



OECD SHORT-TERM ECONOMIC STATISTICS WORKING PARTY
(STESWP)

**Terms of Reference for the OECD / Eurostat taskforce on:
Performing Revisions Analysis for Sub-Annual Economic Statistics**

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Submitted to the Working Party under item 3 of the draft agenda

Meeting:
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Franqueville Room
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Starting at 09.30 a.m. on the first day

EXECUTIVE SUMMARY

Following a wide range of presentations and discussion on the topic of revisions analysis at various OECD and Eurostat working party¹ meetings over 2005 and 2006, the OECD in conjunction with Eurostat decided to assemble a task-force of participants from interested national and international organisations to pursue work on this issue in a coordinated way. This task-force was formally established in January 2007 with the goal to develop a set of guidelines on best practice for performing and using the results of revisions analyses, and in formulating a revisions analysis policy which effectively supports user needs in conjunction with the release of sub-annual economic statistics. The intention is also to provide a set of standard tools as a resource to both producers and users of official statistics to enable such analysis to be performed.

This document presents the motivation for establishing such a task-force, briefly summarises the recent work done in the field of revisions analysis and presents the official terms of reference for the work of the task-force together with the proposed governance procedures. Participants of the task-force are listed in Appendix 2 together with the areas of work they will contribute to.

STESWP delegates are asked to provide written comment on the following issues relating to the formation of this task-force:

- (i) Does your organisation consider the terms of reference for the work of task-force as outlined in Section C as the most relevant for this topic or should additional issues be considered if the outputs of the task-force are to achieve their stated goal?
- (ii) Do the proposed governance procedures for the work of the task-force as outlined in Section D seem appropriate?
- (iii) Please provide a brief summary of past (or current) work your organisation has performed on issues which relate to any of the terms of reference items in Section C. If associated papers on this work exist, please provide them as an attachment as these will be used as reference material for the work of the task-force.

A. MOTIVATION

1. Many macroeconomic variables are revised back in time whenever new data are released or when substantial increases in the information set on which they are built up become available. Users of official statistics often consider revisions as an annoying phenomenon to be taken into account in their analysis. On the other hand, producers look at revisions as a normal phenomenon to increase progressively the quality and the precision of their data. Both users and producers are interested in gaining a better understanding of the revision process as well as in its analysis.

2. The importance of developing transparent revisions policies and in performing revisions analysis, in particular for short-term economic statistics, is being increasingly recognised and considerable work has been done in this field over the past few years by both national and international statistics organisations. The results of revisions analysis studies provide important information to users on the robustness of first published data, and enable producers to better understand the statistical compilation process, possibly

¹ For example papers on revisions analysis have been presented at the 2005 and 2006 meetings of the OECD Working Party on National Accounts and the OECD Short-Term Economic Statistics Working Party, and also at recent meetings of Eurostat's Short Term Statistics and Euroindicators Working Groups.

facilitating the identification of problems and / or improvements that could be made. It therefore seems appropriate that a common strategy on both the formulation of a revisions policy and undertaking revisions analyses should be assessed and agreed amongst statistical organizations and their users in order to facilitate the analysis and understanding of the revision process, both from the historical perspective and with the on-going release of statistics.

3. Consequently, the OECD in conjunction with Eurostat decided to assemble a task-force of participants from interested national and international organisations. Its goal is to develop a set of guidelines on best practice for performing and using the results of revisions analyses, and in formulating a revisions analysis policy which effectively supports user needs in conjunction with the release of sub-annual economic statistics. The intention is also to provide a set of standard tools as a resource to both producers and users of official statistics to enable such analysis to be performed.

4. This document briefly summarises work done to date on the topic of revisions analysis and then outlines the list of issues that will be pursued by the task-force with a view to achieving the goals outlined in the previous paragraph.

B. WORK DONE TO DATE

5. The following points briefly summarise substantive work done to date on the topic of revisions policy and revisions analysis which will form the bulk of initial reference material for the task-force:

- The OECD *Data and Metadata Reporting and Presentation Handbook* (OECD, 2006), Section 7.1 contains a detailed discussion outlining the main reasons for data revisions to official statistics, how they should be interpreted and actions national statistics institutes (NSIs) should take to establish a transparent revisions policy as part of their statistical publication strategy². The International Monetary Fund's Special Data Dissemination Standards (SDDS) also gives considerable prominence to the need for national agencies to develop a revisions policy that is both transparent (as to the underlying cause(s) of revisions) and consistent across the range of economic statistics compiled (both structural and short-term).
- The OECD has recently released the *Main Economic Indicators Original Release Data and Revisions Database*³. This facility provides access to an interface containing full time series, as far back as 1960 in some cases, for 21 key short-term economic variables as originally published in each monthly edition of the OECD's *Main Economic Indicators* (MEI) CD-ROM from February 1999 onwards for OECD countries, the Euro area, Brazil, China, India, Russian Federation and South Africa. Together with this data a set of automated programs and a detailed user guide is provided allowing users to perform their own revisions analysis on any country by variable combination available in the database according to the OECD revisions analysis methodology. The interface also provides access to comprehensive revisions analysis studies performed by the OECD for GDP, Industrial production and Retail trade volume and the proceedings of a joint workshop on revisions analysis hosted by the OECD and the UK Office for National Statistics (ONS) in October 2004⁴.

² Available at: <http://www.oecd.org/dataoecd/46/17/37671574.pdf>. Much of the material on this topic in the OECD Handbook was derived from an IMF Working Paper, *Revisions Policy for Official Statistics: A Matter of Governance*, first presented at the August 2003 International Statistical Institute (ISI) and subsequently revised the following year.

³ Available at <http://stats.oecd.org/mei/default.asp?rev=1>

⁴ Papers, etc., from this meeting are available at http://www.oecd.org/document/23/0,2340,en_2649_33715_33729303_1_1_1_1.00.html

- The UK ONS provides information on the size of recent revisions together with historical revisions analysis triangles in conjunction with their release of data for key macro economic variables⁵. The ONS has also had considerable discussions with the Bank of England on the information the Bank requires in relation to revisions to assist in their analysis of published data for policy purposes.
- The European Central Bank (ECB) has created a vintage database by assembling historical data files from the regular data transmission from Eurostat to the ECB of general economic statistics. Together with data provided from the OECD database the ECB also produced comprehensive revisions analysis studies (e.g. ECB, 2006) comparing revisions histories on selected indicators mainly concentrated on the Euro area, its six main countries, the UK and, in some cases, the United States and Japan.
- A number of other national statistical institutes have performed ad hoc revisions analysis studies on different short-term economic statistics⁶.

C. TERMS OF REFERENCE FOR THE WORK OF THE TASK-FORCE

6. The task-force will develop a set of guidelines on best practice for performing and using the results of revisions analyses, and in formulating a revisions policy which effectively supports user needs in conjunction with the release of sub-annual economic statistics. As a separate output it will also provide a set of standard tools as a resource to both producers and users of official statistics to enable revisions analysis to be performed. These objectives are expected to be achieved through addressing the following issues in the outputs of the task-force:

- (i) Define the type of data and organization of data required in order to perform revisions analysis. Reference will be made to currently available sources which meet these requirements.
- (ii) Define of a range of summary statistics that are relevant to describe the outputs of a revisions analysis study in order to facilitate the understanding of the process also by non experts. This range of summary statistics will represent a standard set of measures which should ideally be used in all publications related to revisions analysis – with the authors choosing a subset of this set of summary statistics most relevant for the study concerned⁷.
- (iii) Following from point (ii), develop a revisions analysis tool which will be made freely available⁸ to produce the agreed set of summary statistics thus enabling standardization of the outputs of revisions analysis studies. If possible, this tool may also incorporate the outcomes of point (vi) below on how to break down the results of a revisions analysis study to quantify the impact of different sources of revisions.
- (iv) Develop guidelines on good practice for revisions policy in regards to the extent and frequency to which time series should be revised and the provision of metadata to users⁹ in conjunction with the release of official statistics. This includes deciding how to present statistics on the size (and / or expected size) of the revisions, describing the reasons for revisions and whether these have evolved

⁵ This information and a range of other papers and articles on revisions analysis can be found on the ONS website at http://www.statistics.gov.uk/about/Methodology_by_theme/revisions_policies/default.asp

⁶ Reference to these studies can be found through the OECD interface, see footnote 2 above.

⁷ The OECD, ONS and ECB have all defined a range of statistics (including types of statistical tests) when presenting revisions analysis studies and these could be considered as a starting point for consideration.

⁸ OECD currently provides automated Excel spreadsheets which provide this facility according to their current methodology which can be downloaded at: http://www.oecd.org/document/17/0,2340,en_2649_34257_36873169_1_1_1_1,00.html. The task-force may aim to modify this tool to produce a broader range of relevant summary statistics.

⁹ Including submission of data by national statistical institutes to international organisations

over time¹⁰. The guidelines should also consider best practice on linkage of the revised and unrevised components of series.

- (v) Define the different causes of revisions, and at what time interval (i.e. length of time after first published data) they are expected to occur¹¹. A goal would be to break the different causes of revisions into three or four homogenous groups which could then be analysed in a quantitative manner, where such decomposition is of relevance to users.
- (vi) Following from point (v), develop guidelines on how to analyse revisions within and across the homogenous groups of causes of revisions. The goal is to be able to break down the results of a revisions analysis study to quantify the impact of different (homogenous groups of) sources of revision¹². As a minimum the guidelines must describe how the effects of seasonal adjustment on revisions can be separated and quantified in relation to other reasons.
- (vii) Develop guidelines on how to use the results from revisions analysis studies to identify improvements that could be made in the statistical estimation / compilation process¹³.
- (viii) Analytic issues for exploration
 - a. Explore the relationship between revisions and stability of different types of estimates (e.g. month-on-previous-month vs 3 months on previous 3 months) and whether revisions between data releases add information content to the estimates (e.g. news vs noise analyses).
 - b. Explore the relationship between timeliness and size of revisions. In particular, is there any evidence that recent attempts in Europe (and elsewhere) to improve the timeliness¹⁴ of principle economic indicators have led to larger revisions to first published data (in particular for flash estimates of GDP).

D. GOVERNANCE

7. The task-force will report principally to the OECD Short-Term Economic Statistics Working Party (STESWP) and Eurostat's Euroindicators Working Group. This will provide the opportunity for the task-force to present preliminary findings from their work and seek feedback from a wider audience. The intention is for a final set of recommendation on good practice for performing revisions analysis and its relation to revisions policy be submitted for formal endorsement to the OECD Committee on Statistics (CSTAT) and the European Commission Statistical Policy Committee (SPC) in the autumn of 2008. These recommendations, together with the output of task-force studies and a tool for users to undertake their own revisions analyses will also be presented on the websites of the OECD and Eurostat.

¹⁰ For example, if estimation procedures changed at a certain point in time that are likely to lead to lower revisions in the future, this would essentially amount to a break in series for the revisions which needs to be noted.

¹¹ Appendix 1 below contains a generic list of reasons for revisions which could be used as an initial reference

¹² In addition, the decomposition of revisions of aggregates into sub-aggregates (e.g. the contribution of revision to quarterly GDP of each industry series) could be considered.

¹³ This may need to be in the form of a case study for a certain macro economic statistic or drawing from national experience.

¹⁴ Timeliness for various sub-annual economic statistics has often been improved by shortening the collection cycle (e.g. lower sample size and follow up, use of incomplete frames etc.). If specific time points can be identified where such changes have been implemented which have lead to improvements in timeliness it would be interesting to study the revision pattern before and after these changes.

Appendix 1 Reasons for statistical revisions

The following list is an extract from the November 2006 OECD Statistics Brief: *Performing Revisions and Real-Time Data Analysis*. The list is a slightly revised version from that published in the OECD Statistics Working Paper¹⁵ (McKenzie, 2006) from which the subsequent text on timing of revisions is taken. The list is only intended as a starting point for the work of the task-force.

1. Incorporation of source data with more complete or otherwise better reporting (e.g. including late respondents) in subsequent estimates.
2. Correction of errors in source data (e.g. from editing) and computations (e.g. revised imputation).
3. Replacement of first estimates derived from incomplete samples (e.g. sub-samples) judgmental or statistical techniques when firmer data become available.
4. Incorporation of source data that more closely match the concepts and/or benchmarking to conceptually more accurate but less frequent statistics.
5. Incorporation of updated seasonal factors.
6. Updating of the base period of constant price estimates.
7. Changes in statistical methodology (such as the introduction of chain-linked volume estimates), concepts, definitions, and classifications.
8. Revisions to national accounts statistics arising from the confrontation of data in supply and use tables.

The first seven reasons are approximately ordered in accordance with the time frame within which they are likely to cause revisions to first estimates. The first three reasons are more likely to cause revisions in the short-term, that is, within the first few subsequent releases to the initial published figure. Reasons four and five may also cause revisions in the short-term, e.g. if seasonal parameters are re-estimated each month or quarter or if monthly data is benchmarked to quarterly data sources. However, in most countries reasons four and five would be more likely to cause revisions in the medium term, for example, if the updating of seasonal factors and any benchmarking were performed annually. The last two reasons are more likely to cause revisions in the longer term, i.e. less frequently than annually. Feedback from countries in response to the OECD revisions analysis study for the Index of industrial production confirmed that each of the above reasons for revisions were relevant in practice. Reason 8 is specific to the compilation of national accounts and the timing for this type of revisions depends on national practice.

¹⁵ Indeed this version is a revised version of a list published in the OECD Data and Metadata Reporting Handbook.

Appendix 2 Task-force members and their contact details

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Commitment to areas of work from the terms of reference by task-force members

TOR point	Leader	Direct involvement of task-force members
(i)	OECD	OECD, ONS
(ii)	ONS	OECD, ECB, BEA, ONS
(iii)	Not specified	OECD, ISTAT (provision of programs), ONS
(iv)	ES	Bundesbank (BB), ONS, US Census, Statistics Canada (SC), Eurostat (ES)
(v)	ONS	ISTAT, US Census, SC
(vi)	OECD	ISTAT, OECD, ONS, US Census (info only)
(vii)	NLD	ISTAT (contribute experience on Retail & IIP), NLD
(viii) a	Not specified	BEA, BB
(viii) b	Not specified	ECB, OECD

References¹⁶

Eurostat (2006). *Revisions Analysis*. Internal report submitted to the October 2006 meeting of the FROCH Group.

European Central Bank (2006). *Revisions Analysis for General Economic Statistics*. Report presented at the June 2006 meeting of the OECD Short-Term Economic Statistics Working Party.

McKenzie, R. (2006). *Undertaking Revisions and Real-Time Data Analysis using the OECD Main Economic Indicators Original Release Data and Revisions Database*. OECD Statistics Working Paper. OECD, Paris, August 2006.

OECD (2006). *Data and Metadata Reporting and Presentation Handbook* OECD Statistics Directorate, Paris 2006.

¹⁶ Only main references from which text has been taken are quoted here. The various links provided in the footnotes of this document and indeed the references within the papers listed form a much richer source of potential reference material for the work of the task-force.