

Committee for the Coordination of Statistical Activities
Fourteenth Session
Bangkok, 9-11 September 2009
Items for information: Item 1 of the provisional agenda

SA/2009/12/Add.3
18 November 2009

=====

Revised International Statistical Processes Assessment Checklist

**Condensed version with the assessment questions –
Version 3.0 November 2009**

Prepared by Eurostat



**Committee for the Coordination of Statistical Activities
and
Statistical Office of the European Communities**



Revised International Statistical Processes Assessment Checklist

**Condensed version with the assessment questions - Version 3.0 November
2009**

Chapter 1 Background information

This section provides brief general information on the statistics to be assessed and will help to place the answers for subsequent sections in the right context.

- 1.1 Statistical production process under assessment**
- 1.2 Periodicity for data compilation:**
- 1.2.a For which of the following statistical units do you compile data:**
- 1.3 Type of data processed:**
- 1.4 Key statistic(s) released:**
- 1.5 Reference period for the statistics assessed in the checklist:**

Chapter 2 Conceptual framework

The use of appropriate framework, concepts and classifications is a precondition for producing statistics that are comparable across countries.

- 2.1 International legal basis or agreements for the production of the statistics (please provide details or insert links):**
- 2.2 Internationally agreed principles and code(s) in place:**
- 2.3 International agreed statistical concepts and definitions used in the domain:**
- 2.4 International classification system(s) used for the statistical data:**
- 2.5 International standard(s) in place for the exchange of statistical data:**

Chapter 3 Users and customers

Statistics are relevant if they meet user needs. Thus, user needs have to be established at the outset. The following questions refer to the different aspects of communication with users.

- 3.1 Are all key (e.g. targeted/ intended) users identified?**
- 3.2 Who are the key users? Please rank the importance from 1- 5 (1= most important)**
- 3.3 How do you ensure user consultation and user contacts, related to the statistics? Through:**
- 3.4 What kind of process for the collection and treatment of inquiries from users is in place?**
- 3.5 What are the most common inquiries?**
- 3.6 How would you assess the completeness of information on key users' satisfaction?**
- 3.7 Please assess key users' satisfaction with the quality of the statistics produced according to the following aspects of quality (indicate under comments how the users' satisfaction was assessed):**
- 3.8 Please assess the key users' overall satisfaction with the statistics produced (indicate below how the users' satisfaction was assessed):**
- 3.9 Do you have information about the satisfaction of other (non-key) users?**
- 3.10 What are the main problems experienced in relation to users/customers?**
- 3.11 What are the known unmet key user needs in priority order?**
- 3.12 What measures are undertaken in order to anticipate future users' needs?**
- 3.13 What plans are in place to react to the unmet key user needs?**

Chapter 4 Data Providers

This section provides an overview on how work with data providers is organised and the main problems in dealing with them, in order to assess potential areas of improvement.

- 4.1 Who are the main data providers (please specify or give the approximate number of providers for each category)?
- 4.2 Do you measure and monitor compliance of your data providers with legislation / international agreements / gentlemen's agreement in force?
- 4.3 If the answer to the above question is "Yes", how do you measure compliance?
- 4.4 How are the data obtained from the providers?
- 4.5 If there are standards in place for the transmission of statistical data and metadata, are these standards used by ...
- 4.6 What are the problems for data delivery from the providers?
- 4.7 Please indicate what kind of meetings and how often you organise such meetings with your main data providers in order to discuss the problems encountered:
- 4.8 Is there any ongoing co-operation for your key statistics with other international organisations for joint data and metadata collection?
- 4.9 What are the problems with the cooperation, if any?
- 4.10 When data are provided by other international or supranational organisation(s), are the data provided in the context of a formal arrangement such as a memorandum of understanding (MOU)?
 - 4.10.a Please provide a reference that gives details about the structure of the data files provided (e.g. details about the transmission format):
- 4.11 Do you have in place a formal procedure for measuring the burden on respondents stemming from statistical data collection?
- 4.12 What are the future plans for reducing the burden on respondents?

Chapter 5 Validation (at country level)

This section provides an overview of the collection, editing, non-response adjustment, estimation and revision of the data that is undertaken by the countries. It will help to assess how well the quality of the underlying data from countries is known to you. **Please note that this chapter may not be relevant for some international organisations that reuse already published statistics.** In this case, it should simply be skipped.

DATA COLLECTION (MICRO DATA AND AGGREGATED DATA)

- 5.1 Please indicate (by ticking the appropriate cells) the type of sources used by the countries for collecting the data
- 5.2 How many countries updated their relevant registers or frame for surveys in the last 3 years? (E.g. business register, frame for household survey, etc.)
- 5.3 How would you assess the impact of imperfections of the relevant registers or frame on the quality of the key statistics?
- 5.4 If your key statistics are based on administrative data, how well do the definition and concepts used for administrative purpose compare with those required for statistical purposes?
- 5.5 If the data are collected by the countries by means of a questionnaire, what is the proportion of countries that tested it (or part of it) in the last 5 years?
- 5.6 Please indicate the degree of completeness of the data received from the countries:
- 5.7 How would you assess the completeness of the data supplied by the countries compared to what is required from them?
- 5.8 Please indicate the degree of completeness of the metadata on quality received from the countries?

- 5.9 How would you assess the completeness of the metadata on quality received from the countries?
- 5.10 If the data from countries are collected using a questionnaire...
- 5.11 If you use a harmonized questionnaire, when was it last tested?
- 5.12 If you use a harmonized questionnaire, when was it last reviewed, revised or updated?
- 5.13 Is there a common guideline for the methodology to be used by countries for the data collection?
- 5.14 How harmonised is your data collection process across different countries?

NON RESPONSE

Non response is a form of non-observation present in most surveys and indicates a failure to obtain a measurement on one or more study variables for one or more units selected for the survey.

- 5.15 Please indicate the level of unit non-response in the data produced by the countries.
- 5.16 How would you assess the impact of the unit-non response on the accuracy of data produced by the countries?
- 5.17 How many countries correct for non-response?

IMPUTATION

Imputation is the process used to resolve problems of missing, invalid or inconsistent responses that are identified during the data editing stage. Imputation involves changing some of the records being edited to ensure that a plausible, internally coherent record is created.

- 5.18 Are missing data imputed by countries?
- 5.19 If yes, what is the level of the overall imputation rates for the data received from countries?

- 5.20 How would you assess the impact of overall imputation rates on the accuracy of data produced by the countries?**

SAMPLING ERROR

Sampling error describes the error of an estimate that is derived from a sample of observations instead of from the whole population.

- 5.21 Do you obtain information from countries on the coefficients of variation (CVs)?**
- 5.22 If yes, please indicate the level of coefficients of variation (CVs) for the key statistic(s).**
- 5.23 How would you assess the impact of sampling errors on the accuracy of data produced by the countries?**

SEASONAL ADJUSTMENT

Seasonal adjustment is the process of estimating seasonal effects and removing them from the data.

- 5.24 Is seasonal adjustment made by the countries?**
- 5.25 If yes, please indicate the type of (pre-) adjustments done by the countries:**
- 5.26 Do you have information about how outliers are treated by the countries?**
- 5.27 Please indicate the aggregation method chosen by the countries with regard to seasonal adjustment:**
- 5.28 How would you assess the overall process of the seasonal adjustments done by the countries?**

ESTIMATION

Estimation refers to the rules or methods used to estimate a value in the population, based on a sample of observations.

- 5.29 Do you have information about the weighting schemes used by the countries?**

REVISIONS

Revisions are new estimates which replace values previously published.

- 5.30 Please indicate the extent to which countries revise their published data.**
- 5.31 How would you assess the impact of revisions on the key statistics produced by the countries?**
- 5.32 Do you employ an explicitly stated revision policy, agreed with the countries?**
- 5.33 Please provide the reference to the revision policy.**

Chapter 6 Validation (at your level)

This section provides an overview on the data compilation process undertaken by you. It will help to evaluate what is done to improve the data as much as possible and to give an overall assessment of the accuracy of the statistical output.

DATA EDITING

Data editing is the application of validation checks, which identify missing, invalid or inconsistent values or which identify values that are potentially in error.

- 6.1 How do you rate the reliability of your data validation system?**
- 6.1.a Please provide a reference that gives details about the editing rules you apply to the data:**

IMPUTATION

Imputation is the process used to resolve problems of missing, invalid or inconsistent responses that are identified during the data editing stage. Imputation involves changing some of the records being edited to ensure that a plausible, internally coherent record is created.

- 6.2 Are missing data imputed for computing the key statistics?**
- 6.3 Is the chosen imputation method ...**
- 6.4 If the answer to 6.2 is "Yes", what is your assessment of the impact of imputation on the quality of the statistics produced?**
- 6.5 Do you use a ...**
- 6.6 If several methods can be applied, have their results been evaluated against each other to identify the best method?**
- 6.7 Has there been an assessment of whether the imputation process limits the bias caused by the missing data?**
- 6.8 When do you review, revise or update the imputation process?**
- 6.8.a Please provide a reference that gives details about the imputation rules you apply to the data:**

SAMPLING ERROR

Sampling error describes the error of an estimate that is derived from a sample of observations instead of from the whole population.

- 6.9 Are the levels of the coefficients of variation acceptable for the purposes of the key statistics?**

Seasonal adjustment is the process of estimating seasonal effects and removing them from the data.

SEASONAL ADJUSTMENT

- 6.10 Do you perform seasonal adjustments to any of the statistical data received from National Statistical Authorities?**
- 6.11 Please indicate what you validate during the seasonal adjustment process?**
- 6.12 How would you assess the process of the seasonal adjustment?**

ESTIMATION

Estimation refers to the rules or methods used to estimate a value in the population, based on a sample of observations.

- 6.13 Do you re-weight the data before computing key statistics?**
- 6.14 If early estimates are released, please indicate the rules in place for deciding when the aggregate is considered to be of sufficient quality to be published:**
- 6.15 Have you assessed the influence of these criteria on the quality of the estimate (e.g. bias)?**
- 6.16 Was the current methodology for estimates of the key statistics evaluated during the last three years?**
- 6.17 Please provide the reference to the paper(s) where the methodology for computing estimates (including adjustments and weights computation) is described.**

REVISIONS

Revisions are new estimates which replace values previously published.

- 6.18 Please indicate the percentage of figures revised after publication, due to country data revisions for your key statistics for a given reference period.**

- 6.19 How would you assess the impact of the revisions on the aggregates produced by you?
- 6.20 What kind of final quality checks do you apply before releasing key statistics?
- 6.21 Do you provide specific information to the external users about major revisions concerning key statistics?
- 6.22 Do you regularly undertake analyses of the revisions and use the results to improve statistical processes?

OVERALL ACCURACY

This section aims to give a qualitative assessment of the accuracy of the published statistics, based on the following ratings:

- Very good:** Data are collected from reliable sources and based on a common methodology meeting high standards for your organisation's purposes. All aspects of the quality of the data is documented and assessed. The potential bias in estimates is assessed as nil or negligible.
- Good:** Data are collected from reliable sources and based on a common methodology meeting high standards for your organisation's purposes. All aspects of the quality of the data are documented and assessed. There are some minor shortcomings with regard to data availability and/or potential risk for minor bias in some estimates.
- Satisfactory:** Data are collected from reliable sources. The main aspects of the quality of the data are documented. There are some shortcomings with regard to data quality or data availability.
- Poor:** There are some serious shortcomings with regard to data availability and/ or the methodology applied.

- 6.23 How would you assess the overall accuracy of the published statistics?
- 6.24 What kind of collaboration do you have with the scientific community to improve the quality and effectiveness of the methods implemented?
- 6.24.a Structure of the data files stored at organisations

Chapter 7 Statistical confidentiality

Data used by the national statistical authorities and international organisations are considered confidential when they allow statistical units to be identified, either directly or indirectly, thereby disclosing individual information.

- 7.1 Do you process statistical data that could be confidential?**
- 7.2 Which types of data do you have for publication or (semi-) public access?**
- 7.3 Which disclosure control methods are applied to the released tabular data?**
- 7.4 Is the tabular protection method ...**
- 7.5 Please indicate the percentage of sensitive (suppressed) cells in the released tables of the statistics.**
- 7.6 If micro data are accessible to researchers, please explain the methods applied to protect the micro data before releasing them.**
- 7.7 If micro data are available for researchers, how often is the access to micro data requested?**
- 7.8 If micro data are available for researchers, are they consulted in the process of setting the anonymisation criteria?**
- 7.9 If micro-data are available for researchers, do you have any information about their satisfaction with the data provided?**
- 7.10 Please name the software used for carrying out disclosure control.**
- 7.11 Please provide a reference that gives details about the rules applied to the confidential data:**

Chapter 8 Documentation

This section provides an overview of the documentation available on the production process, the product itself (to be understood as the key statistics) and the quality of the data. It will help to assess the amount and content of documentation available.

- 8.1 Are all the steps of the data production process adequately documented, e.g. to allow new personnel to become quickly acquainted with the process?**
- 8.2 For which of the following aspects of the production process do you need to have a better documentation?**
- 8.3 Do you provide documentation about the methodology of the statistical production process to the public?**
- 8.4 How often do you review/update the documentation on the production process?**
- 8.5 When was the documentation on the production process last updated?**
- 8.6 Does your organisation have a formal process management methodology to document the production process?**
- 8.7 Format(s) in place for releasing information on the data disseminated:**
- 8.8 How often do you review/update the information on the data disseminated?**
- 8.9 If standard format files are in use, when were they last reviewed/updated?**
- 8.10 In how many languages are the files on the data disseminated available?**
- 8.11 What is the degree of completeness of the files for the released statistics?**
 - 8.11.a Which of the following Quality Indicators are provided for this process?**
 - 8.11.b For relevant Quality Indicators that are not currently provided, please describe here any plans for providing these in the future:**
- 8.12 What is your assessment of the overall quality of metadata provided to users (in terms of completeness, clarity, availability, etc)?**

- 8.13** In addition to any Quality Indicators provided for this process (identified in Question 8.11.a above), is any other information documented on the quality of the key statistics?
- 8.13.a** Is this other information on the quality of the key statistics available to users?
- 8.14** If applicable, is the information reported according to a standardised structure?
- 8.15** What aspects of quality are covered by the published documentation?
- 8.16** Please provide references to documents on the quality of the statistics released
- 8.17** When was the above documents last updated?
- 8.18** What is your assessment of the completeness and clarity of the information provided to users about quality?
- 8.19** How would you assess your ability to provide assistance to users in the interpretation and use of the data produced?

Chapter 9 Data dissemination

This section provides an overview on various aspects of data dissemination such as data errors, timeliness, coherence and comparability. It will help in assessing where and possibly how data dissemination can be improved in general and in specific cases.

The publication of data should always be understood as their appearance in a publicly accessible environment, e.g. data held electronically in reference databases.

9.1 Please indicate the media formats used for data dissemination:

- 9.2 Do you follow the figures on the number of web hits, download rates, publications sold of the data disseminated?**
- 9.3 In which of the following dimensions do you disseminate your data?**
- 9.3.a If you have any documentation that gives details of the structure of the disseminated data (e.g. how the data are organised, the dimensions and variables used, etc.) please list the reference sources below:**
- 9.3.b Are the key statistical aggregates publicly available free of charge?**
- 9.4 Please indicate how often (on average) non-planned extractions of a subset/full set of the statistics are made from the statistics specific database in order to meet specific users' needs?**
- 9.5 How would you assess your ability to react quickly and flexibly to specific user demands for tailor-made data extractions?**
- 9.6 Are the results of tailor-made analysis made available to all users free of charge?**
- 9.7 Please list the cases in which you grant pre-release access to your statistics.**
- 9.8 Do you regularly review the final data in publications before releasing them?**
- 9.9 Do you have a rule to cancel the dissemination of statistics due to accuracy considerations (e.g. very low data quality)?**
- 9.10 What kind of checks do you undertake to assess the overall consistency of the published data?**
- 9.11 Have users/customers reported any errors in the published/ disseminated statistics during the last year?**
- 9.12 If "Yes", what kind of follow-up of these errors was done?**
- 9.13 For which of the following aspects do you flag the data? (Flag here means an attribute of a cell in a dataset representing qualitative information on the value of that cell).**
- 9.14 How do you flag/ footnote your data or otherwise provide additional qualitative information to data users?**

TIMELINESS AND PUNCTUALITY

Timeliness refers to the period between the availability of the information and the event or phenomenon it describes. Punctuality refers to the delay between the date of the release of the data and the target date (the date by which the data should have been delivered).

- 9.15** Please specify the time lag between the reference period and the agreed data delivery deadline for the countries to send the statistical data (in days or months).
- 9.16** Please indicate the delay of countries' statistical data compared with the legal or agreed timetable (in days).
- 9.17** Please indicate the time period between the reference period and the first publication of the key statistics by your unit.
- 9.18** Please indicate the time period between the reference period and the final publication of the key statistics by your unit.
- 9.19** Please indicate the average time lag between the planned publication date and the actual publication date by your unit.
- 9.20** How would you assess the timeliness of preliminary publication of key statistics?
- 9.21** How would you assess the timeliness of publication of the complete set of final results?
- 9.22** Do you have a release calendar publicly available (e.g. the dissemination time schedule is publicised in advance)?
- 9.23** Do you release the results at the standard daily time?
- 9.24** If there is a release calendar, do you publish in advance divergences from the calendar?
- 9.25** If yes, do you include an explanation?
- 9.26** Do you publicly announce a new release time?
- 9.27** Are the planned publication dates for the main publications (e.g. comprehensive tables with results including web publications) usually kept?

- 9.28** If there are delays in the publication of the key statistics, what are the main reasons for the delays?
- 9.29** What kind of changes would be necessary in general to substantially improve timeliness for both production and publication of the key statistics?

COHERENCE

Coherence refers to the adequacy of the data to be reliably combined in different ways and for various uses.

- 9.30** How would you assess the coherence of the key statistics produced with statistics having a different periodicity (e.g. annual versus quarterly data)?
- 9.31** How would you assess the coherence of the key statistics produced with National Accounts statistics?
- 9.31.a** Please list any other statistical information that could be used to assess the coherence of your key statistics with other statistics:
- 9.32** In general, how would you assess the coherence of the key statistics produced with other statistics and information on the same subject?

COMPARABILITY OVER TIME

Comparability over time refers to the extent to which results from the same statistical process, but at different reference periods, can be compared.

- 9.33** Are there any breaks in time series for the statistical data?
- 9.34** How would you assess the comparability over time (relating to preceding reference periods)?

COMPARABILITY ACROSS COUNTRIES

Comparability across countries refers to the extent to which results from different countries can be compared, taking into account differences in the statistical concepts and methodologies applied at a national level.

- 9.35** For how many countries are the concepts and methodologies comparable with standard concepts?
- 9.36** Please give an assessment of the asymmetries for statistical mirror flows (i.e. discrepancies between the statistics related to inbound and outbound flows for pairs of countries).
- 9.37** What is your overall assessment of comparability of the key statistics across countries?
- 9.38** Please provide references of studies of comparability:

Chapter 10 Follow-up of the statistical production process

This section provides an overview of different types of follow-up actions and potential areas for improvement. It is essential to get a clear view on improvement actions for the key statistics concerned.

- 10.1** Do you discuss the lessons learnt after each production round with staff working within the domain?
- 10.2** Have the work practices/processes (all or parts of) been compared with other similar practices/processes or benchmarks during the last year?
 - 10.2.a** Is there another international organisation process which is similar to your process?
 - 10.2.b** Would you like to benchmark your process with another similar process?
 - 10.2.c** Do you use the results of other international organisations statistical processes as input to your statistical process?
 - 10.2.d** Is the output of your statistical process used as an input to other international organisations statistical processes?

- 10.3** Is there any indicator, which is produced on a regular basis, for monitoring the efficiency of your statistical production process (e.g. how much time is needed for editing the data, the volume of data compared to the number of staff etc.)?
- 10.4** Is there any ongoing co-operation with other international organisations for joint data and metadata dissemination concerning your key statistics?
- 10.5** Are you aware of any best practices in place in other organisations that could be applied for your unit?
- 10.6** Please choose three areas where you see the most urgent need for improvements:

Chapter 11 IT conditions

This section provides a brief overview of the IT applications used for the production of statistics and protection of data in your organisation.

- 11.1** What IT applications are used for the production of the key statistics?
- 11.2** Do you use IT applications specifically developed according to the needs of your key statistics?
- 11.3** Is there room for further automation of routine clerical operations (e.g. data coding, validation)?
- 11.4** In your view, what are the obstacles that hinder greater use of technology to improve the statistical processing of your key statistics?
- 11.5** Are the IT applications sufficiently reliable for the needs of the key statistics?
- 11.5.a** If relevant, please describe how well the different IT tools you use communicate with each other:
- 11.5.b** Sharing software with data providers
- 11.6** Do you apply a standard procedure for giving access to the data to staff involved in the production process?

- 11.7 Do you follow the standard procedures provided by the IT department to back-up the data?
- 11.8 Is there a contingency plan in case the IT applications do not work?
- 11.9 Are the running and further development of the IT applications dependent on external contractors/ external services?
- 11.10 What are the main problems (if any) for the key statistics in terms of the IT applications?

Chapter 12 Management, Planning and Legislation

This team/section includes management-related issues to assess how the work is organised, both internally in the unit and in relation to other team/units in your organisation.

- 12.1 Is there backup staff for all important stages of statistical production process?
- 12.2 Is there a clear time schedule for the most important stages in the production process?
- 12.3 What are the resources used for the statistics and its related output (key statistics) in terms of human and financial resources for the current year?
- 12.4 What tasks are usually outsourced to contracts (not related to a specific budget year)?
- 12.5 Are the key statistics (data) covered by legislation of some kind?
- 12.6 What are the main problems of non-compliance by the Member States with the legislation in force?

Chapter 13 Staff, work situation and competence

This section includes issues related to the available knowledge and competence of staff as well as on the working conditions for the unit.

- 13.1 Is the need for competency in the key statistics analysed at least once a year?**
- 13.2 How would you assess the relevance of the qualifications of your staff (e.g. academic degrees) to the requirements for this statistical process?**
- 13.3 Do you enhance the professional level of staff by encouraging them to...**
- 13.4 Are the training needs for the key statistics sufficiently covered in general?**
- 13.5 Are the training needs of newcomers to the key statistics sufficiently covered?**
- 13.6 Are the available human resources sufficient to carry out the work?**
- 13.7 Are the available financial resources sufficient to carry out the work?**
- 13.8 Are you satisfied with the working conditions such as office space, office location, available equipment, etc.?**
- 13.9 What are the most difficult problems, in relation to the working conditions and the staff, concerning the production of the key statistics?**

Chapter 14 Comments on the checklist

- 14.1 How long did you take to fill in this checklist?**
- 14.2 Please give your suggestions below on how this checklist could be improved.**