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HANDBOOK FOR MEASUREMENT OF THE NON-OBSERVED ECONOMY

Note by the OECD Secretariat

INTRODUCTION

1. Lack of exhaustiveness in the estimates of GDP causes problems both for users and for producers of national accounts. For users, levels of GDP and other variables are downward biased, thus impeding international comparability. Significant biases in growth rates can be expected if economic development in the non-observed economy is very different from that of the observed economy. Data on structural changes can be equally misleading if the extent of non-coverage varies between activities and between variables. For producers, distortions in the internal consistency of the national accounts may occur as a consequence of recording one part of certain activities (for example, expenditures on goods and services from household production), but excluding the other part of these activities (for example, production of goods and services).
2. Thus, a lot of media attention is paid to the missing economic activities. Reports often suggest that the figures published by national statistical offices exclude large parts of the economy. They challenge the credibility of national accounts' estimates. As Gyilliane Gervais (Statistics Canada, 1994) wrote:

“The size and growth of the ‘underground economy’ have kindled a lot of interest in Canada in the past few years. . . . Hardly a week goes by without the media quoting someone claiming that underground transactions amount to 10%, 15% or even 20% of Gross Domestic Product (GDP), or that the deficit could be eliminated if taxes were collected on these transactions. If the figures often quoted are even approximately accurate, then the level and possibly growth of Canada’s GDP are considerably understated to the extent that the information given policy makers about current economic conditions is misleading. Our statistical system, at least in so far as economic statistics are concerned, would be sorely inadequate if it failed to detect ‘hidden’ transactions of such magnitude.”

3. For example, Schneider and Enste (2000) estimate an average level of the “hidden economy” in Canada over the period 1990-93 at 13.5% whereas Statistics Canada report referenced above concluded that the upper limit to what could have been missed in the 1992 official GDP figures was 2.7%.

4. The fact is that many media reports are based on research methodologies with one, or both, of two major weaknesses. First, these methods often fail to define exactly what is to be measured and thus, possibly, missed. This lack of precision regarding the measurement target is epitomized by the wide range of different terms in common use - hidden economy, shadow economy, parallel economy, subterranean economy, informal economy, cash economy, black market - to mention just a few. There is no common understanding whether they all mean the same thing, and if not, what relationships they have to one another. The second problem is the dependence of many estimation methods upon high-level model assumptions that cannot be justified. For example, the sort of monetary model upon which Schneider and many others base their estimates is one that assumes that changes in the patterns of currency demand can be attributed entirely to, and reflect accurately, changes in the missing economy. Another model used, described by Kaufmann and Kalierda (1996) assumes changes in the total economy can be measured through changes in consumption of electricity. Such methods make inadequate use of the wealth of pertinent economic data available and there is no obvious way in which their findings can be combined with others jointly to provide more reliable measures.

5. This discussion raises questions about what is meant by informal, underground, illegal, unmeasured, unrecorded, untaxed, etc activities. How do these activities relate to one another? Are these activities part of or different from the shadow economy, the cash economy, and the subterranean economy? What are the best methods for estimating such activities? How reliable are the current figures? In brief, the aim of the Handbook Project is to put measurements of such activities on a firm footing for the benefit of survey statisticians, national accountants, and users of macroeconomic data. The Handbook is intended to reflect a convergence of opinion amongst statisticians and national accounts experts as to what constitutes best practice.

HANDBOOK PROJECT

6. The Handbook Project is being administered by the OECD. Meetings are being held every four to six months. The objectives of the Project and the administrative arrangements were determined at the first meeting of the Handbook Team in April 1999. The international agencies and several national statistical agencies have welcomed the aims of the project.

7. A preliminary draft version of the Handbook, in English and Russian, was discussed in detail at the NOE Workshop held in Sochi, Russian Federation, October 2000. This version together with other papers is available through the Workshop web page at (click on Meetings then Russian Federation). The draft of the Handbook, now being distributed widely for comments, incorporates suggestions from the Workshop on content and format. A final version of the Handbook will be published by the OECD jointly with other contributing international organisations in the autumn of 2001.

SCOPE, OBJECTIVES AND USERS

8. The scope of the Handbook is production as defined in the 1993 System of National Accounts (SNA93). The main focus of the Handbook is to provide guidance on how to produce exhaustive annual estimates of GDP, in particular, to ensure that underground, illegal, informal, and any other productive activities that are somehow missed by the basic national statistical data collection program, are properly included in the national accounts. Thus, strictly speaking, the title for the Handbook should be “Methods for including in the GDP measurements of underground, illegal, informal, and any other productive activities that are somehow missed by the basic national statistical data collection program”. The point of including “other productive activities that are somehow missed” is that they are an inseparable part of the measurement problem. They include household production activities for own final use and activities missed simply because of deficiencies in the statistical system, sometimes referred to as the “statistical underground”.

9. The phrase “underground, illegal, informal, and any other productive activities that are somehow missed by the basic national statistical data collection program” is rather a mouthful. Thus, for brevity in the Handbook, these activities are referred to collectively as “non-observed” economic activities and they are defined to constitute the “non-observed economy” (NOE). Thus “NOE activities” refer to productive activities that are underground, illegal, informal, or otherwise missed, and “measurement of the NOE” refers to measurement of any of these activities. This is convenient but rather sloppy terminology. An alternative, equivalent term to NOE might have been “unrecorded economy”.

10. It is worth emphasising that the main aim is not to measure the NOE per se but rather to ensure that the productive activities to which it refers are included in the GDP. However, a secondary aim of the Handbook is to describe methods for the production of stand-alone statistics for the informal sector and for underground and some illegal activities.

11. The Handbook does not aim to measure tax evasion. Tax evasion does not coincide precisely either with underground activities or with illegal activities. In fact, it may occur in connection with activities that are non-productive. However, there is an interrelationship between assessment of tax evasion and the NOE. Estimates of missed tax revenues may be useful in assessing priorities for measuring the NOE, even for determining adjustments for missing production. Conversely, GDP estimates that have been adjusted to include some NOE activities may be of value, for example, in indicating the shortfall in VAT receipts.

12. Just as the SNA93 provides an international standard for all countries, so it is the intention of the Handbook to provide a measurement framework that is applicable in all countries - whether their statistical systems are in development, in transition from a planned economy, or developed.

13. In summary, the target audiences for Handbook are the producers and users of macroeconomic statistics throughout the world. In particular, these include the staff of national statistical systems especially national accountants and economic survey statisticians, and the users of official economic data.

CONCEPTS AND TERMINOLOGY

14. The conceptual framework for the Handbook is provided by relevant international standards, in particular the SNA93. In fact, the Handbook is anchored by the SNA93 and may be viewed as a SNA 93 supplement that discusses some specific measurement problems and methods. The Handbook draws on the SNA93 for the definition of several of the terms used in the description of the NOE, including:

- “underground activities”, defined as those that are productive and legal but are deliberately concealed from the public authorities to avoid payment of taxes or complying with regulations
- “illegal activities”, defined as those that produce goods and services forbidden by law or that are unlawful when carried out by unauthorized producers.
- “informal activities”, defined as those productive activities conducted by enterprises in the informal sector;
- “own final use productive activities of households”, which may or may not be considered part of the informal sector.

15. For convenience, underground, illegal, informal, and household own final use production activities, together with other activities missed by the statistical system, are referred to as the “NOE problem areas”.

16. The SNA93 actually takes its definition of “informal” directly from an International Labour Organisation (ILO) 1993 Resolution concerning the informal sector. (ILO Resolutions are the other primary source of international concepts for the Handbook.) The 1993 Resolution defines the informal sector, explains its policy significance and provides the operational framework within which a country can formulate its own specific definition. The Resolution uses the SNA production boundary as the starting point. It defines the operational criteria for delineating those enterprises that belong to the informal sector from those that are, in essence, too large or too small. The enterprises that are too large are commonly referred to as comprising the “formal sector”. There is no commonly used name for those enterprises that are considered too small to include in the informal sector. They are mostly household non-market enterprises. Rather confusingly, the SNA93 refers in several paragraphs to “formal and informal” enterprises, implicitly suggesting that household non-market enterprises are included in the informal sector. However, formal, informal and household non-market enterprises have quite different behaviour patterns, which is the reason the ILO identifies them separately.

ELEMENTS OF MEASUREMENT STRATEGY

17. The strategy for NOE measurement draws on and combines a range of ideas and practical experiences, in particular as described by the Organisation for Economic Cooperation and

Development (1997), Bloem and Shrestha (2000), Calzaroni (2000), Luttkhuisen and Kazemier (2000), and Masakova (2000).

18. The underlying principles embedded in the strategy are:
- that there should be systematic analysis of the problems and potential solutions;
 - that full use should be made of all the data available, that preference should generally be given to data over model based adjustments; and
 - that the models actually used should be at as low a level as possible in terms of data aggregation.
19. Thus high level models, for example those modeling the entire economy in terms of variables that may relate in some way to the NOE, are avoided. First, they are too crude to be accurate, and second, the results they produce cannot be integrated with other data to provide better adjustments.
20. The approach to NOE measurement is presented in terms of three steps.
- The first step is to assess the national accounts and the statistical system that feeds them, to identify the data weaknesses and priorities for dealing with them, and to decide upon the short term and long term solutions.
 - The second step is to supplement the basic data produced by the system by introducing supplementary surveys and/or model based adjustments prior to and during the compilation of the production accounts and supply and use tables. This step involves essentially short-term solutions that may be expected to address data problems resulting from undercoverage and misreporting.
 - The third step is to modify the conceptual framework and basic data collection infrastructure as required to bring them into line with international standards and best practices. This is the long-term solution to data problems. The theme is “upstream quality control”. The national accounts area should not be expected to deal indefinitely with problems that can be avoided in the incoming data. Improvements in the basic program is the way to deal with non-response and to reduce, if not eliminate, lack of coverage and misreporting.

ROADMAP TO HANDBOOK

21. Chapter 2 summarises the conceptual framework provided by international standards on the basis of which the remainder of the Handbook is based. It includes descriptions of the production boundary, transactions, units, classifications and labour related concepts.
22. Chapter 3 defines the components of the NOE. It includes descriptions of the informal sector and household production for own final use, underground activities, and illegal activities. It presents frameworks for analysing the NOE.
23. Chapter 4 outlines the NOE measurement strategy in terms of the three-step approach: assessment, national accounts compilation methods and improvements to the basic statistics program. It emphasises the integrated use of all available data and the importance of priority setting and documentation.

24. Chapter 5 describes the procedures for assessing the national accounts and for identifying the problem areas and prioritising possible improvements.
25. Chapter 6 details methods for dealing with the NOE whilst compiling the accounts, including the use of occasional supplementary surveys and low level models to fill in data gaps. It describes production approach methods that can be applied across a range of industries, in particular the labour input method, also industry specific methods and expenditure approach methods, and procedures for use in compiling supply-use tables.
26. Chapter 7 focuses on the procedures for assessing the basic statistics program that feeds the national accounts.
27. Chapter 8 describes improvements to the basic statistics program. It includes improvements to organisational arrangements, data sources, survey frames, design methods and surveys. It emphasises the need for a good legislative framework underpinning the system, for a quality conscious organisational culture, for a business register that is comprehensive without being too resource intensive to maintain, and for good survey design practices, including testing of questionnaires, intensive follow-up and metadata management.
28. Chapter 9 outlines the principal macro-model methods often quoted in the press, describing the assumptions on which they are based and explaining why they are of no use in compiling exhaustive estimates of GDP. It includes monetary, electricity consumption and latent variable methods. Without this chapter, readers might assume that the Handbook authors were unfamiliar with macro methods or had dismissed them without justification.
29. Chapter 10 is in two parts. The first part elaborates and explains the definition of the informal sector including the results of recent deliberations by the Delhi Group. The second part details how statistics for the informal sector may be obtained through use of labour force survey supplements, household income and expenditure surveys, enterprise surveys and mixed household-enterprise surveys.
30. Chapter 11 deals with measuring household production for own final use.
31. Chapter 12 is devoted to the description and treatment of illegal activities. These are not fully discussed in Chapter 6 because it is not generally current practice to make explicit adjustments for illegal activities in the national accounts due to the experimental and sensitive nature of the subject and the poor quality of the measurements.
32. Chapter 13 deals with the measurement of underground activities. Together with Chapter 10, it attempts to bring together the methods that might be of help to users whose primary focus is tax evasion or governance rather than exhaustive estimates of GDP.
33. Chapter 14 provides guidance on planning and implementation of NOE measurement initiatives, giving some hints how to tailor a NOE plan to the particular circumstances, for example for a country in transition or with a large informal sector. The chapter also provides guidance on the approaches that might be adopted in revising estimates following improvements in NOE measurement.

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