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CONFERENCE OF EUROPEAN STATISTICIANS

UNECE Work Session on Statistical Data Editing
(27 – 29 May 2002, Helsinki, Finland)

TOPIC (II): MEASURING AND EVALUATING DATA EDITING QUALITY

Issues for discussion

***Discussants*:** John Kovar (Statistics Canada)
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Invited Papers:
- Using variance components to measure and evaluate the quality of editing practices (Eric Rancourt, Statistics Canada)
- Evaluating editing and imputation processes: the Italian experience (Marco Di Zio, Orietta Luzi, Antonia Manzari, ISTAT, Italy)
- An E&I method based on time series modeling designed to improve timeliness (Pedro Revilla, INE, Spain)
- Score functions to reduce business survey editing at the ONS (Dan Hedlin, University of Southampton, UK)

The emphasis of this topic is on **measurement** of data editing quality, and hence on **indicators.** To this end, the primary questions that will be dealt with are the following:

1. **How should data quality indicators be defined?** The question must be addressed not only from the point of view of accuracy, but also other dimensions of quality as they relate to user needs. Therefore, of interest is also the impact of editing on timeliness, relevance, consistency, completeness, etc.

2. **How practical are the proposed indicators?** Can they be implemented easily? Are they easily understood? Particular attention will be paid to discussing the impacts on the process quality as well as data quality.

3. **What do we need to collect**? What kinds of metadata do we need in order to construct the required indicators?

4. **How useful can they be**, in particular as relates to continuous improvement (topic 1 of this session) and for quantifying improvement of the process?

5. **How informative are they?** Of interest is the ability to inform users, managers, analysts and researchers, both in terms of sampling error and non-sampling error impacts, not just in terms of non-response bias, but also impacts on sampling variances, coverage errors, measurement errors etc.

6. **How discriminating can the indicators be?** Can we use them to make informed choices between methods? To this end, stadardization is an important aspect that will be discussed. Are there measures we should *all* be reporting besides non-response rates and imputation rates? What are the needs for benchmark data? How can we make best use of comparison studies (method vs. method, raw data vs. edited data, etc.)? What about simulation studies, follow-up studies, post enumeration studies, etc.?

7. **How can the indicators be used for budget allocation**? Of particular concern here is selective editing. How effective is it, that is, how much to edit, how much to impute? How efficient is it, that is, what are the hit rates? How do you measure effectiveness and efficiency of editing? Why does selective editing work, or not work? How can we best use score functions? Are there useful stopping criteria? What of graphical methods?

8. **How do the indicators come to bear on continuous improvement?** The aim of the discussion is to propose measures and indicators that can be used to optimize the process, that lead to continuous improvement, and ultimately that result in prevention of errors rather than their correction. What can really be changed? What tools are needed? What is the impact on the organization of staff work?
