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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

OECD WORKSHOP ON BUSINESS AND CONSUMER TENDENCY SURVEYS

Recently developed international guidelines for opinion surveys

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1. INTRODUCTION AND BACKGROUND

1. The aims of this paper are to present for further discussion:
 - international guidelines and recommendations for the conduct of business and consumer opinion surveys that were developed out of the joint European Commission – OECD Workshop on International Development of Business and Consumer Tendency Surveys held in Brussels on 14-15 November 2005¹; and
 - how these enhanced guidelines will be used by the OECD and other international and national agencies.

The focus of discussion at the two day Workshop were the recommendations prepared by two task forces that arose out of the previous joint meeting held in late 2003 and the last OECD Workshop held in Warsaw in 2004. The task forces² were charged with developing guidelines on the:

- improvement of response rates and minimisation of respondent load; and
- harmonisation of survey operations and technical design.

2. Development of the recommendations on these areas (which are summarised below in Section 3 of this paper) entailed a thorough review of current national practice and available literature. Section 4 outlines proposals on how these enhanced guidelines for opinion surveys will be used by the OECD and other agencies.

2. EXISTING INTERNATIONAL GUIDELINES AND RECOMMENDATIONS FOR BUSINESS AND CONSUMER OPINION SURVEYS

3. The new international guidelines developed over the last couple of years were designed to augment existing standards published in:

- 2003 by the OECD in *Business Tendency Surveys: A Handbook* (OECD 2003) - in particular, fleshing out the text in Section 8 dealing with the harmonised system of business tendency surveys initially developed by the European Union Directorate-General for Economic and Financial Affairs during the 1970s. The OECD subsequently worked with the EU to adapt this system for use by other countries in Europe and Central Asia and in collaboration with other regional organisations such as the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Asian Development Bank (ADB), and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC);
- 1997 in the *European Economy, Reports and Studies, No. 6* (European Commission 1997). This publication contains detailed information on the Joint EU Programme of Business and Consumer Surveys. It outlines general principles for collecting, compiling and presenting survey data as well as information on the uses made of business and consumer survey results. Section 3 contains the harmonised surveys for industry, construction, retail trade, investment, services and consumer surveys. A briefer updated User Guide was published by the European Commission, Directorate for General Economic and Financial Affairs, Economic Studies and Research in June 2006 (European Commission 2006).

¹ The report from the joint Workshop is available at <http://www.oecd.org/dataoecd/36/8/35966635.pdf>

² Membership of the task forces comprised representatives from national institutes in Austria, Belgium, China, Czech Republic, France, Germany, Hungary, Italy, Japan, South Africa, Sweden, Switzerland, United States, United Kingdom, as well as staff from the European Commission and the OECD.

3. 2005 STANDARDS FOR BUSINESS AND CONSUMER OPINION SURVEYS

4. This Section outlines the guidelines and recommendations developed out of the work of the two task forces referred to above. By and large, the standards aim to promote practices designed to improve the quality and methodological transparency of opinion survey data compiled by national government and non-government institutes, and to further align practices used in the collection, compilation and dissemination of qualitative survey data with the wealth of standards and practices that have evolved for quantitative economic and social statistics over the last 30 years. These standards have been developed jointly by international and supranational organisations (European Commission, International Monetary Fund (IMF), International Labour Organisation (ILO), OECD and various United Nations agencies) working in close collaboration with national statistical institutes³.

5. The standards developed by the two task forces were discussed at the November 2005 joint workshop and the version presented below were embodied in the meeting report with minor modifications to incorporate further comments received from national institutes. Readers requiring further background information are referred to the meeting report (refer – Footnote 1). A theme underlying the recommendations of both task forces in the necessity to compile and disseminate comprehensive metadata defining concepts, describing classifications used, data collection / survey methodology, data transformation (e.g. seasonal adjustment), etc⁴.

Recommendations to improve survey response rates and to minimise respondent load

6. The achievement of a satisfactory response rate is a key factor in the compilation of high quality opinion survey data, and clear strategies to minimise non-response should be given high priority in the allocation of resources. The task force offered a comprehensive analysis of the relationship between response rate and data collection methods. It investigated different data collection and communication methods as well as factors influencing response rates. These also help minimize respondent load. The main outcomes of task force work are embodied in the following seven recommendations, which entail the need for national institutes to:

- a. Clearly specify in their metadata which kind of response rate is applied. The task force felt that two kinds of non-response rate (or the complementary response rate) seemed advisable according to survey design. In the case of non-response these comprise a measure appropriate where there is a uniform sampling fraction and equal weights and another appropriate in the more general case of unequal sampling fraction and reporting units with different weights⁵.

³ These guidelines are available in a website maintained by the United Nations Statistical Division (UNSD), the *Methodological Publications in Statistics* website. This contains statistical standards (including classifications) across all statistical domains that have been developed by international organisations, in addition to those under development and planned. The website database is updated more or less annually and all international organisations are requested to provide the required information.

The following information is provided in the database for each of the methodological guidelines and recommended guidelines listed: name of lead organisation; other organisations involved in the development of the standard (if any); formal title of the standard; brief description of the contents of the standard; year published; previous or subsequent version(s) of the standard. The website is available at <http://unstats.un.org/unsd/progwork/pwabout.asp>

⁴ A comprehensive set of data and metadata presentation standards are provided in the 2006 OECD publication, *Data and Metadata Reporting and Presentation Handbook* (OECD 2006). Section 6 of the Handbook outlines a comprehensive set of recommendations for the reporting and presentation of metadata. Although prepared primarily for quantitative statistics most of the recommendations are also relevant for opinion survey data and metadata.

⁵ The former is given by the notation $NR1 = \left(\frac{n'}{n}\right) * 100$ where n' is the number of units which did not submit useful information and n is

the number of units selected in the survey. The latter is represented by the notation $NR3 = \frac{\sum_{i=1}^n \frac{1}{f_i} * w_i}{\sum_{i=1}^n \frac{1}{f_i} * w_i} * 100$ where $f_i = \frac{n^i}{n}$ is the sampling

fraction of the i^{th} unit and w_i is the business size weight of the i^{th} unit.

- b. Formulate and implement a range of strategies to establish initial contacts with respondents to gain their co-operation. Strategies include the tailoring of contacts to the characteristics of the unit (especially larger units), contacting the “appropriate” person within the unit, overcoming a lack of awareness of the survey by explaining the benefits / uses of data from the survey, making respondents more aware of the survey institution and its survey program, using personal contact in the initial approach where possible, providing information on the survey characteristics explaining differences from other surveys, ensuring that data requested are readily available to the respondent.
- c. Adopt a respondent perspective with regards to the data collection method used, all of which have their strengths and weaknesses. Where possible, efforts should be made to allow survey units to choose the mode they prefer. This would entail the use of a mixed mode approach for data collection which allows for the optimisation of data collection procedures and a reduction of total survey errors within the available time and cost.
- d. Periodically include questions in questionnaires to assess respondent preferences for data collection.
- e. Develop efficient follow-up strategies which are tailored to the various modes of data collection used by an institute conducting BTS / COS. Such strategies include the provision of promotional material, use of toll-free telephone help lines to provide assistance to respondents, collecting only key variables as an alternative to total non-response, and providing an explicit indication that estimates (or proxy data) are acceptable for requested data items.
- f. Review their current weighting methodology to ensure that business weights used in estimation are representative of the population. There is a need to take account of sampling probabilities in the weighting process. If aggregation to the branch or cell level combines businesses chosen with different probabilities (e.g. large and small businesses) then the sampling fraction should be a factor in the weighting process (see footnote 5), otherwise estimates will be biased.
- g. Analyse the results from previous surveys to determine whether there is any evidence of different response behaviour for businesses which are more or less likely to respond to a particular survey cycle.

7. Further information on Recommendations a. to e. are available in the task force paper, *Relationship between response rates and data collection methods* (ISAE 2005). Background information for Recommendations f. and g. are available in the paper, *Assessing and minimising the impact of non-response on survey estimates* (OECD 2005).

Harmonisation of survey operations and technical design

8. The task force noted that there were no existing detailed international guidelines and recommendations outlining best practice for the development of business tendency surveys. The survey procedures presented and recommended in the OECD Handbook referred to in para. 3 above served as a starting point for more detailed consideration by the task force of key aspects in the development of standards for survey operation and technical design. The aspects covered by the task force comprised: efficient sample design and weighting methods and; identification and assessment of recommended practices for the design of Internet surveys.

Efficient sample design and weighting methods

9. The task force sought to identify key issues in the areas of sample design and weighting methodologies for both business and consumer opinion surveys in order to draft an initial set of recommended minimum requirements and preferences aimed at improving the reliability and hence, the overall quality, of survey data.

The key issues for efficient sample design cover identification of the relevant universe / reference population; identification of the sample frame; methods used for sample selection and; the treatment of missing data (except for consumer surveys) (ISAE 2005a).

10. As can be seen from the recommendations outlined below (separately for business tendency surveys and consumer opinion surveys), most are also relevant for quantitative surveys. Although many of the recommendations are self-evident, benefits for their future inclusion in international recommendations are to benchmark recommended practice and comparisons of data quality between countries.

Business tendency surveys

- Sample frame

- a. Frame lists should include an as exhaustive as possible account of active firms in the survey universe of interest. In this context the use of official or statistical registers of active firms is recommended over that of more partial business or membership registers.
- b. Institutes are advised to use cut-off strategies in order to stabilise the panel (size cut-off) and for a precise identification of the survey objectives (branch cut-off).
- c. Establishments may be considered as the ideal choice for the sample unit, though it is recognised that it may be difficult to gather information at this level. Furthermore, other types of units may be more suitable depending on the focus or interest of the survey, e.g. kind of activity units (KAUs) for studies on industrial structure or local units for regional structures. Even if the firm is identified as the sample unit it is advisable to have different reporting units within the firm where possible. It is strongly recommended that the same type of response units answer questionnaires each month.
- d. Frame lists should be updated as soon as a new census of active firms is available.

- Sampling methods

- e. A fixed panel should be used that has been established on a statistically sound basis using a rotating pattern of updating with a fixed proportion of units being replaced at regular intervals.
- f. The use of probability sample selection techniques is strongly recommended in preference to purposive or judgemental methods. The use of stratification-based sampling methods is recommended where there is heterogeneity in the unit population with respect to size or other characteristics. Use of exhaustive sampling is recommended for the largest, most influential units.

- Treatment of missing data

- g. Institutes should describe in their metadata the precise nature of the procedures used in the treatment of item and unit non-response.
- h. As a minimum requirement it is recommended that institutes closely monitor the impact of missing data (especially for large firms) and to develop a clear set of strategies to minimise non-response (refer recommendations outlined in para. 6 above).
- i. Consideration should be given to the use of imputation methods to deal with remaining missing data, though with care to avoid possible distortions.
- j. Re-weighting techniques, taking account of different composition of the panel in adjacent surveys are recommended as a means of reducing bias.

- *Weighting methods*

- k. The use of weights is strongly recommended in order to improve the precision of the estimates. A minimum requirement is that first stage⁶ business weights used for units in the sample are approximately representative of the distribution of businesses (by size) in the population (see recommendation f. in para. 6 above). Second stage business weights are an indicator of the relative size of the business (e.g. employment, turnover etc.)

Consumer surveys

- *Sample frame*

- l. The frame list should include an as exhaustive as possible account of the adult population. As a result, official census or statistical registers are preferred to telephone registers. If the latter are used, appropriate methods to correct for possible coverage bias should be used.
- m. Cut-off strategies with respect to age are advisable, though this may require further harmonisation within the EU.
- n. Frame lists should be updated yearly.

- *Sampling methods*

- o. It is strongly recommended that random sampling techniques be used to ensure survey representativeness.
- p. In the case of heterogeneous populations, stratified sampling methods are preferred over simple random sampling.
- q. Further research is recommended on the benefits of the use of a rotating sample design over the use of an independent sample selected each month.

- *Weighting*

- r. Weighting is recommended in order to ensure better representativeness of the sample selected. These could comprise demographic characteristics such as age and sex, region of residence and size of township, or socio-economic characteristics such as occupation, level of education, type of area municipality.

Design of Internet surveys

11. In recent years there has been a rapid increase in the use of the Internet for data collection. While there is broad experience and knowledge on personal interviews and mail questionnaires there is not yet a consensus among researchers involved in BTS / COS on how best to conduct Internet surveys and little attention has been given so far as to their scientific underpinnings. However, most researchers agree that the Internet environment has characteristics that make it distinct from other survey methods.

12. The aim of the task force was to contribute to higher research standards in the realm of business surveys and to develop research-based design principles for Internet questionnaires in business tendency surveys. The extensive list of recommended practices outlined below are based largely on analytical reports, workshop documents and other instruction material prepared by task force members and other researchers working on

⁶ The first stage business weight will usually be the sampling fraction. However, if sampling fractions are not available, then an estimate of the number of similar businesses the selected business is intended to represent in the population should be used as the first stage weight.

Internet surveys in a wide range of countries (IFO 2005). Based on current knowledge and experience the recommended practices outlined below are a starting point for further development of research-based principles for Internet surveys.

- Getting Started

- Ensure that the Internet presence of the institution is professional, as participants will evaluate this on entry.
- Collect information about participants' demographics and characteristics.
- Check whether potential participants who are contactable by e-mail have access to the Internet, as in many businesses employees have restricted access to the Web.
- Provide a PIN for limiting access to the questionnaire only to the participant of the survey. If possible use an individualized link, so that respondents do not need to enter an ID and a password.
- Give respondents the chance to choose the mode of their preference, as it offers the possibility of "soft" control for computer competences.
- Assure that IT support is available also beyond the end of the start-up phase and that there is a help-line facility (phone number of the department or administrator).
- For ethical reasons, do not acquire data without the knowledge of the respondent (for example, through the use of cookies).
- Assure data protection, data security and confidentiality.
- Check the differences in the visual appearance of questions that result from different screen configurations, operating systems, browsers and screen displays.
- For the first invitation to an Internet survey preferably use a printed invitation letter that provides a sense of professionalism.
- Conduct a pilot study with volunteer firms and take into account their observations.

- E-mail Invitation

- When using e-mail invitations, adhere to a widely accepted format (at present the plaintext format). HTML e-mails and attachments may be rejected for virus risks.
- Ask participants to place the data collection institute's e-mail address in their address book or the company's safe senders list. For that purpose use a project e-mail address that is not affected by executive staff changes.
- Avoid using bought-in e-mail lists, as the data collection institute could be labeled as a spammer.
- Avoid spammy-sounding words in the institutes e-mail. It is also recommendable to avoid the use of "click here", unsubscribe instructions and/or explanation of why the recipient is on the list.
- Use a recognizable, short, and consistent "From" Address.
- Avoid the "Subject" line words written all in small case or all caps.

- Send the data collection institute's e-mail campaign to several test accounts to prove whether some ISPs are falsely treating it as Spam.
- Maintain address list cleanliness, regularly remove invalid e-mail addresses.
- Find out the validity of the data collection institute's e-mail list (the real contact rate) by incorporating regularly the "confirm reading" function into e-mails.

- Designing the Questionnaire

- Find out, how most respondents go on-line (dial-up or broadband connection such as DSL and cable) because it determines a reasonable file download time.
- Introduce the Web questionnaire with a welcome and attractive screen that is motivational and emphasizes the ease of responding.
- Use a personal salutation at the beginning of the questionnaire to prevent computer-mediated communication with participants from being perceived to be more anonymous than the traditional communication.
- Present each question in a conventional format similar to that normally used on paper questionnaires with self-explanatory and intuitive instruments.
- Avoid the use of too many colors and design features that may distract respondents' concentration from the questions. One commonly used rule is to use three colors. Take color blindness into account.
- Ensure that the font is big enough within different screen configurations.
- Do not sacrifice practicality for style, such as the use of extensive graphics, features and automated data checks, since browser incompatibility may result in a longer download time and accordingly in higher end user costs.
- Be aware that the user can disable Java, JavaScript, Cookies and Active X elements. Stick to the strategy of the smallest common denominator.
- Use sparingly drop-down-boxes and other instruments that require several simultaneous mouse movements.
- Minimize the number of control functions (automated data checks, where respondent is asked to control or to improve the value). They may not only frustrate participants but also be generally more time-consuming and cause a higher burden, particularly to respondents who make mistakes.
- Be aware that on-line readers read more quickly and impatiently. For questions known to be subject to mistakes, highlight important parts and include instructions that remind respondents to pay attention.
- The important text passages should be in the reader's view and should not occupy the whole width of the screen.
- Construct Web questionnaires so that respondents can scroll down from question to question. Avoid the necessity to scroll sideways.
- Use a multi-page design merely for automatic skipping, conditional branching or adaptive questionnaires. If using a multiple-page design, a progress indicator should be utilized showing respondents how close they are to the end.

- Try to use the same layout and alignment of scales in the Internet and the paper version of the questionnaire, to avoid possible influence of the visual layout and question order on the responses.
- Incorporate a reset option.
- Allow respondents to interrupt and re-enter the survey in case they were disturbed or wish to continue the answering process at a later time-point.
- Be aware that an increasing number of Internet users disable “pop-up” windows in their Internet browsers.
- Use different forms for different kind of questions: for example, square checkboxes for multiple-choice questions and round radio-buttons for single-choice questions.
- Make sure that the Web form is printable in case participants want to save a hardcopy of their responses.

- Analyzing the Results

- Analyze whether there are differences in results across modes (item non-response, validity and reliability criteria) and systematically analyze the sources of these differences (questionnaire design, coverage, selection bias, etc.).
- Check whether sample characteristics of Web respondents are comparable to those of traditional paper respondents.

- Giving Feedback

- Use the Internet as an additional platform for personal contacts with the respondents (for example Season’s Greetings), for the display of additional information (frequently asked questions) and attractive output (customized reports).
- If possible, create an intranet facility as a distinct member privilege, accessible by a unique password.
- Regularly gather feedback about user satisfaction from participants to identify the strengths and weaknesses of the institute’s Website.
- Assure adoption of on-line questionnaires to the constantly changing Internet environment and be aware of the increasing requirements of the end-users.

- Security

- Create awareness among participants about the safe handling of their IDs and passwords. Instruct them not to share their access information with anyone except where they are assured that the request has been posed by an authorized party.
- Regularly up-date the institute’s anti-virus and ensure that Spyware applications and anti-Trojan packages have been added to virus list.
- It is also advisable not to save the information about the institute’s participants in the address book of email software (such as Outlook, etc), but in a separate file (an Access or an Excel file, for example), as some viruses are configured to scan these areas and automatically to send an infected file to all addresses found.
- Use SSL (Secure Socket Layer) protocol to ensure encryption of server-client exchanges.

4. USES OF NEW INTERNATIONAL STANDARDS

13. These enhanced guidelines will be given wider dissemination by the OECD and the European Commission over the coming months, for example, in the OECD's business and consumer opinion survey portal⁷ and in future editions of the OECD's BTS Handbook. The OECD portal currently contains examples of recommended national practice that are relevant to a number of the recommendations outlined in this paper in Section 3 above. Further examples will be added in future as they come to light, for example some of the papers from South Africa, France, Germany and Italy presented at this Workshop.

14. As outlined in the report from the November 2005 joint European Commission – OECD meeting (refer Footnote 1 above) future development work and research will focus on specific issues / aspects raised by the recommendations. Such work may be undertaken by new task forces or by an individual national statistical institute. Examples of such work include:

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| Response rates and minimisation of respondent load | <ul style="list-style-type: none">• Further work to examine response rates by different size of business and the relationship with data collection methods.
• Further work to examine the potential bias caused by the use of the missing at random assumption, by compiling estimates for different groups of respondents depending on their regularity of response (i.e. as undertaken in a recent South African study).
• Experimentation with the INSEE constant sample methodology by other institutes, using a variant of the method which does not lead to revisions |
| Harmonisation of survey operations and technical design | <ul style="list-style-type: none">▪ Compare current practices used at national level on efficient sample design and weighting methods against the recommended practices outlined above.
▪ In the case of internet surveys there could be further work to identify (flesh out) recommended practice on key problem areas such as: ways to ensure the security of data; questionnaire design and presentation on the internet.
▪ Future work on internet surveys could include a point on the use and development of visual analog study (VAS) for BTS. |

15. Finally, the OECD will use the enhanced guidelines to facilitate the benchmarking and comparison of current national practice against the recommendations outlined in Section 3 above⁸. Such work would be an extension of current work to improve the quality and consistency (in terms of issues covered) of metadata

⁷ Referred to as the *Business Tendency and Consumer Surveys: International Development Work and Co-ordination* portal – available at http://www.oecd.org/document/22/0,2340,en_2649_34249_32159254_1_1_1_1,00.html

⁸ An example of such benchmarking for quantitative indicators is provided in the 2003 OECD publication, *Main Economic Indicators, Comparative Methodological Analysis: Wage Related Statistics*, available at http://www.oecd.org/document/4/0,2340,en_2649_33715_2367940_1_1_1_1,00.html

This publication contains a number of tables outlining international comparisons of wages and earnings, labour cost, labour price and unit labour cost statistics against existing international guidelines and recommendations.

disseminated with opinion survey data in the OECD's *Monthly Main Economic Indicators* (MEI) database⁹. Such work will be co-ordinated with similar work being undertaken by the European Commission.

⁹ Detailed metadata and opinion survey data are available at the OECD statistics portal at http://www.oecd.org/document/54/0,2340,en_2649_33715_15569334_1_1_1_1,00.html

REFERENCES

European Commission, 1997, *The Joint Harmonised EU Programme of Business and Consumer Surveys*, published in European Economy: Reports and Studies, No. 6, 1997, European Commission, Brussels

European Commission, 2006, *The Joint Harmonised EU Programme of Business and Consumer Surveys: User Guide*, European Commission, Directorate General Economic and Financial Affairs, Brussels, available at http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/userguide_en.pdf [Accessed 24 August 2006]

Ifo (Institute for Economic Research, Germany), 2005, *Identification of recommended practices for the design of Internet Surveys*, paper prepared by Anna Stangl for the taskforce, presented at the joint European Commission – OECD Workshop on International Development of Business and Consumer Tendency Surveys, Brussels, 14-15 November 2005. Available at <http://www.oecd.org/dataoecd/12/16/35493730.pdf> [Accessed 24 August 2006]

ISAE (Institute for Studies and Economic Analysis), 2005, *Relationship between response rates and data collection methods*, paper prepared by Bianca Maria Martelli for the taskforce, presented at the joint European Commission – OECD Workshop on International Development of Business and Consumer Tendency Surveys, Brussels, 14-15 November 2005. Available at <http://www.oecd.org/dataoecd/55/40/35558806.pdf> [Accessed 24 August 2006]

ISAE, 2005a, *Efficient sample design and weighting methodologies*, paper prepared by Marco Malgarini for the taskforce, presented at the joint European Commission – OECD Workshop on International Development of Business and Consumer Tendency Surveys, Brussels, 14-15 November 2005. Available at <http://www.oecd.org/dataoecd/12/37/35493506.pdf> [Accessed 24 August 2006]

OECD, 2003, *Business Tendency Surveys: A Handbook*, OECD, Paris. Available at <http://www.oecd.org/dataoecd/29/61/31837055.pdf> [Accessed 24 August 2006]

OECD, 2005, *Assessing and minimizing the impact of non-response on survey methods*, paper prepared by Richard McKenzie for the taskforce, presented at the joint European Commission – OECD Workshop on International Development of Business and Consumer Tendency Surveys, Brussels, 14-15 November 2005. Available at <http://www.oecd.org/dataoecd/56/16/35634012.pdf> [Accessed 24 August 2006]

OECD, 2006, *Data and Metadata Reporting and Presentation Handbook*, OECD, Paris. Soon to be available on the OECD statistics website at http://www.oecd.org/statsportal/0,2639,en_2825_293564_1_1_1_1_1,00.html