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The OECD's Statistical Panel: Results and Work Agenda

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THE OECD'S STATISTICAL PANEL: RESULTS AND WORK AGENDA

Introduction

1. The rapid growth and development of the information and communication technologies has led to their wider diffusion and application, and consequently has increased their economic and social impact across OECD Member countries, and beyond. As an organisation providing economic policy advice to its Member governments, the OECD recognises that tomorrow's economy will be to a great extent an "information economy" and society will be increasingly an "information society". That is, information will contribute in great part to the value added of most goods and services and information intensive activities will increasingly be carried out by households and citizens. It is important to understand the mechanisms, trends and implications of the information society, identify the policy issues which require attention and develop analytical tools to permit the formulation, monitoring and evaluation of policies. This implies the development of appropriate indicators and requires the availability of statistics.

2. This need was expressed by the OECD Council, which met at Ministerial level in May 1996 and adopted a Statement of Policy Recommendations made by the ICCP Committee on "Global Information Infrastructure and Global Information Society" (GII-GIS) [OCDE/GD(96)93]. These recommendations included the establishment of an advisory Statistical Panel. This paper briefly explains the role of this newly established, ad hoc group; its major achievements in the field of information and communication technology statistics so far; and its future work agenda.

The mandate of the "statistical panel"

3. The OECD recommendations suggested that the panel "... develop new indicators which identify, assess and monitor the emergence of the GIS." In particular it was noted that "the lack of comprehensive and internationally compatible data can be a severe problem in a rapidly changing and increasingly information-based world economy." Moreover, "... a common framework for indicators and standard definitions needs to be developed, tested and shared among OECD countries for better understanding of equipment diffusion and use, communication infrastructures, and services and content. Because most effort has been devoted to the first two, particular attention should be given to the last element."

4. The role of the Panel, which is composed of a number of statistical experts from OECD Member governments, is to advise the ICCP Committee on the programme of statistical work and indicators development to be undertaken in the light of the global trends mentioned above. The *ad hoc* group has a proposed life-span of 3 years (until the year 2000). Presumably its work will then be transferred to some other OECD statistical group of a more permanent nature.

Recent achievements: focus on the supply of ICT goods and services

5. Given the need for internationally comparable statistics about information and communication technologies (ICTs), and no accepted statistical framework which Statistical Agencies can use to develop internationally comparable data, the first task of the *ad hoc* group was to focus on the supply side of ICT goods and services. The aim was to measure the production and distribution of ICT goods and services and not their usage. The ICT sector definition, a first draft of which was presented at the 1998 meeting of the

Voorburg group, has now been refined and approved by the group (see below and the Annex for the text of the definition).

The ICT sector definition

6. The *ad hoc* panel decided to pursue a two-stage approach to developing an industry definition where in the first phase the focus would be on industries and then in the second phase a commodity-based definition that would be used to further refine the industry definition at a later date. It was also agreed that to reach agreement a pragmatic, step-by-step approach would need to be adopted where initially an industry definition for ICT would be pursued and then, once achieved, a broader definition of the "information economy" would be developed that included not only ICT but also content industries.

7. Before deciding on the list of industries to be included in the ICT sector definition, the discussion focused on the issue of "part classes" and on the basic principles that should provide the conceptual guidance to the selection of industries. Although the group recognised the importance of delineating "part classes" in some ISIC industries, due to the difficulty of identifying "part classes" at all, it was decided that no parts of classes would be included in the definition. Exceptions to this general rule, could be considered whenever it was felt, by the majority of countries, that the complete exclusion of an industry would mean the exclusion of a significant number of businesses which are producing ICT goods and services. An example discussed at the meeting was Wholesale of ICT machinery and equipment. The discussion of "part classes" was seen as ongoing and would be reviewed after data collection and comparison, and after work on defining an ICT commodity classification had further progressed.

8. Secondly, it was agreed that some principles were needed to provide a conceptual guide to the selection of industries, and they are the following:

"For manufacturing industries, the products of a candidate industry must:

- be intended to fulfil the function of information processing and communication, including transmission and display; or

- use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process.

Components primarily intended for use in such products are also included.

For service industries, the products of a candidate industry must:

- be intended to enable the function of information processing and communication by electronic means."

An observation that the two principles could be combined was made but not pursued. The principles may also need to be reviewed in the light of the work on defining ICT commodities.

9. In developing the list the discussion focused on more contentious industries. ISIC 3130 (manufacture of insulated wire and cable) raised some questions due to its inclusion of transmission cable for electric power. Because of the perceived growing importance of optic fibre cables as part of this broader industry, it was agreed to include this industry with the understanding that there would have to be a footnote on historical time series alerting users that because of technological change and the advent of optic fibres the

nature of this industry had changed significantly over time. It was noted that confidentiality restrictions could plague the reporting of data for this industry in some countries.

10. After a lengthy discussion that touched on the issue of whether or not to include "content industries" in the definition of the ICT sector, it was agreed to exclude ISIC 9213, Radio and Television Services. However, where transmission of radio and television program was done as part of the work of a business classified to ISIC 9213, the transmission activities would be included. In those cases it should be included with a footnote attached to 6420 indicating that the activity of this industry is classified to 9213.

11. A similar discussion, focusing on the role of content, occurred over the possible inclusion of 2230 (reproduction of recorded media) and other parts of 2200 (publishing, printing and reproduction of recorded media). It was agreed that the current definition of ICT would not include content industries but that future work would focus on these industries and that these industries would be added to an industry definition of ICT to form a definition for the information economy. With this established, it was agreed to exclude 2230 from the definition of ICT.

12. The discussion then focused on the possible inclusion of wholesale, retail and rental activities in the industry definition of ICT. In the case of wholesale (5150, Wholesale of machinery, equipment and supplies) for many OECD Member countries where ICT manufacturers do not produce, they are classified as wholesalers. Thus many countries expressed a desire to include this industry. The problem is that ISIC revision 3 does not have sufficient subcategories to allow a differentiation between ICT equipment wholesaling and the wholesaling of other equipment (e.g. industrial machinery). To avoid this problem, delegates agreed to include 5150 but to only report data for the relevant ICT wholesaling activity through use of their more detailed national classifications (e.g. NACE 5143, 5164 and 5165). The more narrow national classifications used would be noted in a footnote.

13. With little discussion, delegates agreed to include 7123 (Renting of office machinery and equipment (including computers)). Because very few retailers exclusively sell ICT products, it was agreed to postpone the inclusion of 5233 (other retail trade of new goods in speciality stores) until a commodity definition was available. Although delegates agreed to this, it was noted that in the North American Industry Classification System (NAICS), the distinction between wholesale and retail trade was blurring, reducing the rationale for including wholesale while excluding retail.

Undergoing and future work

14. Having built this framework, work is now following several parallel directions. On the one hand, some work has started on the definition of the content industries (see the contribution by France under session 3 of the Voorburg meeting agenda); on the development of a goods and services definition; and on the development of internationally comparable demand side statistics (see the Australian contribution under session 4 of the agenda). With the adoption of the ICT sector definition, also work developing a framework of statistics and indicators can begin. The group outlined some of the key user needs this framework should address and propose a set of "core" tables that would begin to satisfy these needs with the hope that this will provide a point of departure for discussion and refinement. Another area to which the group is considering devoting attention is that of the measurement of electronic commerce. Electronic commerce has a high position on many countries' policy agendas, and it is an area where there is room for a more determined effort to provide statistical definitions and output. Some of these areas of work are briefly illustrated below.

Developing an industry definition for the content industries

15. France agreed to undertake work developing an industry definition for the content industries, a draft of which will be prepared for the next meeting of the Ad Hoc Group (June 1999). In identifying a list of "content" industries the question of "part classes" will also be raised and may suggest the need for some adjustment to both the ICT and "content" lists once some experience is gained in working with the two lists.

Developing an ICT goods and services definition

16. The group is planning to develop an ICT goods and services definition based on the central product classification (CPC), because it encompassed both goods and services, albeit at a high-level of aggregation for services. The revision of the CPC will start soon, and the needs of developing a commodity-based ICT definition should influence this revision. This revision will also coincide with work underway in North America and Australia to refine product classifications for services. Eurostat will take the lead in this work and will co-ordinate European work on a commodity classification. The United States will co-ordinate North American work. Canada will maintain a link between the North American and the European activities. Denmark will participate in the effort and will represent the broader Nordic Group. Other participants include Australia, France, Korea, and the United Kingdom. Delegates were cautioned as to the difficulty of developing a commodity-based definition, and set a goal of finalising a definition in two years (2000).

Defining a set of core tables

17. Policy needs in an area as dynamic as ICTs are constantly changing. Twenty-five years ago, a key policy issue was how to get terminals hooked to mainframes into homes because the cost of miniaturising computers would be too expensive[1]. Now there are dozens of miniature "computers" in every home and five on average in each car.

18. Issues such as the protection of consumers or of personal privacy have been around for centuries but have taken on new importance and complexity with the development of information society and the expansion of electronic commerce and the capacity to collect, store analyse and diffuse information. A decade or so ago, the promotion of the development of a competitive domestic IT producer sector and proposals for the liberalisation of telecommunication markets were key policy issues; these were followed by focus on IT diffusion policies and IT/telecom convergence and information infrastructure. At the end of the 1990s, policy approaches, and the respective roles of the public and private sectors, have changed significantly. The globalisation process, driven by worldwide information and communication networks, shows no signs of slackening and brings with it new policy issues. Focus has turned to electronic commerce, its social and economic impacts and the need to realise its potential benefits. At the approach of the millennium, the "Y2K" computer problem has highlighted the importance and pervasiveness of ICTs in all aspects of our economies and societies (and our consequent dependence on the robustness of those technologies). All these policy issues, and the unknown policy issues of tomorrow, will require analysis, quantification and statistics. It is unrealistic to be able to anticipate every policy issue associated with the information society, but 3 broad categories can be identified:

1. Kemeny, John G. (1972), Man and the Computer, Scribners, New York.

1. Measuring and monitoring the supply and demand of ICTs;
2. Assessing the economic impact of ICTs;
3. Evaluating the societal implications of ICTs.

19. Within these broad categories a number of more specific issues exist, and, from this list, a set of "core" tables has been identified (see Box 1).

Box 1. Set of core tables

Table 1. Production

-- gross output and value added in current and constant prices

Table 2. Employment

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Collecting the data for the core tables

20. The purpose of the core tables would be to begin to collect statistics that would adhere to a common international definition of ICT and provide input to analytical exercises at the OECD and elsewhere. It is assumed that each of the variables would be presented for each industry of the ICT sector and where possible the most expansive definition would be used, hopefully included industries such as content, on-line services and electronic commerce. Nevertheless, it is recognised that because data collection of this nature is new, and would represent an incremental burden on statistical agencies, it is important to make sure that the core tables make use of easily available data while at the same time address key policy issues. Thus the initial proposal would not fully encompass all of the identified policy needs, but would strive to work towards this goal.

21. The core tables can be used for a more narrow ICT industry definition as well as a broader definition of the information economy which includes the content industries. For the purposes of analysing policy issues, a more expansive definition is always preferred. Considering that much current attention has focused on the content industry, online services and electronic commerce, where ever possible the inclusion of these broader categories of the information economy would be welcomed.

APPENDIX

DRAFT DEFINITION FOR THE INFORMATION AND COMMUNICATION TECHNOLOGY SECTOR

The attached list of industries was approved by delegates attending the Second *Ad Hoc* Meeting of Indicators for the Information Society under the aegis of the ICCP Statistical Panel and is submitted to the ICCP Committee for declassification. The definition is a compromise, limited to those industries which facilitate, by electronic means, the processing, transmission and display of information, and it excludes the industries which create the information, the so-called 'content' industries. The definition permits the immediate gathering of statistics for international comparison in an area of considerable policy importance because of deregulation and technological change. The statistics and their comparison will contribute to the work of the next stage of the Panel which is the development of a similar list of content industries and a classification of products which belong to the information and communication technology (ICT) sector.

On the basis of this decision, it was further decided that the definition being proposed would not include any "parts" of industries but would rather include the entire industry even though in some cases the latter might not be strictly an ICT activity. Exceptions to this general rule, could be considered whenever it was felt, by the majority of countries, that the complete exclusion of an industry would mean the exclusion of a significant number of businesses which are producing ICT goods and services.

A set of principles was adopted that would provide a conceptual basis to the selection of industries chosen as "ICT".

For manufacturing industries, the products of a candidate industry must:

- be intended to fulfil the function of information processing and communication, including transmission and display; or

- use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process.

Components primarily intended for use in such products are also included.

For service industries, the products of a candidate industry must:

- be intended to enable the function of information processing and communication by electronic means.

In the view of the members of the Panel, the 'information economy' consists of the economic activities of those industries that produce content, and of the ICT industries that move and display the content. These economic activities include the use of information and of ICT products by both people and business. The

'information society' includes the social impact of the information economy. These "working definitions" were seen as means to promote discussion of the definitions of the constituent parts and of their boundaries. They could not be seen as final until agreement had been reached on the parts.

The next steps in building indicators for the information society is agreement on a definition of the content industries which, when added to the ICT definition, will provide a working definition of the information economy. At the same time, the Panel will develop a classification of ICT products which will permit the gathering of statistics on the ICT output of industries not included in the definition.

The proposed definition of ICT includes the following International Standard Industry Classifications (ISIC Rev.3) industries:

Manufacturing

3000 Manufacture of office, accounting and computing machinery

3130 Manufacture of insulated wire and cable

3210 Manufacture of electronic valves and tubes and other electronic components

3220 Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy

3230 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods

3312 Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment

3313 Manufacture of industrial process control equipment

Services -- goods related

5150 Wholesale of machinery, equipment and supplies[1]

7123 Renting of office machinery and equipment (including computers)

Services -- intangible

6420 Telecommunications[2]

7200 COMPUTER AND RELATED ACTIVITIES

1. Where available, countries should only include those subsectors of this industry that directly provide ICT wholesaling services. This will avoid the inclusion of extraneous wholesaling activity. For example, using the NACE nomenclature, only NACE categories 5143, 5164 and 5165 should be included.

2. In those instances where countries include telecommunication activities as part of radio and television activities (ISIC 9213), radio and television activities (9213) should be included in this definition. Otherwise, it should not be included.

After some deliberation, the Panel excluded the Reproduction of Recorded Media industry (ISIC 2230) as it was felt to belong to the content industries in ISIC Division 22, Publishing, Printing and Reproduction of Recorded Media. Retail sale of household appliances, articles and equipment (ISIC 5233) was excluded because the classification was felt to be inaccurate for the purpose intended. The same argument applied to wholesale trade, but it was possible there, using NACE, to offer guidelines for more precise reporting.

The proposed definition results from the on-going work of the ICCP Statistical Panel, in collaboration with Eurostat and the Eurostat Task Force on Information Society Statistics.