OECD Statistics Working Papers 2005/05

Improving Timeliness for Short-Term Economic Statistics

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https://dx.doi.org/10.1787/427820416328

OECD

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Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

22-Dec-2005

English - Or. English

STATISTICS DIRECTORATE

STD/DOC(2005)5
For Official Use

OECD STATISTICS WORKING PAPER

IIMPROVING TIMELINESS FOR SHORT-TERM ECONOMIC STATISTICS

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December 2005

English - Or. English

JT00196395

Abstract

Effective business cycle analysis, and indeed the monitoring of a country's economic performance from a policy perspective, requires access to timely high quality short-term economic statistics (STES). Consequently in recent years there has been a lot of pressure on national statistics organisations (NSOs) to better serve their users by improving the timeliness of release for their short-term economic indicators. In response to this demand, NSOs have focused on improving the efficiency and methodology of their statistical production processes. So this begs the question: where would one look to find comprehensive documentation on good practices used by NSOs to improve the timeliness of their short-term economic statistics? The answer is the *STES Timeliness Framework*, a structured collection of documentation on a range of *good practices* currently used by NSOs for improving timeliness, reducing costs or improving accuracy for short-term economic statistics. This resource is freely available in the form of an intuitive, user friendly website developed by the OECD Short-Term Economic Statistics Expert Group at www.oecd.org/std/research/timeliness. This paper outlines the principles behind the development of this framework, explains its structure and reviews its current usage by statisticians.

Résumé

L'analyse conjoncturelle ainsi que l'évaluation de la performance économique d'un pays d'un point de vue politique, demande l'accès aux statistiques à court teme qui sont à la fois à jour et de bonne qualité. En conséquence, ces dernières années, il y a eu beaucoup de pression sur les organisations nationales de statistiques (ONS), afin de mieux satisfaire les utilisateurs, en diminuant les délais de diffusion pour leurs indicateurs économiques à court terme. En réponse à cette demande, les ONS se sont appliquées à améliorer l'efficacité et la méthodologie de leur procédés de production statistique. Une question se pose donc : Où chercher une documentation compréhensible sur les bonnes pratiques utilisées par les ONS afin d'améliorer les délais des statistiques économiques à court terme ? La réponse est *STES Timeliness Framework*, une collection structurée de documentation sur une gamme de *bonnes pratiques* utilisées couramment par les ONS afin d'améliorer leurs délais, de réduire les coûts et d'augmenter la précision des statistiques économiques à court terme. Cette ressource est librement accessible sous la forme d'un site adapté à l'usitilisateur et agréable, développé par le *OECD Short-Term Economic Statistics Expert Group* : www.oecd.org/std/research/timeliness. Ce document décrit les principes qui sont derrière le développement de ce cadre, explique sa structure et examine son utilisation courante par les statisticiens.

1 Introduction

1. Improving the timeliness of short-term economic statistics (STES) is a topic which has attracted enormous interest within the international statistical community in recent times. For example, it has been a key focus for the European Union (EU) with work being undertaken on a wide range of initiatives to achieve the timeliness targets set out in the EMU action plan[1]. It is also an important element of the International Monetary (IMF) SDDS[2].

2. To support these initiatives, there has been numerous meetings and conferences organised to facilitate information sharing; attempts to identify and distribute best practices; the formation of methodological expert groups to provide recommendations; etc. Indeed these types of activities date back to a 1972 meeting of the United Nations Statistical Commission, and the twenty third Plenary Session of the Conference of European Statisticians in 1975 (Ryten, 1996).

3. Despite the importance of the topic, and the large amount of work undertaken in the international arena, a comprehensive framework to assist Statisticians in making informed choices on the best methods to employ within different stages of the statistical production process to improve timeliness had never been developed. Consequently a key outcome of the June 2003 meeting of the OECD Short-Term Economic Statistics Expert Group (STESEG) was the formation of a multi-country task force to establish such a framework as a took to assist NSOs to improve the timeliness of their short-term economic statistics, with due regards to minimizing any potential adverse affects on accuracy.

4. This paper outlines the process used by the STESEG task force for developing the Short-Term Economic Statistics Timeliness Framework, describing its purpose, how it is intended to be used and updated over time, and summarises recent data on its usage recorded by OECD web trends statistics. The framework was first released on the OECD website in September 2004 at www.oecd.org/std/research/timeliness as a structured collection of documentation on a range of *good practices* currently used by NSOs for improving timeliness, reducing costs or improving accuracy[3] in the production of STES, for those indicators produced from business surveys and/or administrative records of businesses. The framework underwent its first annual update in September 2005 with the addition of new documentation reflecting developments in this field over the period May 2004 – July 2005.

2 Development of the STES Timeliness Framework

5. A number of issues were taken into account when developing the *STES Timeliness Framework*. Firstly the framework was intended to promote good practices for improving the timeliness of short-term economic statistics but in order to do this related issues such as accuracy and cost needed to be considered. It was intended for the framework to cover all aspects of the statistical production process but the interrelated nature of these processes needed to be taken into account. Perhaps most importantly, for the framework to be a useful tool to NSOs it needed to be practically focused and applicable to all countries who we know operate under a variety of different circumstances. This section of the paper describes in detail how the above aspects, and many others, were taken into account in developing the *STES Timeliness Framework*.

[1] The European Monetary Union (EMU) action plan outlines a strategy for improvement of the timeliness and quality of European short-term economic statistics.

[2] The IMFs Special Data Dissemination Standard (SDDS) specifies requirements for the coverage, periodicity and timeliness of principal economic indicators, and for the dissemination of an advance release calendar.

[3] The STES Timeliness Framework only covers practices for improving accuracy if it is clear that the method to improve accuracy could be traded off to either improve timeliness and / or reduce costs of production.

2.1 Timeliness as a quality indicator and its relationship to cost and accuracy

6. Timeliness is an important indicator of quality for STES, and is recognised as such in statistical quality frameworks such as those developed by the OECD (2003) and Statistics Canada (2002). Other relevant quality indicators (OECD, 2003) are accuracy, relevance, accessibility, coherence, interpretability and credibility. It has often been suggested (Ryten, 1996; Gnoss, 1996) that significant improvements in timeliness cannot be achieved without a loss in accuracy. Oberg (2002) argues this need not be the case, citing examples where some countries appear to be both more timely and more accurate due to their efficiency of operational procedures. This assertion is supported by Ahnert (2001) and Walkner (2001) who found that countries with more timely first releases of STES did not necessarily have larger revisions.

7. It is obvious that to improve timeliness in STES without a significant loss in accuracy some change to operational procedures or methodological techniques is required. Indeed timeliness can be considered a characteristic of the whole statistical production process (SPC Expert Group, 2002) for STES. Therefore, a key purpose in designing the *STES Timeliness Framework* was for it to be a tool to assist Statisticians in making choices on methods to use within each stage of the statistical production process, which enables the timeliest estimates to be produced with minimal or no losses in accuracy. Alternatively, methods which reduce survey costs for the same timeliness and accuracy could be seen as relevant given this may provide the opportunity to spend more resources directed at improving timeliness through modifying other aspects of the statistical production process.

8. The issue of user requirements is also particularly relevant, as estimates produced to an earlier time frame and released only at aggregate levels could serve different user needs in comparison to more detailed statistics produced at a later time frame (Oberg, 2002). Of course minimising revisions between different releases for the same period remains an important issue. Consequently the *STES Timeliness Framework* aimed to cover aspects such as producing preliminary estimates from sub-samples but also how analysis of revisions can lead to the improvement of preliminary estimation methodologies.

2.2 Aspects of the statistical production process to be covered

9. As discussed in section 2.1 it was deemed necessary that the *STES Timeliness Framework* should cover all aspects of the statistical production process. This required determining the processes involved in the production of short-term economic statistics and grouping them in a logical manner. It was also important that the detailed production processes referenced could be related to the issue of timeliness either directly or indirectly through the relationship between timeliness, cost and accuracy.

10. The starting reference for listing and grouping aspects of the statistical production process came from the “Checklist for Sample Surveys – Basic Survey Design course’ (ABS, 1996). This checklist was organised into a two dimensional framework and refined extensively based on contributions from members of the task force and feedback from the 2003 and 2004 STESEG meetings where development of the *STES Timeliness Framework* was discussed. The final categories included in the framework are shown below in Table 1.

Table 1: Final structure of the *STES Timeliness Framework* reference table

Broad statistical process	**Operational methods related to improving timeliness, reducing costs or improving accuracy for short-term economic statistics**
1 Frame selection and administrative data use	1.1 Direct Use of Administrative Data for Short-Term Statistics
	1.2 Maintaining Survey Frames from Administrative Data Sources
2 Questionnaire design	2.1 Flexible Questionnaire and Form Design
	2.2 Minimising Data Items Collected
3 Sample design and selection	3.1 Efficient Sample Designs
	3.2 Sample Designs for Sub Samples
	3.3 Effective Business Selection Methods
4 Reference period & due dates	4.1 Choice of Reference Periods
	4.2 Due Date for Businesses Providing Data
5 Data collection and validation (editing)	5.1 Efficient Data Collection Methods Using Technology
	5.2 Follow Up of Non Respondents
	5.3 Automated Data Validation (Editing) Methods
	5.4 Selective (or Significance) Editing
	5.5 Effectively Combining Technology and Staff Resources
	5.6 Relationships with Respondents
6 Estimation	6.1 Data Imputation Methods
	6.2 Preliminary Estimates from Sub Samples
	6.3 Estimation Based on Lower Response Rates
	6.4 Preliminary Estimates Based on Statistical Models
7 Evaluation & dissemination	7.1 Assessment of User Requirements
	7.2 Analysis of Revisions
	7.3 Quality Assessment of Timeliness Improvements
	7.4 Use of Benchmarking Techniques
	7.5 Efficient Dissemination Processes

11. Having established a structure for the framework, the major task was to collect relevant documentation on good practices for improving timeliness, reducing cost or improving accuracy[4] related to the processes included in the second column of the table. Of course the actual categories included in the *STES Timeliness Framework* were refined over the course of its development in conjunction with the collection of relevant documentation, through the processes described in section 3. Also, because different aspects of the statistical production process are interrelated this needed to be taken into account in the presentation of *good practices* for the various aspects of the statistical production process. That is, a *good practice* may encompass activities related to several of the aspects which appear in the framework reference table. This interaction between elements of the statistical production process was taken into account in the final presentation of the *STES Timeliness Framework* through the use of primary and secondary categories of papers for each separate activity as described in paragraph 25.

[4] The STES Timeliness Framework only covers practices for improving accuracy if it is clear that the method to improve accuracy could be traded off to either improve timeliness and / or reduce costs of production.

2.3 The need to provide a range of good practices for improving timeliness

12. A common theme of recommendations by various past working groups on the issue of improving timeliness for STES has been to identify and agree on best practice, and benchmark current procedures against agreed best practice (e.g. SPC Expert Group, 2002). However, in developing the *STES Timeliness Framework* the STESEG task force considered this ideal to be very difficult to achieve for a number of reasons, including:

- what is best practice and who decides it? Would best practice for one country be best practice for another?
- would best practice apply to specific indicators, a group of indicators, or all STES (e.g. best practice procedures for the production of the producer price index could differ substantially to best practice procedures for the production of retail trade statistics);
- user requirements may differ between countries;
- differences in legislation between countries may mean that application of certain processes are not possible or unlikely to be successful (e.g. whether surveys are voluntary or compulsory, the existence of legislative requirements to use administrative data to reduce response burden, etc.);
- differences in economic structures between countries may mean that application of certain processes are not possible (e.g. the impact of predominantly monthly payrolls in Europe compared to predominantly weekly payrolls in the U.S);
- many countries may not have the resources or authority (i.e. depending on their institutional arrangements) to completely reorganise their production processes.

13. Consequently the task force agreed that the identification of best practice for improving timeliness for the entire statistical production process for STES was not possible due to the different exogenous influences facing the producers of STES in different countries. However, it seemed feasible that identifying a range of *good practices* for particular aspects of the statistical production process which may differ due to different initial conditions prevailing within the countries they were applied to could form an information resource applicable to a much wider group of countries.

14. Therefore a key purpose in developing the *STES Timeliness Framework* was to provide NSOs with a range of options for improving timeliness within different areas of the statistical production process to enable them to assess which options best suit their particular circumstances. For example, an NSO may have to consider such issues as: their capacity to fund change; the legislative circumstances within which they operate; which options are likely to have the maximum benefit on timeliness at lowest cost or impact on accuracy; which options best fit with their existing processes and external circumstances; which options best meet the priorities of their users; etc..

15. The ideal goal of the framework is to provide an opportunity for NSOs to closely examine good practices used within other countries across the statistical production process and enable them to identify various techniques that could be applicable within their own statistical environment. This should allow NSOs to more readily evaluate different options for implementing new methods to improve timeliness or reduce the production costs of their STES. As such, the task force had to ensure that documentation on good practices was collected from a wide range of countries to be diverse enough to be of use to all NSOs that operate under a variety of different circumstances. The fact that documentation in the most recent update of the framework is sourced from 22 different countries and international organisations should go a long way to achieving this goal.

2.4 Ensuring a practical focus

16. A key objective in developing the *STES Timeliness Framework* was for it to have a practical focus. Therefore documentation referenced in the framework generally describes techniques already implemented within statistical organisations which enable STES to be produced in a very timely manner, or have enabled recent improvements in timeliness or reduced costs of production to be achieved. In addition, papers based on sound research with associated implementation plans have also been included. However purely theoretical papers or papers presenting future broad strategies were not within scope of the framework. Ideally, each paper referenced in the framework should give the reader ideas on possible changes or improvements they could make to one or several aspects of the statistical production process that could improve timeliness and / or reduce costs for the STES they produce.

3 Collection and assessment of documentation for inclusion in the framework

17. There were two main approaches used by the task force to collect documentation for inclusion in the framework. The first consisted of a literature search of statistical journals, international conferences and workshop proceedings which have covered issues relating to STES. The second involved a formal request to the STESEG representative of each OECD country to identify and coordinate the collection of relevant existing documentation from within their organisation. This documentation was then assessed by the task force to determine if it was suitable for inclusion in the framework.

3.1 Process of assessing documentation for inclusion in the framework

18. The assessment process consisted of reviewing documents provided by NSOs or those found through the literature search. Relevant documents submitted by NSOs could consist of internal documentation on methods or final project proposals for the implementation of new methods, as well as other relevant papers describing processes, provided they satisfied either criteria 1, 2 or 3 below and criteria 4:

1. The document describes a process which enables STES to be produced in a very timely manner, or has enabled recent improvements in timeliness or reduced costs of production to be achieved.

2. The document explains a new method for improving timeliness which has been thoroughly evaluated and clear steps for implementation within the statistical production process are provided.

3. The document describes a method to improve accuracy or reduce costs which has an apparent relationship to timeliness such that it could be deemed to indirectly satisfy either criteria 1 or 2.

4. The techniques described in the document were regarded as methodological sound by the task force such that they could be classified as *good practice*.

19. In addition, the framework was restricted to cover processes for the important short-term economic statistics listed in Table 2, which are produced from business surveys and/or administrative records of businesses. A more detailed description of the definition of the short-term economic statistics included in this table is given in Attachment 1 of Appendix 2.

Table 2: Range of short-term economic statistics covered by the *STES Timeliness Framework*

Indicator	Common periodicity
Industrial production index	Monthly
Manufacturing output / sales	Monthly/quarterly
Construction production / output / sales	Monthly/quarterly
Retail trade, current price and volume	Monthly
Turnover for other service industries	Quarterly
Unemployment rate (not from household labour force survey)	Monthly
Total employment (not from household labour force survey)	Monthly/quarterly
Job vacancy rate	Monthly/quarterly
Hourly / weekly / monthly wages	Monthly / Quarterly
Labour costs / prices	Quarterly

3.2 Papers sourced from journals / conferences

20. Noting the assessment criteria outlined in paragraph 18, a list of potentially relevant statistical journals and statistical conference / workshop proceedings were identified. Over 1200 papers were reviewed for inclusion in the framework from 9 different statistical journals and the proceedings from 22 statistical conferences / workshops (16 in the initial development of the framework for the September 2004 release and an addition 6 for the September 2005 update). Of the papers which related to the issue of reducing costs or improving the timeliness of STES (i.e. a much smaller subset of papers), the content was often theoretical or did not have clear operational applicability. However some sources did contain highly relevant material and 50 papers from 16 different sources were chosen for inclusion in the framework (31 papers from 11 sources in the initial September 2004 release and a further 19 papers from 5 new sources in the September 2005 update). All journals and conference proceedings that were reviewed are listed in Appendix 1, together with the number of papers included in the framework from each source.

3.3 Papers provided by national statistical organisations

21. An official request was made to NSOs asking them to identify and provide relevant existing documentation for possible inclusion in the *STES Timeliness Framework* for both its initial development in 2004 and subsequent update in 2005. A detailed set of guidelines to aid NSOs in determining whether documentation was appropriate to send to the task force to be considered for inclusion in the framework was provided (see Appendix 2 or http://www.oecd.org/dataoecd/13/6/33630498.pdf). These requests were generally well responded to and many NSOs went to considerable effort to provide documentation which was appreciated and acknowledged by the task force. In summary, the request was made to 27 OECD Member countries of which 25 undertook some research to identify relevant documentation. For the initial request in 2004 a total of 129 papers from 21 countries were submitted to the task force to assess for possible inclusion in the framework. Of these, 46 papers from 18 different Member countries[5] were deemed suitable and were included in the initial version of the *STES Timeliness Framework*. For the 2005 update 33 papers from 14 organisations were submitted for assessment of which 13 were included in the September 2005 update of the framework.

22. There was naturally some overlap between the papers submitted from NSOs and those obtained from the literature search of statistics journals and conferences. This was somewhat reassuring in regards to

[5] Papers were accepted in national language provided there was an abstract in English. Some papers provided in national language were then translated to English by Eurostat. As a result, over 95% of the papers in the current version of the framework are in English.

the consistency of the processes applied. In total, 22 different countries or international organisations have contributed documentation to the *STES Timeliness Framework*, and these contributions by country / organization can be identified at http://www.oecd.org/document/7/0,2340,en_2649_201185_33633799_1_1_1_1,00.html

4 Accessing and using the *STES Timeliness Framework*

23. The *STES Timeliness Framework* can be accessed on the OECD website at: www.oecd.org/std/research/timeliness. The framework is presented within the structure shown in Table 3 below, which outlines the process for producing short-term economic statistics within broad categories. The headings in column 2 are statistical processes within which a range of techniques can be applied to improve timeliness or reduce costs. A user then clicks on a heading to access more detailed information on these techniques based on the research undertaken in developing the framework.

Table 3: The *STES Timeliness Framework* as it appears on the internet

Broad statistical process	**Links to documentation on proven operational methods to improve timeliness or reduce costs for short-term economic statistics**
1 Frame selection and administrative data use	1.1 Direct Use of Administrative Data for Short-Term Statistics
	1.2 Maintaining Survey Frames from Administrative Data Sources
2 Questionnaire design	2.1 Flexible Questionnaire and Form Design
	2.2 Minimising Data Items Collected
3 Sample design and selection	3.1 Efficient Sample Designs
	3.2 Sample Designs for Sub Samples
	3.3 Effective Business Selection Methods
4 Reference period & due dates	4.1 Choice of Reference Periods
	4.2 Due Date for Businesses Providing Data
5 Data collection and validation (editing)	5.1 Efficient Data Collection Methods Using Technology
	5.2 Follow Up of Non Respondents
	5.3 Automated Data Validation (Editing) Methods
	5.4 Selective (or Significance) Editing
	5.5 Effectively Combining Technology and Staff Resources
	5.6 Relationships with Respondents
6 Estimation	6.1 Data Imputation Methods
	6.2 Preliminary Estimates from Sub Samples
	6.3 Estimation Based on Lower Response Rates
	6.4 Preliminary Estimates Based on Statistical Models
7 Evaluation & dissemination	7.1 Assessment of User Requirements
	7.2 Analysis of Revisions
	7.3 Quality Assessment of Timeliness Improvements
	7.4 Use of Benchmarking Techniques
	7.5 Efficient Dissemination Processes
8 Overview	8.1 Papers Covering Several Methods to Improve Timeliness
	8.2 All Papers Sorted by Country

24. Each of the web pages accessed through the column 2 headings contain a brief summary of the main techniques used to improve timeliness or reduce costs through this statistical process, followed by links to detailed papers. Thus the framework demonstrates the opportunities that exist for improving timeliness or reducing costs within each stage of the statistical production process. All detailed papers contain abstracts or introductions briefly summarising the content of the paper, either within the document or in a separate web page which appears before accessing the document.

25. Because many of the documents included within the framework provide information on more than one aspect of the statistical production process as defined by the column 2 headings, a particular paper can be referenced under several headings. When the papers were assessed for inclusion in the framework, task force members noted the column 2 heading (i.e. statistical process) that the paper most related to, and

other column 2 headings it also contained information on. Consequently a user will see two categories of papers within each column 2 heading web page which reflects this distinction; these are the *primary papers* and *secondary papers* headings. This aspect of the framework reflects the fact that statistical production processes are generally integrated within an overall strategy. Papers which covered an extremely varied range of practices were also included under heading *8.1 Papers Covering Several Methods to Improve Timeliness*. In addition the heading *8.2 All Papers Sorted by Country* provides access to all documents included in the framework listed by country of origin.

26. The chosen structure for presenting the framework was agreed by the taskforce after careful consideration and several revisions to draft proposals. Its principle aims are to provide summary information on a range of topics at a glance, with related detailed information being clearly identifiable and easy to access. Therefore it could be considered as a general model for the presentation of good statistical practices on the internet, which may be applicable to other statistical working groups undertaking similar initiatives.

5 Usefulness of the STES Timeliness Framework to NSOs

27. As the contents of the *STES Timeliness Framework* have been sourced from 22 countries and covers issues for the entire statistical production process it should be diverse enough to be of use to all NSOs that operate under a variety of different circumstances. Both the framework and the process of submitting documentation to be assessed for inclusion in the framework provides NSOs with the opportunity to:

- gain wider recognition for their work;
- access information about other countries practices extremely relevant to their daily work which would otherwise be very difficult to obtain, as this type of information is rarely published in journals etc.;
- closely examine good practices in countries most likely to be similar to their own;
- quickly evaluate different options for implementing new methods to improve the timeliness or reduce the costs of production for their short-term economic statistics with greater certainty of the likely outcomes.

28. The *STES Timeliness Framework* is also a useful tool for OECD Non-Member countries currently developing their statistical systems, and as an aid for use within bilateral programs at country level (i.e. where one country provides aid to another on developing their statistical capacity).

5.1 Usage of the STES Timeliness Framework

29. The usage of the *STES Timeliness Framework* can be partially assessed through OECD web trends statistics (see below). In addition the framework home page provides the opportunity for people / institutions to register as an official user to ensure they are informed of all future updates to the framework. An interesting statistic is that 12 registrations from institutions of non OECD member countries have been received which indicates that it is indeed a useful tool for countries currently developing their statistical systems.

30. Since its official launch in September 2004, the *STES Timeliness Framework* has proved to be very popular as measured by the OECD web trends statistics. Not only was access to the framework home page high in the launch month of September 2004 which recorded 862 visits, but it has continued to be one of the most popular OECD statistics web pages with the framework's home page averaging over 330 visits per month. This popularity no doubt reflects both the user friendly interface and extensive range of information included in the *STES Timeliness Framework.*

31. A power point training seminar has also been developed which can be made available to NSOs who wish to give a demonstration of the *STES Timeliness Framework* to their staff. So far five NSOs have requested this training package which can be obtained by emailing richard.mckenzie@oecd.org .

6 Future updates

32. The OECD Short-Term Economic Statistics Expert Group has a mandate to continue updating the *STES Timeliness Framework* on an annual basis provided there is sufficient evidence of its ongoing use. As such the framework is promoted with statistical networks in several different ways to ensure as wide an audience as possible is aware of its existence.

Appendix 1 - Journals and statistical conference proceedings reviewed

Journals reviewed

1. Journal of Official Statistics, 1992 – 2005. 5 papers included.
2. Survey of Current Business, 1994 – 2004. No relevant papers.
3. ASA, Journal of Business & Economic Statistics, 2001 – 2004. Mostly theoretical, nothing relevant to timeliness.
4. ILO, Bulletin of Labour Statistics. Focus is on concepts and methodology, nothing relevant to timeliness.
5. Statistics Canada, Survey Methodology, 1997 – 2003. Mostly theoretical, nothing relevant to timeliness.
6. Research in Official Statistics, Eurostat, 1999 – 2002. Mostly theoretical, nothing relevant to timeliness.
7. Review of Economics and Statistics, 2002 – 2003. Mostly econometric user based and theoretical.
8. Journal of forecasting, 2001 – 2003. Not related to the production of official statistics.
9. Agency Methodology Reports from BLS, Census Bureau & BEA from 2000 – 2004. Only relevant papers had already been submitted by these organizations for the framework.

Conferences / workshops / websites reviewed

1. OECD STESEG 2003. 8 papers included
2. UNSC, Work Session on Statistical Data Editing, 2003. 5 papers included.
3. International Conference of Establishment Surveys 2 (ICES2), 2000. 5 papers included.
4. Eurostat 2001. Short-term statistics: improving timeliness and cooperation. 4 papers included
5. OECD STESEG 2002. 2 papers included.
6. EU / US benchmark study on infa-annual statistics, 2001. 2 papers included.
7. ISI 2003. 1 paper included
8. Quality in Official Statistics, Stockholm 2001. 1 paper included.
9. International Conference on Improving Surveys, August 2002. 1 paper included
10. OECD/Eurostat Workshop on benchmarking techniques, 2004. A link to the proceedings is referenced which contains several papers and presentations on benchmarking techniques.
11. CES Plenary sessions, 2003. Substantive topics of the conference (e.g. confidentiality, globalisation) were not specifically relevant to timeliness.
12. International Conference on Questionnaire Development, Evaluation, and Testing Methods, 2002. Some papers were considered but were thought not to be relevant enough.
13. Baltic-Nordic Conference on Survey Sampling, Sweden 2002. Most papers of a technical nature.
14. IMF SDDS / DQAF. Reports against set of criteria which only briefly cover timeliness or related issues. Focus is on compliance with a specified target standard rather than listing of methods used to achieve this.
15. International Association of Official Statisticians conferences. Includes ISI 2001 which was reviewed but no suitable papers found, other recent conferences have been focused on specific topics not strongly related enough to specific issues for timeliness, e.g. New Economy, Information Society Statistics etc.
16. Federal Committee on Statistical Methodology Conferences (2001 & 2003: 2 new papers added, some others already included)
17. European Conference on Quality and Methodology in Official Statistics, Mainz, Germany, 24-26 May 2004. 2 papers included.
18. Data Quality for International Organisations, Wiesbaden, Germany, 27-28 May 2004. Contents were not relevant as they did not relate closely enough to the production of national statistics.
19. 55th Session of the International Statistical Institute (ISI), Sydney, Australia, 5-12 April 2005. 5 papers were included, these were also provided in the NSO submissions.
20. OECD / Eurostat Workshop on Frontiers in Benchmarking Techniques and Their Application to Official Statistics, Luxembourg, 7-8 April 2005. 1 paper included and reference made to proceedings.

21. UNECE, Work Session of Statistical Data Editing, Ottawa, Canada, 16-18 May 2005. Very relevant conference from which 7 papers were included. There was also significant overlap with papers provided by NSOs.
22. UNECE Seminar on Improved Data Reporting, June 13 2005. 3 papers included.

***Appendix 2*- Guidelines provided to NSOs for the submission of documentation**

The Short-Term Economic Statistics (*STES) Timeliness Framework* is a structured collection of documentation on a range of *good practices* currently used by national statistical organisations for improving timeliness, reducing costs or improving accuracy[6] in the production of STES (see Attachment 1 on the following page for the list of in scope STES).

The documentation contained within the current version of the *STES Timeliness Framework*, available on the OECD website at: www.oecd.org/std/research/timeliness, is sourced from 18 OECD countries. The submission of new documentation is now invited for inclusion in forthcoming updates of the framework. Contributing to the *STES Timeliness Framework* provides national statistical organisations with the opportunity to:

- gain wider recognition for their work;
- access information about other countries practices extremely relevant to their daily work which would otherwise be very difficult to obtain, as this type of information is rarely published in journals etc.;
- closely examine good practises in countries most likely to be similar to their own;
- quickly evaluate different options for implementing new methods to improve the timeliness of their short-term economic statistics with greater certainty of the likely outcomes.

Guidelines for the submission of documentation

Documentation included in the *STES Timeliness Framework* must have a practical focus. In general, documentation should describe techniques already implemented within statistical organisations which enable STES to be produced in a very timely manner, or have enabled recent improvements in timeliness or reduced costs of production to be achieved. For example, relevant documents may include internal documentation on methods or final project proposals for the implementation of new methods, as well as other relevant papers describing processes.

The current structure of the *STES Timeliness Framework* (www.oecd.org/std/research/timeliness) clearly shows the statistical processes for which documentation is sought, with each link providing further information on the content relating to the short titles used in the main reference table. Documents can also cover several of the statistical processes included in the framework within the one paper. Documents can be provided in national language, but must include a short abstract in English, and also have a contact name.

The submission of documentation for assessment for inclusion in the framework, and any relevant queries, should be sent to richard.mckenzie@oecd.org

Users can also register to receive all future updates to the framework by emailing std.timeliness@oecd.org

[6] The STES Timeliness Framework only covers practices for improving accuracy if it is clear that the method to improve accuracy could be traded off to either improve timeliness and / or reduce costs of production.

Attachment 1 Short-term economic statistics in scope of the *STES Timeliness Framework*

The *STES Timeliness Framework* only intends to cover processes for the important short-term economic statistics listed in the table below, which are produced from business surveys and/or administrative records of businesses.

Indicator	**Common periodicity**
Industrial production index	Monthly
Manufacturing output / sales	Monthly/quarterly
Construction production / output / sales	Monthly/quarterly
Retail trade Current price Volume	 Monthly Monthly
Turnover for other service industries	Quarterly
Unemployment rate (not from household labour force survey)	Monthly
Total employment (not from household labour force survey)	Monthly/quarterly
Job vacancy rate	Monthly/quarterly
Hourly / weekly / monthly wages	Monthly / Quarterly
Labour costs / prices	Quarterly

Extended definition of important short-term economic statistics covered by the framework

The text below gives a more detailed definition of each of the 10 important short-term economic statistics listed in the above table, for which methods of improving timeliness are covered in the *STES Timeliness Framework.*

Industrial production index

The majority of countries produce indices of industrial production. The data may come from a variety of business survey and or administrative sources. Generally the scope of these indices concerns production in industry excluding construction. This would therefore cover production in the Mining & Quarrying, Manufacturing, and Electricity Gas and Water supply industries (ISIC industries C, D & E), which is measured in a variety of ways across countries (i.e. in terms of the variables collected, with the common goal of measuring production).

Manufacturing output / sales

This indicator relates to the output of the Manufacturing industry, measured through business surveys of the Manufacturing industry or appropriate administrative data. The types of variables measured can differ between countries, but common types are: sales of goods manufactured; total turnover; stocks; new orders. Estimates are usually in the form on an index or as national currency levels.

Construction production / output / sales

This indicator relates to the output of the Construction industry. This may commonly be measured through business surveys of the Construction industry or appropriate administrative data. The variables measured can differ significantly between countries but common types include: building permits issued; value of work completed; work in place; work started. Note also that some variables may be measured in either monetary terms or physical quantities (e.g. number of buildings or surface area).

Retail trade: Current price; Volume

Almost all countries produce monthly estimates of sales / turnover in the Retail Trade industry, derived from business surveys of the Retail Trade industry or appropriate administrative data. *Current price* relates to the total value of sales (in index form or national currency level), whereas *volume* relates to data at constant prices – usually obtained by deflating the total value of sales estimate by relevant parts of the consumer price index.

Turnover for other service industries

This indicator relates to the output of other service industries such as ISIC industries G, H, I & K(i.e. Wholesale Trade; Hotels and Restaurants; Transport, Storage and Communication; Real Estate, Renting and Business Activities). This may commonly be measured through business surveys of these industries or appropriate administrative data. The variable generally collected is total turnover or sales.

Unemployment rate (not from household labour force survey)

This indicator relates to unemployment rate estimates derived from business surveys and / or administrative data. This indicator may exist only for a limited number of countries.

Total employment (not from household labour force survey)

This indicator relates to employment estimates derived from business surveys and / or administrative data. Many countries produce these estimates to provide reliable employment estimates by industry.

Job vacancy rate

This indicator relates to estimates of job vacancies / job vacancy rates / unfilled vacancies from business surveys and / or administrative data. This indicator may not exist for all countries.

Hourly / weekly / monthly wages

The majority of countries produce estimates of wage rates (i.e. hourly rates, weekly averages, monthly averages). These estimates usually come from specific business surveys or appropriate sources of administrative data. Data is usually estimated as an index or in national currency and for most countries will cover the majority of industries.

Labour costs / prices

Some countries have developed specific business surveys to measure a labour cost index / labour price index / employment cost index. The concept is to measure the total cost to employers for employing staff in the form of an index. Many countries compile this indicator as an extension to their estimate of wage rates, by combining this with other appropriate survey or administrative data.

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