EUROPEAN COMMISSION
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Deputy Director-General
Unit 0-2: Statistical governance, quality and evaluation

Extract of: Comparison of the IMF's Data Quality Assessment Framework (DQAF) and European Statistical System Quality Approaches – An Update

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The full paper is available under: **http://www.statistics.gov.uk/events/q2006/**

1.1.1. Comparison of IMF and ESS Quality frameworks

- Both institutions now cover the same **scope for data quality,** encompassing governance and statistical processes and statistical outputs.
- Both institutions data quality approaches consist of **benchmarks of internationally accepted good practices**, with each institution using a specific structure to organize these practices.
- Both institutions use similar **templates** to document member countries' data quality on their websites.
- Both institutions have put in place techniques for the **assessment** of the level of compliance of statistical authorities with their respective frameworks.
- Given their similarity, **common approaches** seem possible in the following areas:
    - Documentation of quality features of statistical products.
    - Derivation of common metadata elements for country quality reporting.
    - Assessment of the level of compliance of national data producing organisations against the two frameworks.

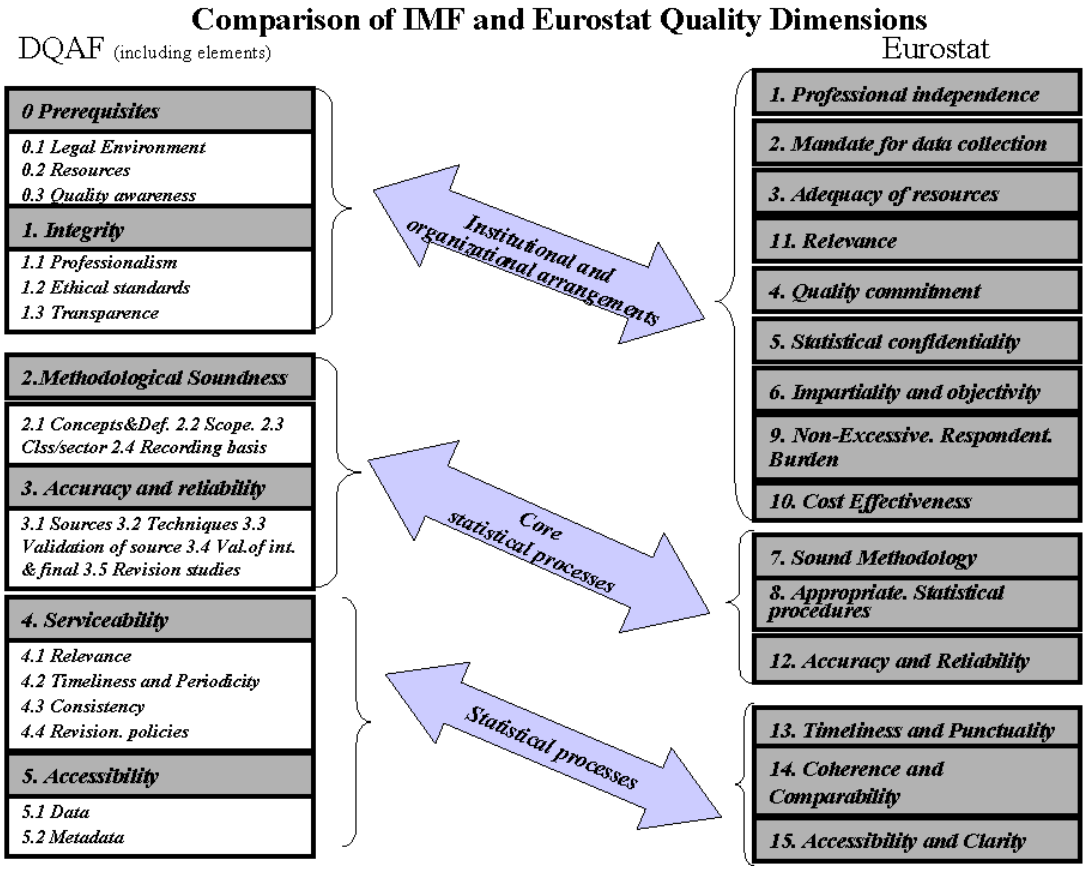
1.1.2. Broad alignment of the two frameworks

The figure *Comparison of IMF and ESS Quality Frameworks* (below) provides a snapshot alignment of the two frameworks, highlighting that they both cover governance (institutional and organizational arrangements), statistical processes and statistical outputs.

- **Institutional and organizational arrangements:** the DQAF dimensions 0. Prerequisites and 1. Assurances of integrity broadly correspond to CoP principles 1. Professional independence, 2. Mandate for data collection, 3. Adequacy of resources, 11. Relevance, 4. Quality commitment, 5. Statistical confidentiality, 6. Impartiality and objectivity, and 10. Cost Effectiveness.

- **Statistical processes:** The DQAF dimensions 2. Methodological soundness and 3. Accuracy and reliability broadly correspond to CoP 7. Sound Methodology, 8. Appropriate Statistical procedures, 12. Accuracy and Reliability.

- **Statistical outputs:** the DQAF dimensions 4. Serviceability and 5. Accessibility broadly corresponds to the CoP 13. Timeliness and Punctuality, 14. Coherence and Comparability, and 15. Accessibility and Clarity



1.1.3. Detailed alignment of the two frameworks

A correspondence table has been established at a more detailed level (see Annex) between the CoP and the DQAF for National Accounts (NA) for statistics and shows the following:

1.1.4. In DQAF for NA but not in the CoP

- Assurances of integrity: The terms and conditions under which statistics are collected, processed, and disseminated are available to the public (1.2.1); and Guidelines for staff behaviour are in place and are well known to the staff (1.3.1).

- Methodological soundness: As the comparison is made with the DQAF for National Accounts Statistics, this dimension, in the IMF Framework, is more targeted to the quality of National Accounts than in the CoP. In addition, the following differences can be underlined: Market prices are used to value flows and stocks (2.4.1); and Recording is done on an accrual basis (2.4.2).

- Serviceability: Periodicity follows dissemination standards (4.1.1); and Studies and analyses of revisions are made public (4.3.3).

- Accessibility: Levels of detail are adapted to the needs of the intended audience (5.2.2.); and Contact points for each subject field are publicized (5.3.1).

1.1.5. In CoP but not in DQAF for NA

- Principle 2: Mandate for data collection, reference to the legal possibility to use administrative records for statistical purposes (indicator 2.2.). (No reference to administrative data in DQAF corresponding focal issue (0.1.4).)

- Principle 3: Adequacy of resources: Existence of procedures to assess and justify demands against their cost and for priority setting (indicators 3.3. and 3.4)

- Principle 7: Sound methodology: this CoP principle covers both “statistical concepts” and “compilation practices” while the DQAF distinguishes them in two dimensions: concepts in “Methodological Soundness” (dimension 2) and source data, compilation practices (statistical techniques), and assessment in “Accuracy and Reliability” (dimension 3). In the DQAF, the “procedures” are not assessed, but the results of the “procedures” are reviewed

- Principle 9: Non excessive burden on respondents: reference to the use electronic means to facilitate data reporting

- Principle 12: Timeliness and punctuality: recommendation to use preliminary data (indicator 13.5.).

CORRESPONDANCE TABLE

1.1. From DQAF to CoP

Quality Dimension	Elements	Indicators	Corresponding CoP indicator
0. Prerequisites of quality	**0.1 Legal and institutional environment—***The environment is supportive of statistics.*	0.1.1 The responsibility for collecting, processing, and disseminating the statistics is clearly specified. 0.1.2 Data sharing and coordination among data-producing agencies are adequate. 0.1.3 Individual reporters' data are to be kept confidential and used for statistical purposes only. 0.1.4 Statistical reporting is ensured through legal mandate and/or measures to encourage response.	2.1 (+) 9.6 5 2.3
	0.2 Resources—*Resources are commensurate with needs of statistical programs.*	0.2.1 Staff, facilities, computing resources, and financing are commensurate with statistical programs. 0.2.2 Measures to ensure efficient use of resources are implemented.	3.1 10.1
	0.3 Relevance—*Statistics cover relevant information on the subject field.*	0.3.1 The relevance and practical utility of existing statistics in meeting users' needs are monitored.	11.1
	0.4 Other quality management— *Quality is a cornerstone of statistical work*	0.4.1 Processes are in place to focus on quality. 0.4.2 Processes are in place to monitor the quality of the statistical program. 0.4.3 Processes are in place to deal with quality considerations in planning the statistical program.	7 + 8 4.3 3.3 + 3.4 + 1.5 (+)
1. Assurances of integrity *The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.*	**1.1 Professionalism—***Statistical policies and practices are guided by professional principles.*	1.1.1 Statistics are produced on an impartial basis. 1.1.2 Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations. 1.1.3 The appropriate statistical entity is entitled to comment on erroneous	6.1 6.2 1.7

		interpretation and misuse of statistics.	

Quality Dimension	Elements	Indicators	Corresponding CoP indicator
	1.2 Transparency—*Statistical policies and practices are transparent.*	1.2.1 The terms and conditions under which statistics are collected, processed, and disseminated are available to the public. 1.2.2 Internal governmental access to statistics prior to their release is publicly identified. 1.2.3 Products of statistical agencies/units are clearly identified as such. 1.2.4 Advanced notice is given of major changes in methodology, source data, and statistical techniques.	6.4 6.6 (+) 1.6 -
	1.3 Ethical standards—*Policies and practices are guided by ethical standards.*	1.3.1 Guidelines for staff behaviour are in place and are well known to the staff.	5.2 (-)
2. Methodological soundness *The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices.*	**2.1 Concepts and definitions—***Concepts and definitions used are in accord with internationally accepted statistical frameworks.*	2.1.1 The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices.	7.1
	2.2 Scope—*The scope is in accord with internationally accepted standards, guidelines, or good practices.*	2.2.1 The scope is broadly consistent with internationally accepted standards, guidelines, or good practices.	7.1
	2.3 Classification/sectorization — *Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*	2.3.1 Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices.	7.1
	2.4 Basis for recording—*Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices.*	2.4.1 Market prices are used to value flows and stocks. 2.4.2 Recording is done on an accrual basis. 2.4.3 Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices	- - -

Quality Dimension	Elements	Indicators	Corresponding CoP indicator
3. Accuracy and reliability *Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.*	**3.1 Source data—***Source data available provide an adequate basis to compile statistics.*	3.1.1 Source data are obtained from comprehensive data collection programs that take into account country-specific conditions. 3.1.2 Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required. 3.1.3 Source data are timely.	9 8.1 (+) -
	3.2 Assessment of source data—*Source data are regularly assessed.*	3.2.1 Source data-including censuses, sample surveys and administrative records-are routinely assessed, e.g., for coverage, sample error, response error, and non-sampling error; the results of the assessments are monitored and made available to guide statistical processes.	8.1 (-) + 12.1
	3.3 Statistical techniques—S*tatistical techniques employed conform to sound statistical procedures.*	3.3.1 Data compilation employs sound statistical techniques to deal with data sources. 3.3.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.	8 (+) 8 (+)
	3.4 Assessment and validation of intermediate data and statistical outputs—*Intermediate results and statistical outputs are regularly assessed and validated***.**	3.4.1 Intermediate results are validated against other information where applicable. 3.4.2 Statistical discrepancies in intermediate data are assessed and investigated. 3.4.3 Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated.	12.1 12.1 12.3
	3.5 Revision studies—*Revisions, as a gauge of reliability, are tracked and mined for the information they may provide*	3.5.1 Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes (see also 4.3.3).	12.3

Quality Dimension	Elements	Indicators	Corresponding CoP indicator
4. Serviceability *Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.*	**4.1 Periodicity and timeliness—***Periodicity and timeliness follow internationally accepted dissemination standards*	4.1.1 Periodicity follows dissemination standards. 4.1.2 Timeliness follows dissemination standards.	13.2 + 13.3 13.1
	4.2 Consistency—*Statistics are consistent within the dataset, over time, and with major datasets.*	4.2.1 Statistics are consistent within the dataset. 4.2.2 Statistics are consistent or reconcilable over a reasonable period of time. 4.2.3 Statistics are consistent or reconcilable with those obtained through other data sources and/or statistical frameworks	14.1 14.2 14.4
	4.3 Revision policy and practice—*Data revisions follow a regular and publicized procedure.*	4.3.1 Revisions follow a regular and transparent schedule. 4.3.2 Preliminary and/or revised data are clearly identified. 4.3.3 Studies and analyses of revisions are made public (see also 3.5.1).	8.6 - -
5. Accessibility *Data and metadata are easily available and assistance to users is adequate.*	**5.1 Data accessibility—***Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.*	5.1.1 Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts). 5.1.2 Dissemination media and format are adequate. 5.1.3 Statistics are released on a pre-announced schedule. 5.1.4 Statistics are made available to all users at the same time. 5.1.5 Statistics not routinely disseminated are made available upon request	15.1 15.2 (+) 13.2 + 6.5 6.6 15.3

Quality Dimension	Elements	Indicators	Corresponding CoP indicator
	5.2 Metadata accessibility—*Up-to-date and pertinent metadata are made available.*	5.2.1 Documentation on concepts, scope, classifications, basis of recording, data sources, and statistical techniques is available, and differences from internationally accepted standards, guidelines, or good practices are annotated. 5.2.2 Levels of detail are adapted to the needs of the intended audience.	6.4 + 15.6 3.2
	5.3 Assistance to users—*Prompt and knowledgeable support service is available.*	5.3.1 Contact points for each subject field are publicized. 5.3.2 Catalogues of publications, documents, and other services, including information on any charges, are widely available.	- -

CORRESPONDANCE TABLE

Comments on this table are based on the DQAF for National Accounts Statistics (All data set specific DQAFs share the same "focal issues" and "key points" for dimension 0, 1, 4, and 5).

1.2. From CoP to DQAF

Dimension	Principles	Indicators	Corresponding DQAF indicator
Institutional environment	**Principle 1: professional independence**	Independence specified in law	1.1.1 ; point i; bullet #1
		Senior level access to policy authorities; head of stat. authority of highest professional calibre	
		Responsibility of head for independence	Not specifically responsibility of head; See 1.1.1 ; point i; bullet #1
		Responsibility of head for choice of methods and for press releases	Not specifically responsibility of head; See 1.1.1 ; point i; bullet #1 and 1.1.2; point i; bullet #1 1.1.2; point ii; bullet #1, 2
		Statistical work programmes published; reports on progress made	0.4.3. And 0.4.1; point i; bullet 5
		Statistical releases distinguished from political statements	1.2.3.
		Statistical authority comments publicly on statistical issues	1.1.3.
	Principle 2: Mandate for data collection	Mandate for data collection specified in law	0.1.1.
		Permission by national legislation to use administrative records for statistical purposes	0.1.4; point i; bullet# 1 Not a specific reference to administrative records, but all encompassing.
		Statistical authority may compel response to surveys	0.1.4.
	Principle 3: adequacy of resources	Adequacy of staff, financial and computing resources	0.2.1.
		Scope, detail and cost of European statistics are commensurate with needs	5.2.2.
		Existence of procedures to assess and justify new demands against their costs	0.3.1; point ii; bullet#1 and 3 --- does not include "against costs", which is covered in 0.2.1; point iv; bullet #1, 2, 3
		Existence of procedures to assess need for	Again in 0.3.1; point ii; bullet #1

		continuation of statistics	
	Principle 4: quality commitment	Product quality is regularly monitored in accordance to the ESS quality components	0.4.1.
		Existence of processes to deal with quality considerations	0.4.2.
		Quality guidelines are documented and staff is trained.	Quality guidelines: 0.4.1; point i; bullet #5 Staff is trained: 0.4.1; point i; bullet #2 Shared vision of quality: 0.4.1; point I; bullet #1
		Existence of a regular and thorough review of the key statistical outputs	Again in 0.3.1; point ii; bullet #1, 3 AND 0.4.2; point i; bullet#3
	Principle 5: Statistical confidentiality	Confidentiality guaranteed in law	Part 1.3.1.
		Confidentiality commitments are signed on appointment	1.3.1; point ii; bullet #2, 3 Does not directly refer to confidentiality or to "signature"
		Penalties for wilful breaches of confidentiality	0.1.3; point ii; bullet #1
		Existence of guidelines on the protection of statistical confidentiality in the production and dissemination processes	0.1.3; point ii; bullet #2, 3, 4,
		Security and integrity of statistical databases are protected	0.1.3; point ii; bullet #6, 7
		Strict protocols apply to external users accessing statistical microdata	0.1.3; point ii; bullet #5
	Principle 6: Impartiality and objectivity	Statistics are compiled on an objective basis determined by statistical considerations	1.1.1.
		Choices of sources are informed by statistical considerations	1.1.2.
		Errors in published statistics are corrected at the earliest possible date	
		Availability of information on the methods and procedures used by the statistical authority	5.2.1.
		Statistical release dates and time are pre-announced	5.1.3.
		Impartiality is ensured to access to statistical releases	1.2.2. + 5.1.4.
		Statistical releases made in press conferences are objective and non-partisan	
Statistical processes	**Principle 7: Sound Methodology**	Standards, guidelines and good practices are followed	2.1.1.
		Existence of procedures to ensure the application of standard concepts, definitions and classifications	The "procedures" are not assessed; but the results of the "procedures" are reviewed in 2.1.1; 2.2.1; 2.3.1; and 2.4

		High quality of the business register and the frame for population surveys is ensured by regularly evaluation	SNA DQAF: 3.1.1; point ii; bullet #1, 2, 3, 4, 5, 6, 7 Point iii; bullet 2,3,4,5, 7
		Detailed concordance exists between national classifications and sectorisation systems and the corresponding European systems	SNA DQAF : 2.3.1 point i; bullet # 2, 3, 6.
		Graduates in the relevant academic disciplines are recruited	0.2.1 point i; bullet # 2, 3, and 1.1.1; point ii; bullet #1
		Staff continuously improve their expertise	1.1.1; point ii; bullet #2, 4
		Co-operation with the scientific community to improve methodology is organised, external reviews on methods	1.1.1; point ii; bullet #3
	Principle 8: Appropriate Statistical procedures	Definition and concepts used for administrative purpose must be a good approximation to those required for statistical purposes	3.1.2.
		Questionnaire used for statistical surveys are tested	SNA DQAF: 3.1.1 point ii; bullet #8, 9
		Survey designs, sample selections and sample weights are regularly reviewed	3.2.1.
		Field operations, data entry and coding are routinely monitored and revised	3.3.1
		Appropriate editing and imputation computer systems are used and regularly reviewed	3.3.
		Revisions follow standard and transparent procedures	4.3.1.
	Principle 9: Non-Excessive Burden on Respondents	The European statistical demand is limited to what is absolutely necessary	
		The reporting burden is spread over survey populations through appropriate sampling techniques	0.1.4 point ii; bullet 1,2,
		The information sought from businesses is readily available and electronic means are used to facilitate its return	3.1.1; point x; bullet 1, 4.
		Best estimates are accepted when exact details are not available	3.3.2; point iv; bullet 2, 3 ; Point v; bullet 3; point ix; bullet 1;
		Administrative sources are used to avoid duplicating requests	0.1.4 point ii; bullet 1
		Data sharing with statistical authorities is generalised	0.1.2.

	Principle 10: Cost Effectiveness[1]	Use of resources is monitored by internal and independent external measures	0.2.2.
		Routine clerical operations are automated	
		The productivity potential of ICT is optimised for data collection, processing and dissemination	
		Proactive efforts are made to improve the statistical potential of administrative records	
Statistical output	**Principle 11: relevance**	Existence of processes to meet the needs of users, advice on priorities	0.3.1.
		Priority needs are met and reflected in the work programme	0.3.1; point ii; bullet 1
		User satisfaction surveys are undertaken periodically	0.3.1; point i; bullet 1
	Principle 12: Accuracy and Reliability	Source data, intermediate results and statistical outputs are assessed and validated	3.4.1. + 3.2.1.
		Sampling and non-sampling errors are measured and documented according to the framework of the ESS quality components	3.2.1; point i; bullet 14.2.
		Studies and analyses of revisions are carried out routinely	4.3. + 3.4.3. + 3.5.1.
	Principle 13: Timeliness and Punctuality	Timeliness meets the highest European and international dissemination standards	4.1.1.
		A standard daily time is set for the release of European Statistics	5.1.3.
		Periodicity of European Statistics takes into account user requirements	4.1.2.
	Principle 14: Coherence and Comparability	Statistics are internally coherent and consistent	4.2.7.
		Statistics are coherent or reconcilable over a reasonable period of time	4.2.2.
		Statistics are compiled on the basis of common standards	4.2.3.
		Statistics from different surveys and sources are compared and reconciled	4.2.3.
		Cross-national comparability of the data is ensured through exchanges between the ESS and other statistical systems	
	Principle 15: Accessibility and Clarity[2]	Statistics are presented in a form that facilitate proper interpretation and meaningful comparisons	5.1.1.
		Dissemination services use modern information and	5.1.2.

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		communication technology	
		Custom-designed analyses are provided and made public	5.1.5.
		Access to microdata can be allowed for research purposes and subject to strict protocol	5.1.5; point i; bullet 1, 2 AND 0.1.3; point ii; bullet 5
		Metadata are documented according to standardised metadata systems	
		Users are kept informed on the methodology of statistical processes and the quality of statistical output with respect to the ESS quality criteria	5.2.1.