata to users

User comments are studied	Metadata is provided	100,0%
User comments are not studied	Metadata is provided	25,0%
User comments are not studied	Metadata is not provided	75,0%

Fig.25 Assessments of comparability between different surveys

Larger differences	11,1%
Some differences	22,3%
No major differences	33,3%
Other	33,3%

Fig.26 Assessment of comparability of statistical data over time

Restricted to some extent	37,5%
Slightly restricted	12,5%
No restrictions	25,0%
Other	25,0%

Fig.27 Assessments of documentation and analysing the differences over time

Yes	55,6%
Partly	11,1%
No	22,2%
Other	11,1%

Fig.28 Assessments of changes for improvement of data comparability during the last 2 years

Yes	50,0%
No	50,0%

Fig.29 Assessments of combination of the results of different frequencies

A lot of contradictions	12,5%
Some contradictions	50,0%
No major contradictions	37,5%

Fig.30 Assessments of coherence of statistics within the same socio–economic area

Substantial differences	14,3%
A lot of differences	14,3%
Some differences	28,6%
No major differences	42,8%

Fig.31 Assessments of coherence of statistics with administrative source data

A lot of differences	12,5%
Some differences	25,0%
No major differences	62,5%

Fig.32 Assessments of documentation and analysing the breaks in time series

Yes	57,1%
No	42,9%

Fig.33 Indicators of quality components

Overall quality indicator	5,4
Coherence	4,9
Comparability	5,3
Accessibility	5,3
Timeliness	5,8
Accuracy	5,6
Relevance	5,3

Fig.34 Assessments of consideration of costs to final statistical profits

Yes	37,5%
Partly	50,0%
No	12,5%

Fig.35 Assessments of fairly spread burden on respondents

Yes	57,1%
No	42,9%

Fig.36 Assessments of electronic means usage to obtain information from respondents

Yes	77,8%
No	22,2%

Fig.37 Assessments of quality documentation

Quality report	22,2%
Other	11,1%
There is not documentation	66,7%

Fig.38 Assessments of quality documentation in 2010-2012

Quality report	33,3%
Self assessment	16,7%
Quality indicators	25,0%
Other	25,0%