ASSESSMENT OF DATA QUALITY AND

LEG ON QUALITY RECOMMENDATIONS

(UNECE/Eurostat Work Session on Metadata)

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The presentation will cover...

The Eurostat's experiences on the assessment of data quality

⇨ international comparability aspects and the requirements on metadata.

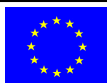The Leadership Group (LEG) on Quality recommendations,

⇨ reporting on product quality, documentation, and dissemination of information

BACKGROUND

Since 1994 Eurostat has developed its own approach for the measurement of the quality of statistics, leading to the following documents:

- Standard Quality Report
- Definition of Quality
- Glossary "Quality in Statistics"
- Quality Report Form
- How to fill in a Quality Report
- How to make a Quality Report (ready soon!)

Eurostat's Initiatives towards Quality

→ Working Group on Assessment of Quality in Statistics (four meetings since 1998)

→ Discussing quality within sectorial Working parties...

→ Task Forces: NA, CMFB, LFS, FSS, Variance Estimation.

→ 5 regulations: LFS, Short term Stat., Structural Business Stat., Labour Costs Stat, Labour Earnings Stat.

→ Internal Quality Reports

The LEG on Quality

- To attain improved quality in the European Statistical System (ESS)
- Chaired by Statistics Sweden (France, Germany, Italy, Greece, The Netherlands, Portugal, UK, and Eurostat).
- Organised the International Conference on Quality in Official Statistics, Stockholm 14-15 May 2001.
- A Quality Declaration for the ESS
- 22 Quality Recommendations

⇨ **The work of the LEG was approved by the Statistical Programme Committee in September 2001.**

Mandate of the "WG on the Assessment of the Quality in Statistics "

(minutes of the 2nd meeting , approved at the 3rd):

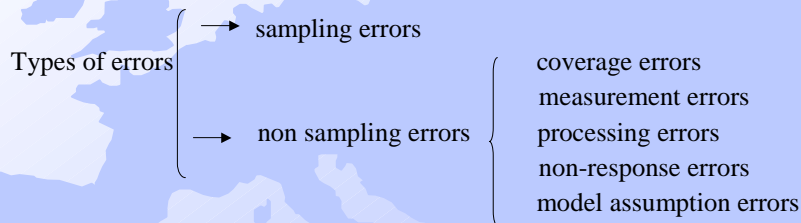"- focuses on technical aspects… like the harmonisation of definitions of quality and the *standardisation of quality reports*;

- co-ordinates the activities on methodological issues and the *implementation of quality reports*".

- Methods of estimation should be agreed, either bilaterally or in the relevant working group, and their quality certified and co-ordinated by the Working Group on Quality (SPC March 2000).

The Eurostat quality concept identifies
7 MAIN COMPONENTS for the QUALITY

1. <u>Relevance</u> …..for users

2. <u>Accuracy</u> = closeness between the estimated value and the true (unknown) population value.

Types of errors → sampling errors

→ non sampling errors {
coverage errors
measurement errors
processing errors
non-response errors
model assumption errors
}

3. <u>Timeliness and punctuality</u> → describe the punctuality of the statistics produced

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4. <u>Accessibility and clarity</u> → describe the availability of the statistical data in the form users desire

5. <u>Comparability</u> → over time
→ between geographical areas
→ between domains

6. <u>Coherence</u> - between short term statistics and annual structural statistics
- between provisional statistics and final statistics
- between business statistics and social statistics
- other

7. <u>Completeness</u> → refers to the availability of information for the specific statistical information system, compared with expectations or requested statistics (regulations….)

⇨ **Each NSI should report product quality according to the ESS quality dimensions and sub-dimensions (Rec. 1)**

Internal Quality Reports (IQR)

• Test phase in 1998 with 3 pilot domains

• Sept. 1999 Management Board decision to produce IQRs for all data in Eurostat

• **~30 areas have begun work towards quality reports!**

(+) The quality reporting have been addressed in an interactive way with MS

(+) The reports follow the structure of the Eurostat definition of statistics

(-) Some components difficult to evaluate (mainly accuracy, comparability, and coherence)

(+/-) Quality has to be judged on a global way taking into account the link between different components

⇨ **The measurability of each ESS quality dimension should be improved (Rec. 2.)**

Special aspects of international statistics

• Coefficients of variation (limited knowledge on error components covered)

• Mirror statistics (useful source for accuracy, comparability and coherence)

• Complex statistics (focus on production process: basic data, adjusted data, final estimates)

• Seasonal adjustments

• Revisions

⇨ **The ESS members should analyse their documentation status, include an action plan with priorities for improvement (Rec. 18)**
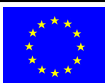
Quality indicators (cont.)

- Performance and monitoring (producer oriented) indicators

Indicator	Quality component	Type of indicator	Comment
CV for one important variable for statistics based on sample surveys	Accuracy	Performance	In a first phase only the sampling variability is requested
The unit non-response rate	Accuracy	Performance	Unweighted and weighted
Production lead time between the end of the ref. period and the date of publ.	Timeliness	Performance	
……			
Number and type of means used for disseminating statistics	Accessibility	Monitoring	Databases, yearbooks, newsletters, press releases, CD Roms etc…
Proportion of statistical products that publish metadata or methodological notes	Clarity	Monitoring	
……			

Quality indicators

- Summary (user oriented) indicators

Indicator	Quality component	Type of indicator
Qualitative assessment of the overall accuracy	Accuracy	Performance
Qualitative assessment of the comparability over time	Comparability (over time)	Performance
Rate of available statistics	Completeness	Performance
…..		

⇨ **A handbook on the identification of key process variables and their measurement should be developed (Rec. 3)**

What comes next ?

Eurostat will continue to give a high priority to quality-related activities
- A LEG implementation group has been established
- Finalize and translate the Quality documents
- Fine-tune the approach and start the second round of IQRs
- The interaction between quality components
- Address the quality in new legal acts
- Eurostat started the work on a "Model Act" (include a "Quality Article")
- How to report to the public on quality issues
- Develop standard sets of quality indicators

⇨ **CIRCA IG "Quality in Statistics" (~200 documents, 150 members) http://forum.europa.eu.int/Public/irc/dsis**