

1. QUALITY DIMENSIONS, CORE VALUES FOR OECD STATISTICS AND PROCEDURES FOR PLANNING AND EVALUATING STATISTICAL ACTIVITIES

1.1 Definition and dimensions of data quality

8. Quality is defined as “fitness for use” in terms of user needs. This definition is broader than has been customary used in the past when quality was equated with accuracy. It is now generally recognised that there are other important dimensions. Even if data is accurate, they cannot be said to be of good quality if they are produced too late to be useful, or cannot be easily accessed, or appear to conflict with other data. Thus, quality is viewed as a multi-faceted concept. The quality characteristics of most importance depend on user perspectives, needs and priorities, which vary across groups of users.

9. Given the work already done by several statistical organisations, the OECD drew on their experience and adapted it to the Organisation’s context. Several statistical organisations have already identified the dimensions of quality. These have also been adapted to the OECD context. Thus, the OECD views quality in terms of seven dimensions: relevance; accuracy; credibility; timeliness; accessibility; interpretability; and coherence. These are discussed below. Another factor is that of cost-efficiency, which though is not strictly speaking, a quality dimension, is still an important consideration in the possible application of one or more of the seven dimensions cited previously to OECD statistical output.

Relevance

10. The relevance of data products is a qualitative assessment of the value contributed by these data. Value is characterised by the degree to which the data serves to address the purposes for which they are sought by users. It depends upon both the coverage of the required topics and the use of appropriate concepts. Value is further characterised by the merit of users’ purposes in terms of the OECD mandate, the agreements with Member Countries and the opportunity costs of producing the data.

11. Measuring relevance requires the identification of user groups and their needs. There are multiple uses and users, and they may change over time. New needs may arise that require new data. Relevance may be indirectly assessed by ascertaining whether there are processes in place to determine the views of users and the uses they make of the data.

12. OECD context: Users include the Secretariat, Committees, Member governments and other external users. The Secretariat and Committees are primary users and determine priorities, but data are also produced for external users according to the political role of the Organisation vis-à-vis the civil society. The OECD Programme of Work provides the mandate for collecting and treating data for analytical purposes. The OECD Publishing Policy mandates that to maximise the impact of OECD work, it is essential that the content and format of all published outputs be adapted to the different target audiences. Core data (and related metadata) are widely disseminated in the interests of the public good.

Accuracy

13. The accuracy of data products is the degree to which the data correctly estimate or describe the quantities or characteristics they are designed to measure. Accuracy refers to the closeness between the values provided and the (unknown) true values. Accuracy has many attributes, and in practical terms there

is no single aggregate or overall measure of it. Of necessity these attributes are typically measured or described in terms of the error, or the potential significance of error, introduced through individual sources.

14. In the case of sample survey-based estimates, the major sources of error include coverage, sampling, non-response, response, processing, and problems in dissemination. For derived estimates, such as for national accounts or balance of payments, sources of error arise from the surveys and censuses that provide source data; from the fact that source data do not fully meet the requirements of the accounts in terms of coverage, timing, and valuation and that the techniques used to compensate can only partially succeed; from seasonal adjustment; and from separation of price and quantity in the preparation of volume measures.

15. An aspect of accuracy is the closeness of the initially released value(s) to the subsequent value(s) of estimates. In light of the policy and media attention given to first estimates, a key point of interest is how close a preliminary value is to subsequent estimates. In this context it is useful to consider the sources of revision, which include (1) replacement of preliminary source data with later data, (2) replacement of judgmental projections with source data, (3) changes in definitions or estimating procedures, and (4) updating of the base year for constant-price estimates. Smaller and fewer revisions is an aim, however, the absence of revisions does not necessarily mean that the data are accurate.

16. OECD context: The accuracy of the data published is largely determined by the accuracy of the data received from the contributing organisations. On the other hand, the activities carried out by the Secretariat can influence the overall accuracy of data published. This influence can be positive because the quality checks adopted by the OECD may detect errors and result in improvements to the estimates previously provided by national agencies. Or it can be negative, due to errors that may result from the collection, processing, derivation, or dissemination procedures adopted by the Secretariat.

Credibility

17. The credibility of data products refers to the confidence that users place in those products based simply on their image of the data producer, *i.e.*, the brand image. Confidence by users is built over time. One important aspect is trust in the objectivity of the data. This implies that the data are perceived to be produced professionally in accordance with appropriate statistical standards, and that policies and practices are transparent. For example, data are not manipulated, nor their release timed in response to political pressure.

18. Credibility is determined in part by the integrity of the production process. Principle 2 of the UN Principles of Official Statistics¹ (1994) states: “*to retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data*”.

19. OECD context: The Secretariat has to decide if the publication of poor quality data received from countries affects the overall credibility of the OECD as a high quality data provider. If the answer is yes, the Secretariat should refuse to publish the data. Furthermore, it must ensure that, once agreement between the Secretariat and countries has been reached on collection of specified data, the data subsequently collected cannot be withdrawn in response to political pressure.

¹ Provided in Annex 1 of this document.

Timeliness

20. The timeliness of data products reflects the length of time between their availability and the event or phenomenon they describe, but considered in the context of the time period that permits the information to be of value and still acted upon. The concept applies equally to short-term or structural data; the only difference is the timeframe.

21. Closely related to the dimension of timeliness, the punctuality of data products is also very important, both for national and international data providers. Punctuality implies the existence of a publication schedule and reflects the degree to which data are released in accordance with it. A publication schedule may comprise a set of target release dates or may involve a commitment to release data within prescribed time period from their receipt. Here “release date” refers to the date on which the data are first made publicly available, by whatever medium, typically, but not inevitably the web site.

22. OECD context: The timeliness of the data published by the OECD is largely determined by the timeliness of the data it receives from the contributing organisations. The Secretariat itself is also a potential source of delay, which may occur during collection, processing, derivation, or dissemination. A publication schedule would help:

- external users, by improving their capacity to make timely use of OECD statistics;
- internal users, by enhancing their capacity to plan their work based on the release dates;
- the Secretariat, by enhancing its capability to resist pressure to tamper with release dates for political reasons.

On the other hand, there may be occasions where the OECD cannot adhere to its schedule, for example, due to changes in priorities. Such changes should be clearly communicated to users.

Accessibility

23. The accessibility of data products reflects how readily the data can be located and accessed from within OECD data holdings. The range of different users leads to such considerations as multiple dissemination formats and selective presentation of metadata. Thus, accessibility includes the suitability of the form in which the data are available, the media of dissemination, and the availability of metadata and user support services. It also includes the affordability of the data to users in relation to its value to them and whether the user has reasonable opportunity to know that the data are available and how to access them.

24. OECD context: Internal and external users might have quite different perceptions of accessibility because of the differences in access methods. According to the OECD Publishing Policy, it is the responsibility of the Secretary General to determine and submit an annual strategic overview of the publications programme of the Organisation to Members at the beginning of each year (by 31 r January). Under the authority of the Secretary General, the Director of the Public Affairs and Communications Directorate decides on the selection, quality, form, timing and external distribution of all OECD publications, including statistics. The Director of PAC consults the Directorates and the Committees at the time of the development and the updates of the Publishing Programme for maintaining and improving the quality of OECD publications.

Interpretability

25. The interpretability of data products reflects the ease with which the user may understand and properly use and analyse the data. The adequacy of the definitions of concepts, target populations, variables and terminology, underlying the data, and information describing the limitations of the data, if any, largely determines the degree of interpretability.

26. The range of different users leads to such considerations as metadata presentation in layers of increasing detail. Definitional and procedural metadata assist in interpretability: thus, the coherence of these metadata is an aspect of interpretability.

27. OECD context: Where statistical processes are carried out following a decentralised model, the co-existence of different dissemination mechanisms should be minimised in order to avoid confusing users. Furthermore, where there are alternative definitions available for different uses, the Secretariat should help users in selecting those that are most appropriate to their needs. The OECD Publishing Policy mandates that to maximise the impact of OECD work, it is essential that the content and format of all published outputs be adapted to the different target audiences.

Coherence

28. The coherence of data products reflects the degree to which they are logically connected and mutually consistent. Coherence implies that the same term should not be used without explanation for different concepts or data items; that different terms should not be used without explanation for the same concept or data item; and that variations in methodology that might affect data values should not be made without explanation. Coherence in its loosest sense implies the data are "at least reconcilable." For example, if two data series purporting to cover the same phenomena differ, the differences in time of recording, valuation, and coverage should be identified so that the series can be reconciled. Coherence has four important sub-dimensions: within a dataset, across datasets, over time, and across countries.

29. *Coherence within a dataset* implies that the elementary data items are based on compatible concepts, definitions, and classifications and can be meaningfully combined. Incoherency within a dataset occurs, for example, when two sides of an implied balancing statement, such as assets and liabilities, or inflows and outflows, do not balance.

30. *Coherence across datasets* implies that the data are based on common concepts, definitions and classifications, or that any differences are explained and can be allowed for. An example of incoherency across datasets would be if exports and imports in the national accounts could not be reconciled with exports and imports in the balance of payments.

31. *Coherence over time* implies that the data are based on common concepts, definitions, and methodology over time, or that any differences are explained and can be allowed for. Incoherence over time refers to breaks in a series resulting from changes in concepts, definitions, or methodology.

32. *Coherence across countries* implies that from country to country the data are based on common concepts, definitions, classifications and methodology, or that any differences are explained and can be allowed for.

33. OECD context: Ensuring coherence across countries is one of the major sources of value added provided by the OECD. The role of metadata in explaining possible changes in concepts or methodologies over time and across countries is absolutely fundamental. Unexplained inconsistencies across datasets can seriously reduce the interpretability and credibility of OECD statistics.

Cost-efficiency

34. The cost-efficiency with which a product is produced is a measure of the costs and provider burden relative to the output. Provider burden is a cost that happens to be borne by the provider, but is a cost nevertheless. Whilst the OECD does not regard cost-efficiency as a dimension of quality, it is a factor that must be taken into account in any analysis of quality as it can affect quality in all dimensions. If a product can be produced more efficiently with the same quality, then resources released can be used to improve the quality of that product or other products.

35. OECD context: Respondent burden is usually placed on the NSOs and other government agencies to provide the data, as the OECD rarely, if ever, collects data directly from enterprises or households, and only infrequently requests data that the NSO or other government agency has not already collected for its own purposes.

1.2 Core values for OECD statistics

36. The Fundamental Principles of Official Statistics adopted initially by the Economic Commission for Europe of the United Nations, and subsequently endorsed by the United Nations Statistical Commission in April 1994 (refer Annex 1), provide a set of principles through which many of the quality dimensions outlined in the previous Section of this document are applied. The actual implementation of the quality dimensions and the UN Principles is undertaken through the guidelines and procedures provided for all OECD statistical activities.

37. The UN Fundamental Principles have been formally endorsed and adopted by the national statistical organisations of OECD Member countries and several other international organisations involved in the collection and dissemination of statistics. The OECD too is committed to implement the UN Fundamental Principles in its own statistical activities. In addition, OECD statisticians are committed to carrying out their work according to the International Statistical Institute declaration on professional ethics (see Annex 2).

38. The main principles of OECD statistical activities are:

- a) *OECD statistics are compiled and made available on an impartial basis. OECD statistics are produced according to strictly professional considerations, including scientific principles and professional ethics with regard to methods and procedures used for the collection, processing, storage and dissemination of statistical data.*
- b) *The OECD presents statistical information according to scientific standards on the sources, methods, and procedures adopted to produce its statistics.*
- c) *Individual data collected by the OECD for statistical compilation are considered to be strictly confidential and used exclusively for statistical purposes. Specific measures are taken to ensure the full protection of confidential data from any potential disclosure.*
- d) *Internal rules and measures under which the OECD statistical system operates are made public.*
- e) *The OECD is committed to carrying out its statistical activities in co-ordination with national statistical agencies and with other international organisations.*
- f) *The OECD is committed to developing bilateral and multilateral co-operation in statistics in order to contribute to the development of systems of official statistics in all countries.*

- g) *Within the constraints of resource availability, OECD data products are of the best possible overall quality in terms of each of the seven quality dimensions outlined in the Organisation's Quality Framework. Effort involved in assuring quality is commensurate with the scale of the statistical activity, the purpose of the activity and its frequency (i.e. whether it is intended to be repeated regularly or occasionally, or is one-off).*

Basic principles adopted in data and metadata collection

- h) Data and metadata necessary for the work of the OECD must be provided to the Organisation within the context of the formal obligations undertaken by each Member country when it joined the Organisation. This means that requests for information by the OECD should have the same importance attached to them as requests from other international organisations including those required by Regulation.
- i) The OECD explains and justifies requests for data that impose additional burden upon data providers. To this end, national agencies responsible for the co-ordination of statistical relations with international organisations at the national level have the right to receive well structured information about the on-going and ad hoc data needs of the OECD.
- j) The burden imposed on data providers is minimised. Data and metadata collection has to be conducted using the most efficient instruments, taking into account the technologies and human resources available in both the OECD and source organisations.
- k) Data and metadata collection activity must be co-ordinated as much as possible across the OECD, taking into account user needs and available technologies and resources. This implies co-ordination of OECD requests for data and metadata and automated access by the OECD to data wherever possible.
- l) Where there are “minor” differences in the data requested by different users within the OECD, a specific analysis of real user needs should be conducted in order to avoid unnecessary duplication.
- m) Where appropriate, the OECD is committed to collect data disaggregated by gender.
- n) The OECD helps, develops, promotes and uses international standards for data and metadata and associated statistical processes.

Basic principles adopted in data and metadata management

- o) Data sets containing “final” data and metadata have to be designed and implemented according to established OECD standards in order to allow easy access by authorised users. Information on the characteristics of all data sets containing final data and metadata have to be located in a specific database.
- p) Data sets containing “preliminary” data and metadata can be developed according to the needs of experts in charge of different work phases.
- q) Corporate statistical and publishing IT and software infrastructures are used for storing, accessing and disseminating data and metadata in preference to activity specific applications.
- r) Definitional, procedural and operational metadata describing each phase of each statistical activity are documented and readily available to internal users.

- s) If confidential data are managed, all necessary technical and organisational measures are undertaken to ensure that only authorised people working in the Secretariat have access to the data and to prevent any confidentiality disclosure.

Basic principles adopted in data and metadata dissemination

- t) The OECD dissemination policy for statistics are governed by the OECD Publishing Policy, endorsed by Council, and must meet the objectives, to:

- disseminate as widely as possible and in the most cost-effective manner
- the statistics collected and elaborated by the Organisation, adopting high quality standards to facilitate their accessibility and interpretability;
- enhance the credibility of the OECD as a source of high quality statistics reflecting economic, environmental and social performance in Member countries and in selected non-Member countries;
- contribute to the development of a culture of “informed decision making” at national and international levels, both in government and non-government bodies.

- u) In meeting these objectives, statistics dissemination has to be conducted:

- in the most cost-effective manner, in accordance with OECD Publishing policy and with the financial and budgetary regulations and requirements of the OECD Council. Maximum use should be made of online dissemination possibilities;
- ensuring that the general user community can have free access to “core” statistical information and all metadata collected and/or originally produced by the Organisation; maximising co-operation with other national and international data providers. In particular, free access to all statistical products has to be given to all national governmental bodies (including national statistical offices), as well as, subject to reciprocal arrangements, to international organisations.

1.3 Procedures for assuring the quality of OECD statistical activities: an overview

39. The broad set of principles and guidelines through which many of the quality dimensions outlined above are implemented across the OECD are provided in Part 2 of this document. Specific procedures to ensure that new and existing statistical activities are conducted in accordance with these principles are presented in Part 3. This Section provides an overview of procedures for assuring the quality of proposed new statistical activities and for reviewing the quality of the output of existing statistical activities. In addition, the promotion of best practice used in-house and elsewhere is designed to help OECD statisticians adopt the most effective approaches to data and metadata collection, management and dissemination.

40. The procedures presented below are aimed at a single statistical activity. However, statistical activities do not exist in isolation. They are bound together by the same statistical infrastructure and the fact that their outputs may be viewed and used in combination. Improvements to the OECD’s statistical infrastructure are the subject of other OECD initiatives. However, whilst the guidelines do not explicitly cover the infrastructure supporting statistical activities – computing, methodology, and publication – they do take into account the interaction between statistical activities through consideration of the data they jointly make available.

Procedure for assuring the quality of new activities

41. The main steps in the development of a new statistical activity were defined as:

- a) definition of the data requirements in general terms;
- b) evaluation of other data currently available;
- c) planning and design of the statistical activity;
- d) extraction of data and metadata from databases within and external to OECD;
- e) implementation of specific data and metadata collection mechanism;
- f) data and metadata verification, analysis and evaluation; and
- g) data and metadata dissemination.

42. For each step the quality concerns and the instruments available to help in addressing them were identified. In particular, a set of guidelines and concrete procedures have been prepared for each step, taking into account good existing practices within the OECD and in other statistical agencies. In order to minimise the burden placed on activity managers, a simplified version of the procedure would be appropriate for statistical activities planned to be once rather than repeated. Table 1 provides more details about the procedure.

Procedure for reviewing the quality of existing activities

43. The procedure for reviewing the quality of existing statistical activities conducted across the OECD takes into account the fact that the review will be carried out on a rotation basis over a number of years. The stages envisaged are as follows:

- a) identification by the OECD Statistical Policy Group (SPG) of the statistical activities for review during the course of the year, following a biannual rolling calendar;
- b) self-assessment by the statistical activity manager and staff, resulting in a report that includes a brief summary of quality problems and a prioritised list of possible improvements, together with an assessment of additional resources required for their implementation. A self-assessment template is provided in Table 3, while more detailed guidelines on how to carry out the assessment are described in Part 3.
- c) review of and comments on the self-assessment report by major users;
- d) review of and comments on the self-assessment report by statistical, information technology, and PAC dissemination staff, co-ordinated by an expert designated by the SPG;
- e) preparation of the final quality report, combining all comments, jointly by the activity manager and designated expert, and tabling of the report to the SPG;
- f) discussion and resolution of any concerns about the report by the SPG, and transmission of the report to the relevant director;

- g) assignment of resources for selected quality improvement initiatives by the directors and through the Central Priorities Fund;
- h) feedback by the Chief Statistician to stakeholders on the quality improvement initiatives proposed and the plans for their implementation.

44. Stages (b), (c), (d) and (e) are the core of the procedure. They involve the preparation of a quality self-assessment by the activity manager, its review by users and experts, and the blending of all comments into a final report. More details are provided in Table 2, whilst Table 3 contains a template to assist the self-assessment. Given that there are about 70 OECD activities potentially subject to such reviews, it is vital that the procedure is flexible. In this context it is recognised that:

- there should be an initial round of reviews to pilot test the procedures;
- the procedure itself should be reviewed and fine-tuned each year;
- the scale of the reviews and resources invested in them should be commensurate with the benefits that can be envisaged – in particular, a simplified process may be appropriate for small scale/low profile activities;
- the review schedule over a four-year period can be provisionally announced, allowing activity managers to express their wishes regarding the most appropriate year and time of year for each review.

Conducting the self-assessment

45. The overall purpose of the Quality Review process is to demonstrate to stakeholders that data quality is being properly managed within the self-assessment, and to identify strengths and weaknesses in the quality of the self-assessment's output data. The self-assessment aims to provide the self-assessment's assessment of these strengths and weaknesses, based on the staff's own knowledge of the self-assessment and the feedback being obtained from its stakeholders. To guide the self-assessment manager in conducting this assessment, Table 3, *Self-assessment template for existing statistical activities*, illustrates the kind of issues a self-assessment should normally address for each dimension of quality. The first two columns provide the definitions of each dimension of quality as already described in Part I of the Quality Framework. The factor of Cost-efficiency, though not strictly a dimension of quality, has been included at the bottom of this Table since it is an important consideration in any assessment of data quality. The third column, *Elements of Quality Management*, summarizes the major functions that a self-assessment needs to undertake continuously in order to ensure the ongoing quality of the Activity's statistical outputs. The fourth column, *Possible Issues for Assessment*, suggests particular issues or aspects of these functions that might be considered at the time of a Quality Review. The issues listed are those thought to apply to most of OECD's self-assessments, but some may be inappropriate for some activities. On the other hand, the list is not exhaustive; managers may also consider and include other issues important to data quality for their particular Activity.

46. In addition, the self-assessment should identify any instances where the self-assessment is not able to follow OECD guidelines or best practices as described in Part 2 of the Quality Framework, Quality Guidelines for OECD Statistics, as well as any situations where the Fundamental Principles of Official Statistics (Annex 1) or the principles of the ISI Declaration on Professional Ethics (Annex 2) came under threat.

User consultation

47. Many of the issues in Column 4 of Table 3 imply a need for user views or feedback. With *data quality* defined as "fitness for use", user input is clearly essential to any assessment of data quality. Most self-assessments should have mechanisms in place for obtaining user views and feedback on a regular basis, and these will provide some of the required information needed for the self-assessment. However, the Quality Review is the occasion when stakeholders (users, clients, suppliers) must have an opportunity to provide their views, if they wish to, in a broader context than their regular liaison or interaction with the self-assessment.

48. The user consultation required for a Quality Review would normally consist of two parts: a general invitation, and a survey. The general invitation is a public announcement that the Quality Review will be taking place, a description of its purpose and scope, and an invitation to provide comments on any aspect of the quality of data from the self-assessment by a specified date. This invitation could be included in OECD communications that statistical users are likely to see, and be visible on websites where relevant statistical data reside. (A draft of such an announcement is included in the Appendix).

49. The directed survey would be addressed to known major users of the self-assessment's outputs. These would typically include some or all of the following: OECD Committees or their statistical working groups; statistical offices of member countries; other contacts in member countries; users within the OECD Secretariat; relevant international agencies; subscribers to the outputs of the self-assessment; other known major users. The method of surveying these users may depend on the lines of contact available for each user group, in collaboration with PAC for external users.

50. This survey should provide the same background information as the general invitation, but then ask for views on specific issues relevant to the particular self-assessment. Based on the information requirements implicit in Table 3 the following general issues could be addressed in the survey:

- satisfaction with current content of the self-assessment (topics covered, frequency, detail, country coverage, etc.);
- satisfaction with the accuracy of the self-assessment's data, including the ability to make accurate comparisons between countries;
- satisfaction with the timeliness of the self-assessment's outputs;
- adequacy of metadata describing the published statistical data;
- satisfaction with the statistical outputs of the self-assessment;
- adequacy of the systems for locating and accessing the self-assessment's outputs;
- concerns about compatibility between the self-assessment's data and other sources;
- satisfaction with the self-assessment's regular consultation process with users;
- suggestions for future direction of the self-assessment.

Specific questions addressing these issues in the context of the particular self-assessment will need to be formulated.

The Self-assessment report

51. The output of the self-assessment is a report to management and stakeholders. While self-assessment managers should feel free to convey their conclusions in the most effective way they can, the following outline has worked well for some managers and is suggested for these reports:

- An Introductory section that describes the overall self-assessment, its purpose, its main features, its scope, and its history or origins;
- A body of the report that covers each dimension of quality in turn, describing for each the current practice of quality management, an assessment of its strength or weakness, and recommendations for action (if any);
- A concluding section that summarizes the strength or weakness of each quality dimension in a tabular form (*e.g.* on a 5-point scale from very weak to very strong), and lists the primary recommendations for action - with a sense of priority, including a sense of which can be accomplished within existing budgetary constraints.

The concluding section should be considered as an Executive summary that could serve as the basis for eventual management decisions about future changes to the self-assessment.

1.4 The development and the update of Quality Guidelines

52. As already described in the Introduction and Part 2 of this document which contain technical quality guidelines for developing statistical activities and checklists for helping managers in developing a new activity or reviewing an already existing activity. Quality guidelines are based on the most advanced statistical methods and procedures, best practice already adopted by the OECD and other national and international statistical organisations, as well as on IT tools currently identified by the OECD as standards for the Organisation. Therefore, they tend to evolve over time and need to be periodically reviewed and updated.

53. Before the end of each year, the Chief Statistician of the OECD proposes to the SPG necessary changes, if any, to the Quality Framework and/or to Quality Guidelines. The SPG discusses and finally endorses proposed amendments. The updated Quality Frameworks and Guidelines are made available on the Intranet statistics site.

Table 1: Procedures for a proposed new statistical activity¹

WHAT	HOW	POTENTIAL PROBLEMS	INSTRUMENTS AVAILABLE WITHIN QUALITY FRAMEWORK	CONTRIBUTION TO CORPORATE TOOLS
(a). Initial definition of output data requirements in general terms: coverage, content, users, uses	Obtain initial views of data requirements through: 1. Discussion with users, including Committees and internal users; 2. Discussion with other Directorates	1. Difficulties in evaluating relevance		
(b). Evaluation of data currently available within OECD and from other international and national organisations, and identification of needs for data	1. Review literature 2. Review data currently available within the OECD 3. Review data currently available from other international organisations 4. Review data currently available from national organisations	1. Difficulties in identifying and accessing data available within the OECD 2. Difficulties in identifying and accessing data available outside the OECD 2. Difficulties in interpreting data and metadata available	1. OECD Statistical Work Programme (OSWP) 2. Gateway to OECD statistical databases 3. UNECE Integrated Presentation of Statistical Work and internet sites of international organisations 4. OECD Glossary of Statistical Terms 5. Consultation with SPG members 6. OECD Quality guidelines 7. OECD.Stat ²	1. Brief note about the proposed activity to SPG
(c). Planning and design involving all stages of the statistical activity ³	1. Assess resource requirements and time frame - IT aspects - skills required - financial implications 2. Design activity ⁴ in terms of: - definitional content and coverage - statistical methodology, IT needs - marketing and dissemination 3. Establish contacts with experts in national and international statistical organisations	1. Underestimating resources required 2. Underestimating time required 3. Poor choice of statistical methods 4. Lack of communication with and involvement of national statistical experts responsible for coordination with international organisations 5. Inefficient IT solution ⁵	1. Contacts through the Analytical Statistical Task Force (ASTF) with ITN, STD, PAC and other experts working in the Secretariat 2. Toolbox for IT solutions 3. OECD. StatWorks 4. Training program for statisticians 5. OECD Quality guidelines 6. OECD Glossary of Statistical Terms	1. Completion of OSWP entry for the activity 2. Information about activity to relevant international and national statistical organisations

1. In accordance with the terminology of the OECD Statistical Work Programme, a statistical activity is interpreted as an activity that produces at least one statistical output, such as a dataset or database available to internal or external users through Internet, Intranet, OLISNet, CD-ROM, etc., or a publication (whether classified or not) that is statistical or is analytical with extensive statistical content. A new statistical activity can be proposed as ongoing, *i.e.*, to be repeated at regular intervals, or one-off. This table is intended primarily for activities that are proposed to be ongoing, but can be used, possibly in abbreviated form, for an activity that is one-off. Table 2 outlines processes for an existing ongoing statistical activity.

2. OECD.Stat is part of the OECD statistical information system. It comprises a data warehouse, where final statistical data are stored, and a set of procedures for extracting data and metadata from OECD statistical databases. Among other things, the system provides users with a catalogue of variables available in individual databases. See Annex 4.

3. "All stages" implies the complete data life cycle - definition, feasibility study, collection, management, dissemination, etc. The problems uncovered and the design decisions made during this step are re-examined and elaborated in subsequent steps, *i.e.*, there is interaction between steps.

4. This includes: selection of software, design of the database, definition of data and metadata storage needs, definition of a new survey at the national level (if required), definition of rules for treatment of confidential data, etc.

5. For example, leading to difficulties in database access by internal users, difficulties in data and metadata exchange with other databases, disclosure of confidential data, use of non-corporate software, etc.

Table 1: Procedures for a proposed new statistical activity (continued)

WHAT	HOW	POTENTIAL PROBLEMS	INSTRUMENTS AVAILABLE WITHIN QUALITY FRAMEWORK	CONTRIBUTION TO CORPORATE TOOLS
(d). Extract data from databases within and external to OECD	1. Direct access to data, <i>i.e.</i> without the need to involve data providers in data collection or transmission	1. Inefficiencies in accessing internal and external databases 2. Difficulties in interpreting data and metadata 3. Incoherence across databases	1. OECD Glossary of Statistical Terms 2. Gateway to OECD Statistical Databases 3. OECD Quality guidelines 4. OECD.Stat 5. Corporate procedures to extract data and metadata from existing sources	
(e). Implement new data collection mechanism	1. Contacts with data providers 2. Preparation and test of questionnaire ⁶ 3. Dissemination of questionnaire 4. Data and metadata collection/ transmission	1. Insufficient contact with national data providers 2. Incorrect or inefficient questionnaire design 3. Use of inappropriate definitions 4. Inefficient choice of systems for data, metadata transmission	1. OECD Glossary of Statistical Terms 2. International statistical guidelines and recommendations 3. OECD Quality guidelines 4. OECD.Statworks ⁷ 5. Corporate procedures to extract data and metadata from external sources	1. Update OECD Glossary of Statistical Terms 2. Update OSWP
(f). Data and metadata verification, compilation, storage, analysis and evaluation	1. Verification of individual data 2. Evaluation of coherence of data: - across data items within datasets - over time - across countries - with other data sources 3. Overall evaluation of data relative to objectives	1. Inappropriate or inefficient statistical methods 2. Different methods across countries for the same subject	1. OECD Glossary of Statistical Terms 2. Gateway to OECD Statistical Databases 3. Statistical and econometric software for dealing with series breaks 4. Advice from STD and other OECD experts 5. OECD. StatWorks 6. OECD.Stat 7. OECD Quality guidelines	1. Update Data Catalogue 2. Update OECD Glossary of Statistical Terms
(g). Data and metadata dissemination	1. Paper publications 2. Offline databases 3. Online databases 4. Through the OECD Statistics Portal	1. Inefficient dissemination procedures 2. Inconsistency across databases 3. Inappropriate presentation of metadata 4. Disclosure of confidential data 5. Inappropriate data release procedures, affecting credibility	1. OECD Style Guide 2. OECD Quality guidelines 3. Assistance from ITN and PAC 4. OECD StatWorks	1. Update OSWP 2. Update OECD Glossary of Statistical Terms 3. Contribute to OECD.Stat

6. The questionnaire may be designed to collect macro or micro level data from national data providers or micro level data from enterprises, households, etc.

7. StatWorks is an IT tool for collecting, storing, validating and disseminating data and metadata. It also comprises a tool for designing electronic questionnaires.

Table 2: Procedures for existing statistical activities¹

WHAT	BY WHOM	TARGET DATE / TIME SPAN	HOW	POTENTIAL PROBLEMS	INSTRUMENTS AVAILABLE	OUTPUTS
(a). Identification of statistical activities for review on a rolling biannual calendar ²	SPG	By the end of January (year t)	1. Discussing review proposals and schedules presented by Directorates	1. Directorates slow to agree on schedule for quality reviews	1. OECD Statistical Work Programme (OSWP)	Set of statistical activities to be reviewed by end of year
(b). Self-Assessment (self assessment template on subsequent sheet) ³	Statistical activity manager and staff	3 months	1. Consulting major users, including Committees and country experts 2. Consulting appropriate national and international agencies ⁴ 3. Comparing current practices with guidelines 4. Identifying cost-efficiency of currently adopted procedures	1. Operational concerns take priority away from quality review 2. Inadequate evaluation of all quality dimensions 3. Poor identification of quality improvements 4. Available resources	1. Quality checklist for self-assessment 2. OECD Quality guidelines	Self-assessment report including summary of quality problems, prioritised list of possible improvements and an assessment of additional resources (if any) required for implementation (included new data developments)
(c). User review of the self-assessment report ⁵	Statistical activity manager and staff	1 month	1. Asking major users, including Committees and/or experts, to comment on the self-assessment	1 Major users do not have time or resources to make detailed comments		Additional potential improvements and priority assignment from user perspective
(d). Horizontal review of the self-assessment report	Statistical activity manager and designated expert ⁶	1 month	1. Commenting on the self-assessment from a "corporate" perspective and suggesting improvements	1. Incorrect evaluation of quality dimensions 2. Incorrect identification of proposed improvements	1. OECD Quality Guidelines	Additional potential improvements and priority assignment from horizontal perspective and evaluation of resource assessments

1. In accordance with the terminology of the OECD Statistical Work Programme, a statistical activity is interpreted as an activity that produces at least one statistical output, such as a dataset or database available to internal or external users through Internet, Intranet, OLISNet, CD-ROM, etc., or a publication (whether classified or not) that is statistical or is analytical but with extensive statistical content. Table 1 outlines procedures for proposed new statistical activities.

2. All statistical activities would be reviewed over a time frame of four years. A review should be conducted when main technical or organisational changes are envisaged (for example, when the software used to maintain the database has to be changes/revised).

3. The scale of self-assessment should be commensurate with scale and significance of activity. A simplified approach is appropriate for small scale activities.

4. Not only national statistical offices, but also other data providers.

5. Activities (c) and (d) are normally carried out in parallel.

6. For each activity, or group of activities, the SPG will designate an expert to be responsible for conducting the horizontal review and for drafting the final quality report, in co-operation with the manager of the statistical activity. The horizontal review will be done with the assistance of STD, PAC and ITN experts and other statisticians.

Table 2: Procedures for existing statistical activities (continued)

WHAT	BY WHOM	TARGET DATE / TIME SPAN	HOW	POTENTIAL PROBLEMS	INSTRUMENTS AVAILABLE	OUTPUTS
(e). Preparation of the final quality report	Statistical activity manager and designated expert	1 month	1. Merging the self-assessment and comments received through the reviews 2. Identifying a final list of proposals for potential quality improvements	1. Conflicting views from managers, users and horizontal Directorate experts	1. OECD Quality Guidelines	Final quality report including summary of quality problems, prioritised list of possible improvements and an assessment of resources required for implementation tabled with SPG
(f). Review by SPG and transmission of official report to relevant Director	SPG	1 month	1. SPG members may comment on conclusions, discuss in detail or raise their concerns. 2. After resolution of any concerns, or in absence of comments, the report is regarded as official.	1. SPG members slow to react		Final quality report including summary of quality problems, prioritised list of possible improvements and an assessment of resources required for implementation sent to relevant Director
(g). Assignment of resources for quality improvement initiatives	Relevant Director, Budget Committee, Secretary General, Chief Statistician	By the end of December	1. Evaluating priorities at Directorate level 2. Identifying initiatives to be financed by the CPF	1. Improvements are not made because of lack of resources		Quality improvement initiatives embedded in Programme of Work
(h). Feedback to stakeholders on initiatives to improve the quality of OECD statistics	Chief Statistician	By the end of January (year t+1)	1. Proposing changes (if any) to quality framework and guidelines 2. Summarising proposed quality improvement initiatives 3. Indicating which proposed improvements are being implemented and how	1. Credibility of the OECD data is affected if quality problems not solved		Annual report to the SG and to Council on the implementation of the quality framework

Table 3: Self-assessment template for existing statistical activities

Dimension of Quality	Definition	Elements of Quality Management	Possible Issues for Assessment
Relevance	The extent to which the statistical outputs of the self-assessment satisfy the information needs of the client community - OECD Committees, the Secretariat, Member governments, and external users.	<ol style="list-style-type: none"> 1. Keeping informed of the data needs of the client community. 2. Assessing user feedback on current products and services. 3. Adaptation of the self-assessment in response to client needs or dissatisfaction. 	<ol style="list-style-type: none"> 1. Effectiveness of mechanisms for staying abreast of the needs of each client group. Pertinence of the self-assessment to OECD strategies and Committee priorities. 2. Dependency of other Secretariat activities on the outputs of the self-assessment. 3. Effectiveness of mechanisms for obtaining user feedback. 4. Measures of product use and usefulness - internal and external. 5. Changes made to the self-assessment to maintain relevance and their success. 6. Coordination with related activities by other international organisations. 7. Important statistical needs of clients currently unmet.
Accuracy	The degree to which the statistical outputs correctly estimate or describe the characteristics they are designed to measure. For OECD, the provision of data that are comparable across countries is a crucial aspect of the accuracy of statistical data (see also coherence below).	<ol style="list-style-type: none"> 1. Ongoing liaison with data suppliers to ensure accurate inputs using common standards. 2. Design and quality control of statistical treatment of input data. 3. Assessment of accuracy and provision of accuracy measures. 	<ol style="list-style-type: none"> 1. Effectiveness of mechanisms for maintaining liaison with data suppliers. 2. Extent of agreement on common standards for reporting statistical data. 3. Availability and quality of metadata describing input data. 4. Degree of conformity to common reporting standards by member countries. 5. Availability of description of adjustments and treatments applied to input data. 6. Checks and controls to avoid error in producing output data. 7. Availability of indicators of accuracy provided to users. 8. Availability of analytic or comparative studies that shed light on data accuracy. 9. Incompatibilities between country data, or over time, that confound comparisons.

Table 3: Self-assessment template for existing statistical activities (continued)

Dimension of Quality	Definition	Elements of Quality Management	Possible Issues for Assessment
Timeliness	The time lag between the end of the reference period and the release of data. Also encompasses the achievement of target dates announced for data release.	<ol style="list-style-type: none"> 1. Ongoing liaison with data suppliers to ensure timely inputs. 2. Balancing timeliness and accuracy in designing the statistical treatment process 3. Use of pre-announced release date targets. 	<ol style="list-style-type: none"> 1. Effectiveness of mechanisms for maintaining liaison with data suppliers. 2. Analysis of trends in the timeliness of input data reporting. 3. Analysis of trends in the time between arrival of input data and output release. 4. Methods used to compensate for missing data in order to achieve timely release. 5. Performance in achieving release date targets. 6. Improvements made in timeliness of outputs. 7. User satisfaction with timeliness of outputs.
Accessibility	How readily the data can be located and accessed from within OECD data holdings - includes the suitability of the form in which data are available, the media of dissemination, and the availability of metadata and user support services.	<ol style="list-style-type: none"> 1. Maintenance of data descriptions, catalogues and searching facility. 2. Delivering data in formats and media suitable for users. 3. Publicising the availability of data and promoting its use. 	<ol style="list-style-type: none"> 1. Timely inclusion of data in OECD.Stat. 2. Timely documentation of data in MetaStore and elsewhere. 3. Availability of data in alternative media or formats. 4. Facility of downloading data into user systems. 5. Measures used for announcing and publicising the release of data. 6. User awareness of available data. 7. Measures of data usage and analysis of user-reported access problems. 8. Access controls for confidential data (where applicable). 9. Data and metadata are provided in a structured manner such that they are human and machine readable.

Table 3: Self-assessment template for existing statistical activities (continued)

Dimension of Quality	Definition	Elements of Quality Management	Possible Issues for Assessment
Interpretability	The ease with which the user may understand and properly use and analyze the data, addressing both specialists and non-specialists.	<ol style="list-style-type: none"> 1. Provision of metadata covering concepts, definitions and methods. 2. Provision of assessments or analysis of data accuracy. 3. Provision of interpretative analysis based on the data. 	<ol style="list-style-type: none"> 1. Adequacy of metadata from source data providers. 2. Adequacy of metadata describing OECD processes. 3. Inclusion and accessibility of metadata in MetaStore. 4. User feedback on adequacy of metadata. 5. Usefulness of the indicators of accuracy provided to users. 6. Examples of analytic work that show how the data might be properly used. 7. Occurrences of data misuse or misinterpretation and how they were handled.
Coherence	The degree to which data items and products are mutually comparable. This includes coherence within datasets, across datasets, and over time. Ensuring coherence across countries is a major value added by the OECD	<ol style="list-style-type: none"> 1. Use of common concepts, definitions and classifications for subject content across member countries and within OECD. 2. Use of common methods and systems for processing data within OECD. 3. Confrontation and reconciliation of datasets that might conflict. 	<ol style="list-style-type: none"> 1. Degree of conformity to common standards by member countries. 2. Methods used for handling cases where countries cannot conform. 3. Methods used for handling changes in the standards used over time. 4. Degree to which SIS components are used where applicable. 5. Efforts made to identify and resolve potential data conflicts across datasets. 6. Design changes made to prevent future data conflicts. 7. Outstanding data conflicts that require attention.

Table 3: Self-assessment template for existing statistical activities (continued)

Dimension of Quality	Definition	Elements of Quality Management	Possible Issues for Assessment
Credibility	The confidence that users place in data products based on their image of the data producer. While credibility depends on OECD's overall statistical performance, individual self-assessments need to avoid actions that might undermine corporate credibility.	<ol style="list-style-type: none"> 1. Transparent and professional decision making on statistical matters. 2. Avoiding political interference in the timing or content of data releases. 3. Policies and procedures for handling suspect data from respondents. 	<ol style="list-style-type: none"> 1. Availability of descriptions and rationales for the chosen methodology. 2. Consistency with the ISI Declaration on Professional Ethics. 3. Consistency with UN Fundamental Principles of Official Statistics. 4. Existence of, and adherence to, pre-announced release dates, coordinated with OECD Public Affairs and Communications. 5. Occurrences of attempted political interference. 6. Effective and open liaison with suppliers to address and resolve reporting problems. 7. Occurrences of data not being published for quality reasons.
Cost-efficiency	Though not regarded as a dimension of quality, cost-efficiency is a factor that must be taken into account in any analysis of quality. If less costly or less burdensome methods can be found, resources may be released to improve quality.	<ol style="list-style-type: none"> 1. Avoidance of duplication in statistical activities. 2. Management of costs to suppliers by minimizing the burden to respond. 3. Management of processing costs through use of common methods and software for processing or analysis. 	<ol style="list-style-type: none"> 1. Effective liaison with other international agencies to coordinate similar statistical activity. 2. Effective internal liaison with STD and other Directorates before launching or expanding a self-assessment. 3. Liaison with providers to minimize the amount of data to be reported. 4. Liaison with providers to establish the least burdensome method of response. 5. Use of common formats (e.g. SDMX) for transmitting data. 6. Use of common software (e.g. SIS components) for processing or analysis.